

*Final Report*  
**Nebraska Comprehensive Study**

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# NEBRASKA COMPREHENSIVE TAX STUDY

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## FOREWORD

The Nebraska Comprehensive Tax Study provides a detailed examination of taxes in Nebraska at both the state and local levels as well as an overview of state and local expenditures. This final report includes the Study's analyses of individual taxes and other fiscal issues as well as the Study's final recommendations. We find that, in broad terms, the Nebraska state-local tax system is well designed, but recommend several revisions in specific provisions of the state sales and corporate income taxes in the design of local property taxes. Although the overall level of state and local taxes in Nebraska is reasonable, we conclude that local property taxes in the state are far too high and recommend a shift in the tax burden away from local government toward the state. In addition, we recommend major changes in state aid to local governments and in the organization of Nebraska's school districts. Finally, we recommend several adjustments in Nebraska's economic development policy.

This final report begins with a summary of the Study's findings and a detailed discussion of the Study's final recommendations. The Study's complete findings are presented in the following chapters. These chapters, which are revised versions of the staff papers prepared over the course of the Study, are organized into five parts. Part I is an overview, with one chapter comparing Nebraska's state-local tax system with that of other states and another investigating the outlook for the state's fiscal situation. Part II examines Nebraska's state-local tax system. The chapters in this part examine the state sales tax, the state personal income tax, the state corporate income tax, local property taxes, the distribution of the overall tax burden in the state, and tax expenditures. Part III investigates the fiscal condition of local governments in Nebraska, with chapters on counties, municipalities, and school districts, and a chapter on the potential role of tax and expenditure limitations. Part IV addresses the topic of economic development in the state. The single chapter in this part provides a detailed picture of the current business climate in Nebraska along with a series of recommendations for state economic

development policy. Part IV brings together the Study's findings on three special topics, namely the administration of the state sales tax, the taxation of municipal bond interest, and methods for identifying the beneficiaries of public services.

This final report would not have been possible without the cooperation of numerous public officials and private citizens in Nebraska. We extend our thanks and appreciation to everyone in Nebraska who assisted us. We are particularly grateful to Deborah Thomas, the Revenue Committee Counsel, who made valuable contributions to virtually every chapter in this report. As co-directors of this project, we are also grateful to the faculty members and graduate students in the Metropolitan Studies Program at Syracuse who wrote chapters for the final report; to the participating faculty at other universities, namely John Due of the University of Illinois and Loretta Fairchild of Nebraska Wesleyan University; and to the staff at the Metropolitan Studies Program, particularly Martha Bonney, Esther Gray, and Carol Swan.

The Nebraska Comprehensive Tax Study was sponsored by the Nebraska State Legislature and was carried out by the Metropolitan Studies Program of Syracuse University's Maxwell School. The final recommendations represent the views of the Study's co-directors and do not necessarily represent the views of the Nebraska State Legislature. Views expressed in the chapters are those of the individual authors and do not necessarily represent the views of the Study or of its sponsor.

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## SUMMARY AND RECOMMENDATIONS

The Nebraska Comprehensive Tax Study addresses a wide variety of topics, ranging from the state's personal income tax and the distribution of tax burdens in the state to state economic development policy and the fiscal condition of local governments. The analysis conducted for the study leads to a series of recommendations on each of these topics. We begin this final report by summarizing the Study's findings and presenting our final recommendations. More information and analysis on each topic, and more support for each recommendation, are contained in the individual chapters that follow.

The Nebraska state tax system consists of three broad-based taxes: a general sales tax, a personal income tax, and a corporate income tax. Local governments in Nebraska depend primarily on the property tax. We conclude that the basic structure of these taxes is sound and reasonably competitive with nearby states, but we recommend several reforms designed to eliminate an economic distortion, broaden a tax base, remove an inequity, or improve Nebraska's competitive position. These recommendations include extending the sales tax to consumer services, eliminating the sales tax on farm and business equipment, and reinstating the property tax on farm equipment.

Nebraska's overall local property tax rates are among the highest in the nation, and state aid to local governments in Nebraska is far below the national average. In addition, we find that due to economic and social factors outside the control of local officials, some local governments are in excellent fiscal condition whereas others are in very poor fiscal condition. Although these fiscal disparities exist for all types of local governments in Nebraska, they are particularly striking across school districts. Nebraska's school system is unique, both because it contains so many districts and because these districts range from many tiny elementary-only districts up to the large K-12 districts of Lincoln and Omaha. Neither the cost of education nor the ability to raise revenue are spread evenly across school districts; at all district sizes, particularly the

smallest, some districts can provide a good education to their students at a much lower property tax rate than can others. We also find that state aid is not directed toward the local governments in the poorest fiscal condition. Indeed, the school districts in the worst fiscal condition tend to receive slightly less aid than other districts.

Major changes in state policy are needed to lessen both the burden of local property taxes and the dramatic fiscal disparities across local governments in the state. The overall state and local tax burden in Nebraska is reasonable, but we recommend an increase in state aid to local governments (financed by broadening the bases or increasing the rates of state taxes) as a way to cut reliance on local property taxes. Moreover, we recommend that, to some degree, state aid be redirected toward local governments in poor fiscal conditions. In the case of school districts, a consolidation plan could eliminate many of the inequities that currently exist among tiny school districts and save the state's taxpayers money by creating new districts that can take advantage of economies of scale. We recommend that a school consolidation plan be implemented before reforming state aid to education. Finally, we reject two other routes for helping local governments, namely property tax limitations and new local taxes. Experience in other states indicates that property tax limitations either are evaded or else they place an unacceptable hardship on fiscally troubled jurisdictions. Moreover, new local taxes would not provide additional assistance to the local governments that need help the most.

### **Summary**

This summary follows the same organization as the rest of this final report. To be specific, it provides an overview of the state-local tax system in Nebraska, evaluates each of the broad-based taxes levied in the state, examines the fiscal condition of local governments in Nebraska, investigates state economic development policy, and considers several special topics.

## **Part I: Overview of State Finances**

Chapter 1, Miner and Joyce, "The Nebraska State and Local Revenue and Expenditure System."

Chapter 2, Eberhardy and Ratcliffe, "Alternative Fiscal Projections for the State of Nebraska."

**Chapter 1, Miner and Joyce.** In fiscal year 1985, the state and local governments in Nebraska raised 7 percent less state and local general revenue per capita than the U.S. average for states and raised about an average amount of revenue per \$1000 of state personal income. State government general and own-source revenue per capita are both approximately 20 percent below the national average, whereas local general revenue (including grants received) is only 8 percent below the national average, and local own-source revenue is 20 percent above the national average.

Nebraska's relatively low receipts of federal intergovernmental aid explain part of the low general revenue at both the state and the local level. More importantly, however, the aid given by the Nebraska state government to its local governments is only 57 percent of the aid given by the average state. This relatively low level of grants accounts both for the relatively low burden of state taxes in Nebraska and for the relatively high local tax burdens, particularly the property tax burden, which is the third highest in the nation.

Despite the high local tax burdens, local government expenditure per capita is 5 percent below the national average for local governments. Because state government expenditure per capita is about average, state plus local expenditure per capita is only 3 percent below the U.S. average,

In terms of functional categories, Nebraska spends more than the national average per capita for highways, higher education and hospitals, and it spends less than the national average per capita for welfare, environment and housing, public safety, administration and interest. This

spending pattern is typical for a state with a relatively small population and a relatively large area. Such a state must spend more per capita than other states to run large public institutions, such as universities, or to maintain an adequate highway network.

**Chapter 2, Eberhardy and Ratcliffe.** The second chapter in this part describes a computer-based planning tool that was developed to help Nebraska determine the consequences for state finances of possible future events. In particular, this model allows state fiscal planners to estimate the consequences of a broad range of economic and policy scenarios for future state tax rates and public service levels.

As an illustration of the use of this computer-based tool, the paper also examines the consequences for state finances over the next ten years of several scenarios. These simulations lead to two major findings. First, Nebraska cannot finance an improvement in the quality of state services over the next few years without raising the burden of state taxes. Second, if federal grants-in-aid are not cut further, the current level of public services can be maintained, even if state economic growth is less than expected. Should the further reductions in federal aid proposed by the Reagan Administration be implemented, however, the State will have to increase tax burdens to maintain the existing quality of state public services.

## **Part II: The State-Local Tax System**

Chapter 3, Due and Fairchild, "The Nebraska State and Local Sales and Use Taxes."

Chapter 4, Wallace-Moore and Riddle, "Who Pays the Nebraska State Income Tax Before and After Reform?."

Chapter 5, Carroll, "An Analysis of Corporate Income Taxation in Nebraska and Comparison with the 50 States."

Chapter 6, Yinger and Wasylenko, "An Evaluation of the Property Tax in Nebraska."

Chapter 7, Wallace-Moore, "The Distribution of Tax Burdens in Nebraska for the State Personal Income, Sales, Excise, and Property Taxes."

Chapter 8, Wasylenko and Mullins, "Tax Expenditure Concepts and An Analysis of Sales and Property Tax Expenditures."

The major taxes in Nebraska are the state sales tax, the state personal income tax, the state corporate income tax, and local property taxes. The chapters in this part of the report evaluate each of these taxes, examine the distribution of the burden imposed by all these taxes combined, and investigate the tax expenditures made through the sales and property taxes.

**Chapter 3, Due and Fairchild.** On June 1, 1967, Nebraska instituted its general sales tax. Since then the tax has produced roughly one third of Nebraska's annual revenues, a share that is about equal to the national average. Due to its low level of total state taxes, however, Nebraska ranks 40th in per capita sales tax collections out of the 45 states that levy sales taxes. The state sales tax rate in Nebraska is 4.0 percent with additional city tax rates of up to 1.5 percent.

For the most part, the sales tax in Nebraska is well designed. An ideal sales tax would apply comprehensively to all consumer goods and services, and exclude from the tax base products and services used in the production of other goods and services. The Nebraska sales tax deviates from this ideal in several respects.

First, the Nebraska sales tax applies to business and farm purchases of materials, machinery and equipment. In the non-farm sector, this tax is passed on to consumers, but in a haphazard manner that varies by commodity type depending on the ratio of capital equipment to final output. In addition, new legislation, LB 775 and 270, virtually eliminates the sales tax on equipment and machinery for firms that expand but leaves untouched the tax on replacement equipment for firms that do not expand. Thus nonexpanding firms are now at a disadvantage compared to expanding firms in Nebraska and to firms in neighboring states, such as Colorado and Iowa, where equipment purchases are not taxed.

About one-half of the 45 states levying the sales tax, including Missouri and Iowa, exempt farm machinery and equipment from sales taxation. Exempting the tax on manufacturing machinery and equipment would mean revenue losses of less than \$14 million in 1987, while exempting farm machinery and equipment would mean revenue losses of between \$6.5 million to \$11.0 million.

In contrast, some commodities and services are exempted from the sales tax base. These items include food purchased in grocery stores and services. All states exempt food purchased with food stamps from sales tax. Many states also exempt other food in order to alleviate the burden of the sales tax on the poor; some others provide an income tax credit for food purchases. The exemption in Nebraska applies not only to basic food items, but also extends to carbonated beverages, candy and gourmet foods purchased in grocery stores. Motor fuels also are exempt from general sales taxes, presumably on the grounds that motor fuels are subject to a separate excise tax. In contrast, cigarettes and liquor are subject to both general sales and excise taxes.

The service sector is only partially taxed in Nebraska. As the service sector continues to increase in economic importance, Nebraska is losing a growing component of its potential sales tax base. Accepted tax practice dictates that sales taxes should not apply to services rendered primarily to businesses, such as professional services and advertising, just as they should not apply to other intermediate products. In addition, there is widespread agreement that expenditures necessitated by misfortune, including medical, dental and hospital services, should be exempt from sales taxation. Nevertheless, a variety of services could be added to the base, including the repair, maintenance and cleaning of tangible property including housing, personal services rendered by commercial establishments and commercial recreation. The revenue yield from expansion of the base to these services would be almost \$40 million in 1987.

"Border bleeding," which is sales tax revenue lost due to out-of-state sales, has the potential in some states to account for large revenue losses, and then to become an important



policy issue. The revenue loss is especially large when an adjacent state does not levy a sales tax, or when the sales tax base in an adjacent state exempts more items. In Nebraska, estimates suggest that the losses due to mail-order catalog sales at places with no sales tax nexus in Nebraska range from 1.5 to 3 percent of total revenue. In addition, purchases of consumer goods and farm equipment and machinery in neighboring states could result in additional revenue losses of 1.5 percent. The only feasible solution to this problem is an action by the U.S. Congress requiring at least large firms to collect use taxes on sales transactions made outside of the purchaser's state and to remit the revenues to the purchaser's state.

City sales taxes in Nebraska have two desirable features: the state collects the tax, thereby simplifying the tax filing for the individual firm, and the local sales tax has the same base as the state sales tax. But, due to a Supreme Court decision, the sales tax is collected at the place of delivery of the product, not the place of purchase. Compliance, administration and collection costs would be lower if the city sales taxes were collected at the point of purchase.

**Chapter 4, Wallace-Moore and Riddle.** This chapter analyzes the impact of Nebraska's tax reform by comparing the effective state personal income tax burdens for each income decile for the old and reformed systems. As the reformed state tax base remains closely tied to the federal base, the paper simulates Nebraska's tax burdens using the federal provisions for 1987 and for 1991, when the federal reforms are fully phased-in.

This analysis leads to two major conclusions. First, tax burdens under the reformed state personal income tax are less progressive than tax burdens under the coupled system, due to reductions in the state personal exemption and standard deduction and in the highest marginal tax rate.

The second major conclusion is that within income deciles, the reformed state personal income tax treats taxpayers more equally; that is, it promotes horizontal equity. But there is

more horizontal inequity within low-income deciles than within high-income deciles for both the coupled and the reformed personal income tax systems.

Finally, tax burdens are estimated when the federal standard deductions are added to the reformed state personal income tax, as in the legislation of April 1988. Increasing the standard deduction while simultaneously raising tax rates to keep total revenue constant leads to lower effective tax rates for taxpayers in the first eight income deciles and to slight increases in the effective tax rates in the two upper income deciles. With the addition of the federal standard deduction, the progressivity of the Nebraska personal income tax is now about midway between the more progressive coupled system and the less progressive 1987 decoupled state personal income tax system, holding constant the total amount of tax revenue.

**Chapter 5, Carroll.** A comparison of Nebraska's corporate tax burden using several different measures (namely, marginal tax rates, progressivity, and effective tax rates) indicates that Nebraska's tax is very competitive with neighboring states. By all these measures, Nebraska's tax burden is below or at the same level as its neighbors.

Nebraska's corporate income tax has undergone substantial restructuring over the past several years. During the 1984 Legislative Session, legislation was enacted making Nebraska a domestic unitary combination state. This change made Nebraska's corporate income tax consistent with the concept employed by the federal government, with several notable exceptions. Also in 1984, Nebraska enacted proposals providing for the complete deduction of foreign dividends from corporate income and the deduction of foreign taxes paid in excess of the U.S. tax that would be due if this income were earned in the U.S. from corporate income. In 1987, legislation was enacted requiring the phase-in of a sales-only apportionment formula by 1992, eliminating the three-factor apportionment formula that equally weights the payroll, property and sales factors.

Nebraska's corporate income tax is generally well-designed. However, an analysis of Nebraska's tax relative to its neighboring states and the application of federal practices and generally accepted notions of what constitutes the major components of a corporate income tax raises only one issue about the Nebraska corporate income tax.

The phase-in of the sales-only apportionment formula will certainly aid Nebraska based exporting firms by lowering their tax liability relative to their liability under the three factor formula. However, the sales-only formula is not representative of the apportionment formula used in Nebraska's neighboring states. Although several of Nebraska's neighboring states place a greater emphasis on the sales factor, only Iowa requires its use, while Missouri allows its use as an optional apportionment formula. Moreover, the move to a sales-only formula causes a major redistribution of corporate tax burdens between Nebraska and non-Nebraska firms.

**Chapter 6, Yinger and Wasylenko.** Nebraska's property tax rates are among the highest in the nation. This chapter examines assessment practices and property tax exemptions in Nebraska and explores the implications of heavy reliance on the property tax for the fiscal health of Nebraska's local governments.

The administrative structure used to determine assessments in Nebraska is reasonable. Although counties, townships, municipalities and special districts all can set property tax rates, assessed values are determined only by county assessors, with review by county boards of equalization and the State Board of Equalization and Assessment in the Department of Revenue. In principle, this structure can insure accurate assessments both across types of property within a county and across counties. In practice, however, assessment accuracy in Nebraska does not live up to widely accepted standards and both assessment and abatement procedures in the state need to be reviewed.

The most important issue in assessment is the preferential assessment of agricultural land, which was recently ruled unconstitutional by the Nebraska Supreme Court. Amending the state

constitution to allow a return to preferential assessment of agricultural land would distort economic choices, would lead to unfair differences in effective tax rates between owners of different types of property, and would be unlikely to confer significant benefits on the owners of farm land.

Farm equipment, unlike nonfarm business equipment, is not subject to the property tax in Nebraska. Eliminating this preferential treatment of farm equipment would improve the fairness of the tax, by taxing all owners of equipment equally, and would lessen distortions in investment decisions. Although this change would shift the burden of the property tax toward farmers with a relatively large amount of equipment, it would lower the property tax on other farmers and would not harm the owners of farm property in general. (Farm and nonfarm business equipment currently are subject to the state sales tax. In another staff paper we argue that this business equipment, like any intermediate good, should not be subject to the sales tax.)

The other major property tax exemptions in Nebraska are homestead exemptions for low-income elderly homeowners and certain totally disabled people. These exemptions are a legitimate way for the state to help certain needy groups.

Finally, we show that Nebraska's current heavy reliance on local property taxes places some local governments at a severe fiscal disadvantage. Local governments in locations with extensive commercial and industrial property can raise a relatively large amount of revenue per capita through the property tax at a relatively low tax rate, because some of the burden of this tax falls on nonresident property owners, such as the shareholders of national corporations. In contrast, local governments in locations with only owner-occupied housing or farm property cannot raise even an average amount of revenue per capita without imposing a higher-than-average property tax rate, because all of their property taxes must be paid by residents.

**Chapter 7, Wallace-Moore.** This chapter examines the distribution of effective tax rates for some of the state's major taxes: general sales, cigarette, alcohol and motor vehicle fuel taxes, property taxes, and the state personal income tax.

The analysis leads to two major conclusions. First, as a group, the system of taxes analyzed is regressive; as income increases, taxes as a percentage of income decrease. Among the six taxes, the state personal income tax is the only progressive tax over the entire income range.

The second major conclusion is that the property tax imposes the largest overall burden on Nebraska taxpayers. While property taxes on residential, commercial, farm and personal property components of the property tax all impose significant burdens on taxpayers, the residential and farm portions of the property tax each impose about one-third of the property tax burden.

In addition, this chapter examines the equity implications of several potential tax reforms. Specifically, it estimates the tax burdens by income decile associated with a 4 percent sales tax on food, motor vehicle fuels, and selected services. These extensions of the sales tax base are regressive, with the tax on food being very regressive and the tax on services being only mildly regressive.

**Chapter 8, Wasylenko and Mullins.** This review of tax expenditures built into Nebraska's sales and property taxes leads to four major conclusions about the state of sales taxation and one conclusion on property taxation. For the sales tax, the exemption of food means the loss of significant sales tax revenue. An alternative to the taxation of food and the adoption of a complicated personal income tax credit is a sales tax limited to nonbasic food items, such as candy, soft drinks, and a variety of nonbasic foods ranging from freshly baked goods to specially blended coffees, gourmet cheeses and other fancy foods. Higher-income households are more

likely to purchase these items, and revenue can be gained without introducing more burden on the poor. No revenue estimate for this tax proposal is available, however.

Another source of sales tax revenue loss is the sales tax exemption for the value of a vehicle trade-in against the selling price of the new or used vehicle. Current practice allows the buyer to pay a sales tax on the difference between the price of the "new" vehicle and the value of the trade-in. This practice extends to purchases of other durable goods when related goods are taken as trade-ins. This exemption benefits primarily higher-income buyers, as they typically are the households that can afford to trade high value vehicles for new vehicles and benefit from the sales tax exemption. Low-income purchasers of vehicles would more likely not trade a vehicle that has much value, and thus pay the sales tax on a higher percentage of the selling price of the new vehicle. Eliminating this tax exemption would increase sales tax revenues by \$11 million.

Third, a limited number of final or consumer (but not business) services could be introduced into the sales tax base. Revenue gains from this extension would be about \$37 million. Whether or not the taxation of services is adopted, final or consumer services should be considered part of the comprehensive sales tax base and their exclusion from the tax base should be considered a tax expenditure. Thus, the Nebraska Department of Revenue should include services in their tax-expenditure calculations.

Widely accepted principles of tax design also indicate that the sales tax should not be levied on intermediate goods. Rather than listing sales taxes not collected on some intermediate goods as a tax expenditure, therefore, the Department of Revenue should list the sales taxes collected on other intermediate goods as a double tax--or a negative tax expenditure.

Under the property tax, most existing tax expenditures are justifiable on equity grounds or on grounds of consistent treatment for a particular type of property or capital across different sectors of the economy. However, property taxes are not levied on machinery and equipment in

the agricultural sector but are levied on machinery and equipment in other sectors of the economy.

### **Part III: The Fiscal Condition of Local Governments**

Chapter 9, Yinger, "The Fiscal Condition of County Governments in Nebraska."

Chapter 10, Yinger, "The Fiscal Condition of Municipal Governments in Nebraska."

Chapter 11, Ratcliffe, Riddle, and Yinger, "The Fiscal Condition of School Districts in Nebraska: Is Small Beautiful?"

Chapter 12, Jump, "Tax and Expenditure Limitations."

**Chapter 9, Yinger.** County governments in Nebraska maintain an extensive network of highways and provide police, hospital, administrative, and other services to many of the state's residents. The property tax, which is the only broad-based tax for Nebraska's counties, is the major source of county revenue, with additional significant contributions from charges and state aid.

This paper examines the fiscal condition of county governments in Nebraska, where "fiscal condition" is the impact of economic and social factors outside the control of county officials on the county's ability to deliver services to its residents. This fiscal condition is determined by the balance between the county's revenue-raising capacity and its expenditure need, all in per capita terms. Counties in poor fiscal condition must accept either a higher-than-average tax burden or lower-than-average service quality or both.

To facilitate comparisons across counties, a county government's revenue-raising capacity is defined to be the amount of money it can raise at an average tax burden on its residents. This capacity is higher in counties with relatively high income or a relatively high concentration of commercial and industrial property, the property taxes on which can be

exported, to some degree, to nonresidents. A county government must share the available capacity with municipalities and townships, so the lower the share of capacity used up by these other local governments, the higher is a county government's capacity.

A county government's expenditure need is the amount of money it must spend to provide public services of average quality. Some counties must spend more than average (per capita) because they have extensive service responsibilities, such as many miles of highways to maintain. Other counties must spend more than average (per capita) because they have relatively high costs for providing public services. Public service costs depend on a county's characteristics. For example, counties with lower population densities have higher transportation costs (per capita) for delivering services to their residents. A county's expenditure need reflects both its public service responsibilities and its public service costs.

This paper finds that fiscal condition differs widely from one county to another. Some counties are in good fiscal condition because they have relatively low responsibilities for providing services, relatively low public service costs, and relatively high revenue-raising capacity. Most of these counties are urban or suburban counties in the eastern third of the state or counties containing relatively large cities located along Interstate 80. In contrast, many rural counties in the central or western parts of the state are in poor fiscal condition. These counties have relatively high service responsibilities and relatively high costs for providing public services, although some of them also have relatively high revenue-raising capacity.

**Chapter 10, Yinger.** Municipal governments in Nebraska maintain streets, provide police and fire protection, operate sewers and sanitation systems, and carry out a variety of other public services. The major source of municipal tax revenue is the property tax, although a few municipalities also rely on a sales tax. The other major sources of general revenue are charges and state aid.



This paper examines the fiscal condition of municipal governments in Nebraska, using the same concepts developed in the paper on county government finance.

Revenue-raising capacity is higher in municipalities with higher per capita incomes and in municipalities with an ability to export some of their tax burdens to nonresidents. High concentrations of commercial and industrial property make possible some exporting through the municipal property tax, and high volumes of taxable sales make possible some exporting through a municipal sales tax.

The key determinant of a municipality's service responsibilities is the size of its street network. Municipalities with many miles of streets to maintain (per capita) must spend more than other municipalities (per capita) to provide street maintenance services of average quality. Public service costs are higher in municipalities with harsher environments for providing public services. Municipalities with high poverty rates, for example, must spend more than other municipalities to achieve a given level of crime protection and municipalities with a high concentration of old housing must spend more to obtain a given level of protection from fire. In combination, service responsibilities and costs determine a municipalities expenditure need.

This chapter finds that municipalities in Nebraska vary widely in their fiscal condition, which is the balance between capacity and need. Large cities tend to have relatively high incomes, relatively high concentrations of commercial and industrial property, and relatively high volumes of taxable sales. As a result, large cities have relatively high revenue-raising capacity. In addition, however, large cities tend to have relatively high expenditure need because their costs for maintaining streets and for providing police and fire protection are relatively high. Their fiscal advantages on the capacity side outweigh their fiscal disadvantages on the need side, so large cities in Nebraska are all in relatively good fiscal condition. Villages and small cities can be in either good or bad fiscal condition, depending largely on their incomes and responsibilities for street maintenance. Villages with relatively low incomes and relatively high

responsibilities for streets are the least healthy municipalities in the state, whereas some of the healthiest municipalities in the state are villages or small cities with relatively high incomes and relatively low street responsibilities.

This chapter also finds that, based on economic and social factors alone, Omaha's fiscal condition is slightly better than the fiscal condition of the average central city in the United States. The picture changes once state assistance is considered, however, where assistance is broadly defined to include grants and state-imposed fiscal rules such as taxing authority and service responsibilities. In fact, Omaha's fiscal condition after state assistance is below average, and only a few other states provide less assistance to their central cities than Nebraska does to Omaha. Although large cities in Nebraska are in good fiscal condition compared to villages in Nebraska, these large cities are in poor fiscal condition compared to similar cities in other states.

**Chapter 11, Ratcliffe, Riddle, and Yinger.** Nebraska contains 927 school districts, which provide educational services to over 265,000 students. Compared to the average school district in the nation, the average district in Nebraska spends somewhat more, collects about twice as much property tax revenue, and receives about half as much state aid, all on a per pupil basis. School districts in Nebraska do not all have the same responsibilities, however; they range from many elementary-only districts with fewer than 10 students to the large kindergarten-through-high school districts in Omaha and Lincoln. Moreover, school district organization in the state is complicated by the fact that many school districts in Nebraska send pupils to other districts and the fact that some taxes are collected and some special services are provided by Educational Service Units.

This chapter focuses on the fiscal condition of school districts in Nebraska, using the concepts developed in the chapters on counties and municipalities. Revenue-raising capacity per pupil is much higher in some school districts than in others, largely because of tremendous differences across districts in income per pupil. Expenditure need also differs from one district

to the next; thanks to economies of scale, for example, large districts can obtain average-quality education at a much lower cost per pupil than can small districts. Overall, the school districts in relatively good fiscal condition are either very large or very small. Except among the very largest districts, however, fiscal condition varies widely within districts of every size and every responsibility class. As a result, some districts are forced to select much lower educational service quality or much higher tax burdens than other districts.

The enormous differences in fiscal condition across school districts in Nebraska lead to enormous differences in educational opportunities for students who live in different places. To some degree, current state aid programs have been designed to offset this unfair outcome. Taken as a whole, however, current state aid programs fail to offset existing fiscal disparities across school districts and indeed even magnify these disparities to a small degree. Moreover, the current system of numerous tiny school districts is one of the principal causes of the existing large fiscal disparities and costs the state's taxpayers money by preventing many districts from taking advantage of economies of scale. By consolidating school districts, therefore, the state could greatly improve the fairness and lower the cost of its educational system. By revising and expanding its state aid programs, the state could help offset fiscal disparities that exist after consolidation and could help reduce Nebraska's relatively high property tax burden.

**Chapter 12, Jump.** Despite the existence of legal limits on the property tax rates that all Nebraska political subdivisions except school districts can impose, the state's property tax rates are among the highest in the nation. The failure of legal limits to hold property tax rates to moderate levels is not a problem unique to Nebraska. Finding themselves in a similar situation, several other states have resorted to more stringent tax and expenditure limitations (TEs) during the last 20 years.

This chapter describes each of the major types of TEs used by states to attempt to limit what their political subdivisions may raise in tax revenues or what these units may spend, and it

draws on the experience of other states and on the academic literature to determine how well the new TELs have worked and to identify major problems that are associated with the TELs. The chapter concludes that imposition of a more stringent cap on Nebraska's property tax rates is likely to do more harm than good. Were a cap to prove really effective, many local units would be hard-pressed to provide some essential services. But the experience of some other states suggests that as the full effects of a more restrictive cap began to be felt by local residents, pressure would mount to ease the restriction or ways would be found to bypass it.

#### **Part IV: Economic Development**

##### Chapter 13, Wasylenko, "Economic Development in Nebraska."

**Chapter 13, Wasylenko.** This chapter compares employment trends and the business climate in Nebraska with those in neighboring states and to the average for all states. In addition, it performs an empirical analysis to determine the underlying reasons for differential employment growth among states during the 1980 to 1985 period.

While Nebraska's employment growth during the 1970s was similar to that in the national economy, Nebraska's 0.9 percent annual employment growth during the 1980 to 1985 period was only one half of the national average. Compared to other states in the region during this period, Nebraska, Kansas, and South Dakota had moderate employment growth; Iowa, Wyoming and North Dakota had slow employment growth; and Minnesota, Missouri and Colorado had high employment growth. Thus, while the agricultural recession hit the Midwestern economies relatively hard, Nebraska was not hit as hard as several other states in its region.

Among factors that influence the business climate, Nebraska has lower wages than the U.S. average, yet its labor force is more educated than the labor force in the nation as a whole.

Both of these factors should help attract new employment. Within the nine-state region, only Colorado and Wyoming have a greater percentage of their population completing high school than Nebraska. While Nebraska's primary and secondary education expenditure per capita is 3 percent more than the national average for state and local governments, it is competing with nine other states in region, which, except for Iowa, Missouri and South Dakota, spend more per capita on primary and secondary education than does Nebraska.

Nebraska's overall state and local expenditure per capita is lower than the average for all states, as is the burden of three of the four major taxes; namely the personal and corporate income taxes, and the general sales tax. However, Nebraska's effective property tax rate of 2.29 percent results in the third highest property tax rate in the U.S.

The empirical analysis suggests that the wage level and education level of the labor force are important variables in determining employment growth in states between 1980 and 1985. Tax and expenditure variables do not appear to have strong effects on state employment growth in either manufacturing or non-manufacturing industries during this period. A surprising finding is that state tax incentive and financial incentive programs are in fact associated with lower state manufacturing employment growth. But states offering industries more special incentives have higher manufacturing employment growth. State support programs for training new employees appear to be the most significant special service affecting employment growth.

Overall, Nebraska is well positioned in terms of its business climate. Eliminating the sales tax on business purchases of machinery, equipment and materials and reducing the relatively high property tax burdens are two steps that might improve the business climate. Other than these two issues, the business climate in Nebraska is very competitive with that in other states in the nation and within its own region.

## **Part V: Special Topics**

Chapter 14, Due and Fairchild, "The Operation of the Nebraska State and Local Sales and Use Taxes."

Chapter 15, Jump, "Tax Exemption of Municipal Bond Interest."

Chapter 16, Eberhardy and Ratcliffe, "Who Benefits from Public Spending: Obstacles to Accurate Measurement."

This final part of the report brings together three chapters on special topics: the administration of sales taxes, the taxation of municipal bond interest, and identifying public service beneficiaries.

**Chapter 14, Due and Fairchild.** Sales tax administration is complex, and careful administrative procedures are important to achieving a fair and predictable sales tax environment. This chapter examines the implementation, collection and audit procedures of the Nebraska state sales tax.

This analysis finds a well-run sales tax in the state. The addition of more sales tax auditors might yield more net revenue, however.

**Chapter 15, Jump.** In 1987 Nebraska began taxing the interest earned by resident individuals and corporations on their holdings of municipal debt issued by other states and their local jurisdictions, thereby embracing a policy already followed by most other states with an income tax. Not only will income tax revenues increase, but residents will have more incentive to invest in their own state's municipal debt. The resulting increase in demand for Nebraska's debt may also help lower the interest rate that Nebraska municipalities have to pay when they borrow.

Even though most states tax residents' earnings of interest on other-state debt, the common practice among the states is to exempt from taxation residents' earnings of interest on

debt issued by the taxing state's political subdivisions. The objective of this policy is to enable municipalities to borrow at lower interest rates than their corporate counterparts pay.

There is no question that tax-exemption usually produces interest cost savings for state and local government borrowers. Its major drawback is that when the volume of such borrowing pushes tax-exempt interest rates up to levels that make tax-exempt bonds attractive to investors in lower tax brackets, investors subject to the state's highest tax rates receive returns on their municipal debt that exceed their after-tax earnings on investments in taxable securities. Thus, the borrowing jurisdictions' interest savings will be less than the income tax revenue lost by the taxing government. In view of this possibility, a state that wants to assist local governments in their capital improvement financing, but without allowing high income investors to realize windfall gains, could substitute a policy of taxing municipal debt interest and distributing the resulting tax proceeds directly to local borrowers.

The results of the analysis presented in this paper do not indicate a high probability that a tax and subsidy approach would be financially beneficial to Nebraska government borrowers. As Nebraska's income tax rates are comparatively low, the potential revenue that would come from taxing municipal interest income would be, under the best of circumstances, far too low to produce significant subsidies to the jurisdictions that issue debt.

**Chapter 16, Eberhardy and Ratcliffe.** This chapter reports on the difficulties that render it impossible to measure accurately the distribution of the benefits from public services, and, incidentally, explains why the Nebraska Comprehensive Tax Study focuses on the tax side rather than the expenditure side of Nebraska's public finances.

Major conceptual and data obstacles confront anyone attempting to identify exactly who receives benefits from the public services that Nebraska's state and local governments provide. First, service beneficiaries include both residents and non-resident of Nebraska, and some of the service benefits accrue indirectly to individuals who appear not to receive the benefits. For

example, benefits from primary and secondary education accrue to the students being educated, but also to the population as a whole, which benefits from having an educated workforce and electorate.

No less an obstacle is determining the value that individuals attach to their public sector benefits. Strictly speaking, the benefits from public services are determined by each individual's valuation of these services, as measured by their demand or willingness to pay. Estimating demand is fraught with major conceptual problems due to the unique nature of public goods and to an inability in most cases to measure either the price or the quantity of these goods. Returning to the education example, consider the problem of defining a unit of educational service or the price associated with that unit.

Studies that purport to measure the benefits of public services actually just allocate public expenditures to various income and demographic groups in a state. This exercise does not measure benefits as defined above, and the analysis in these studies cannot accurately identify the recipients of most public services. These studies report at best only a crude approximation to the true distribution of public service benefits, and the underlying conceptual and data difficulties make it highly probable that the results of such studies are seriously misleading.

### **Recommendations**

The findings of the Nebraska Comprehensive Tax Study lead us to recommend several changes in state tax policy and in state policy toward local governments. These changes, which are the official recommendations of the Nebraska Comprehensive Tax Study, are presented in this section. It should be noted the recommendations presented here may differ from the recommendations in individual chapters, which reflect the views of each author and which do not consider the Nebraska tax system as a whole.



Our recommendations are presented in four sections. First, we examine the state tax system. We recommend changes in all the broad-based state taxes and in the state rules for local property taxation. In the second section, we list our recommendations on state policy toward local governments. The third section contains our recommendations concerning economic development. In the final section, we make several recommendations concerning reporting, data collection, and increasing the state's capacity to perform fiscal analysis.

### **State Tax Policy**

For the most part, Nebraska's state tax system conforms to widely accepted principles of good tax practice. Nevertheless, several features of Nebraska's state taxes are unfair or cause economic distortions or are out of line with tax policies in neighboring or competing states. In this section we propose reforms in the state sales tax, the state-determined exemptions from the property tax, the state personal income tax, and the and the state corporate income tax.

**The General Sales Tax.** Our recommendations are based on the widely accepted principle that the general sales tax should be levied on all final purchases of goods and services and should not be levied on intermediate goods or services, that is, on the inputs purchased by businesses. We also accept the widespread view that this principle can be relaxed for equity reasons, to exempt purchases made due to misfortune or illness, and to avoid excessive administrative costs.

As discussed in Chapter 3, the current Nebraska sales tax violates this principle by taxing business purchases of machinery, equipment and materials. Not only does the taxation of these intermediate goods cause varying, haphazard tax rates on final goods and services when the sales taxes are passed on to the purchasers of the final commodities, but it also discourages investment. Some people argue that this component of the sales tax is needed to offset the fact that farm equipment is exempt from the property tax. However, nonfarm equipment is subject to both the sales tax and the property tax; this double taxation cannot be justified. Moreover,

Nebraska's sales tax and its property tax would both better conform to accepted tax principles if farm equipment, along with all other intermediate goods, were exempt from the sales tax, and if farm equipment, like all other forms of property, were subject to the property tax. From the standpoints of both good tax practice and economic development, therefore, we recommend the following change in the sales tax. A related change in the property tax is discussed below.

**Recommendation 1. Business purchases of machinery and equipment should be exempted from the state sales tax, as recommended in Chapters 3, 8, and 13.**

Using data for 1987, a sales tax exemption for agricultural machinery and equipment has been estimated to cost between \$6 and \$11 million, and an exemption for manufacturing equipment has been estimated to cost about \$14 million.

Food purchased in grocery stores is presently exempt from sales taxation in Nebraska due to the extreme regressivity of taxes on these items. An alternative approach is to levy the sales tax on food and compensate for the regressivity using a personal income tax credit. The appropriate tax credit would vary by income and family size group, be indexed for inflation, and be paid even to households with an income tax liability less than the credit. A household would have to file a tax return to receive the credit, whether or not they needed to file for income tax purposes. We conclude that this type of income tax credit would be expensive to administer and would probably not reach many of the households eligible for it. We believe, therefore, that the state should not tax food purchased in grocery stores and offset the regressivity with an income tax audit. On the other hand, we see no reason on equity grounds to exempt all food purchases from sales taxation. The taxation of certain grocery-store foods would entail some administrative complications, but computerized cash registers and price label codes minimize these complications in many locations. Thus, we make the following recommendation.

**Recommendation 2. The state should identify foods, such as freshly baked cakes, gourmet cheeses, and special coffees, that are not usually**

**purchased by low-income households and that can readily be recognized at a check-out line and subject these foods to the general sales tax. A similar recommendation is discussed in Chapter 3.**

Compared to both the average state and to neighboring states such as Iowa, Nebraska taxes few consumer services. In a U.S. economy that is increasingly service-oriented, the revenue forgone as a result of not taxing services is likely to grow over time. Moreover, we see no equity rationale for exempting services from sales taxation, as the regressivity of sales taxes on services is no greater than on currently taxed final commodities. We emphasize that sales taxes should not be levied on services sold to businesses, as these services are intermediate products, and also not on health services, as spending on these services is due to misfortune. Thus, we make the following recommendation.

**Recommendation 3. Repair, maintenance and cleaning of tangible personal property including housing, personal services by commercial establishments, and recreation should be subject to sales taxation, as discussed in Chapter 3.**

The revenue yield from implementing this recommendation would be about \$37 million.

We know of no good rationale for the sales tax exemption for the trade-in value of durable goods, especially vehicles, against the purchase price of related durable goods, such as new vehicles. The sales tax should be levied against the full purchase price of the newly acquired vehicle or other durable good. Moreover, the exemption primarily benefits higher-income households, who are more likely to trade in higher-value vehicles for new vehicles and benefit from the sales tax exemption on the trade-in value.

**Recommendation 4. The trade-in value of a vehicle should not be used to offset the sales tax price of the newly acquired vehicle, as reported in Chapter 8. This principle should also apply when other durable goods are taken in trade for related durable goods.**

Revenues would increase about \$11 million if this recommendation were adopted.

**The Property Tax.** As reviewed in Chapters 6 and 8, the potential property tax base is extensive, as it includes all types of real and personal property. A widely accepted principle of taxation indicates that the property tax base should be as broad as possible, with exemptions allowed only for administrative or equity reasons, but this principle is not always followed in practice. For example, intangible personal property is excluded from the property tax base in virtually every state, largely on administrative grounds, but the treatment of inventories, machinery, and equipment varies from state to state.

Even if some types of property are exempt from taxation for administrative reasons, each type of property should be treated the same way in all its different uses. For example, taxing business inventories in manufacturing but excluding other business inventories from taxation would be unfair and cause distortions in business decisions. In Nebraska, agricultural machinery and equipment is exempt from property taxation, whereas the property tax is levied on machinery and equipment in others sectors of the economy. As explained earlier, the sales tax on business machinery and equipment does not solve this problem.

**Recommendation 5. The property tax should be levied on agricultural machinery and equipment, as recommended in Chapters 6 and 8.**

Property tax revenues for 1987 would have been about \$80 million higher if agricultural machinery and equipment had been included in the property tax base.

To avoid inequities across taxpayers and distortions in economic decisions, all property should be assessed at its full market value. This principle has not been followed for agricultural land in Nebraska, which has long been assessed at less than its market value. This preferential assessment was recently ruled unconstitutional by the Nebraska Supreme Court. We recommend strict adherence to this court decision. Preferential assessment for farm land should not be reintroduced either through inappropriate assessment procedures (such as an overstated capitalization rate) or through a new constitutional amendment.

As shown in Chapter 6, the assessment-sales ratios for the property tax often differ greatly from one property to another within the same county. This variation leads to inequitable and even arbitrary differences in property tax burdens among households. Our review of this issue has not revealed a definite source of this tax administration problem, and several possible sources need to be investigated, including the training of county assessors, the reliance on an elected County Board to decide on property assessment appeals, and the limited oversight role of the State Board of Review.

**Recommendation 6. Nebraska should review assessment procedures and practices in the state and undertake reforms to improve the accuracy of property tax assessments.**

**The Personal Income Tax.** As shown in Chapter 4, the 1987 reform of the Nebraska personal income tax greatly improved the horizontal equity of the tax; that is, it lessened differences in the tax treatment of people with the same comprehensive income. But this reform also made the Nebraska income tax more regressive by raising the tax burden on the poorest taxpayers. In contrast, the April 1988 tax reform that revised the state's standard deduction to the federal levels increases the progressivity of the income tax compared to the 1987 tax system. Even with this reform, however, the state's income tax is still not as progressive as it was in 1986. While we would endorse on equity grounds the adoption of the federal personal exemption levels, we believe that the Nebraska personal income tax is now reasonably fair and recommend no immediate changes in the tax structure.

**The Corporate Income Tax.** The Nebraska corporate income tax is generally well-designed. Moreover, the corporate tax rate and the revenues collected from corporations are competitive with those in neighboring states and in the nation as a whole. Following the analysis in Chapter 5, We find only one aspect of the tax that could be modified to make more consistent the treatment of corporate income across different types of firms with nexus in Nebraska. While

we understand the logic behind the recent decision to move to a sales-only formula to apportion corporate income to Nebraska, a sales-only formula is used in very few states. The move to a such a formula introduces an unwarranted redistribution of corporate income tax burdens to out-of-state firms that sell primarily within the state of Nebraska and which have little or no property and payroll in the State of Nebraska.

**Recommendation 7. The corporate-tax legislation that moves to a sales-only formula should be repealed, and the apportionment formula for Nebraska should include payroll, property and sales factors with the sales factor receiving a double-weight, as recommended in Chapter 5.**

We find Nebraska's treatment of 80-20 firms consistent with its adoption of the federal corporate income tax base. To maintain the consistency of the state corporate tax base with the federal corporate tax base, Nebraska should maintain its current policy of treating the income of 80-20 firms as domestic income and apportioning that income to Nebraska. Departing from the federal tax code for one group of corporations would expose the state corporate tax code to further lobbying by other interest groups that seek tax relief.

### **State Policy Toward Local Governments**

The analysis in Chapters 9, 10, and 11 indicates that the State of Nebraska's assistance to its local governments is farther out of line with practice in the rest of the country and farther from accepted principles of public policy than any other aspect of public finance in the state. Consequently, we recommend major changes in state aid to local governments, in the organization of school districts, and in state-imposed property tax limitations.

**The Role of State Aid.** Most states recognize that several important policy objectives can be served by raising revenue at the state level instead of the local level. Compared to local taxes, state taxes tend to be fairer because they apply to broader bases, to be cheaper to administer, and to avoid distortions in economic decisions caused by tax rate differences across

jurisdictions. In recognition of these advantages, most states shift some of the burden of revenue raising from the local to the state level, that is, they return some state taxes to local governments in the form of state aid.

Nebraska's aid to its local governments is far below the national average. As a result, the principal tax used by local governments in Nebraska, the property tax, is far above the national average. We believe Nebraska could improve the fairness of its state-local tax system and lessen the distortions caused by property tax rate differentials by increasing state grants to local governments.

In addition, state aid formulas can be designed to promote a variety of other objectives of state policy makers. For example, state aid formulas should reward responsible behavior by local officials. Moreover, like policy makers in many states, we believe that, to some degree, state aid should be designed to provide the most help to jurisdictions that, through no fault of their own, are in poor fiscal condition.

**State Aid to Counties and Municipalities.** Nebraska gives aid to its counties and municipalities primarily through its highway trust funds and the governmental subdivision fund. Unfortunately, however, the formulas used to distribute governmental subdivisions aid do not promote the above objectives. The formula for governmental subdivision aid to counties rewards counties for poor management or unusually generous services, and governmental subdivision aid to both counties and municipalities does little to assist the neediest jurisdictions. Aid given through the highway trust funds does provide some more help for jurisdictions with relatively extensive highway or street responsibilities, but it does not account for any other aspects of a jurisdiction's fiscal condition. These problems are surmountable; using the approach outlined in Chapters 9 and 10, Nebraska could design an equalizing grant program to direct aid to the counties and municipalities that need help the most. Moreover, we find that because the neediest

jurisdictions tend to be small, the state could go a long way toward eliminating existing fiscal disparities across counties and municipalities at a relatively small cost to the state.

To correct these problems, we recommend two major changes in state policy.

**Recommendation 8: Nebraska should repeal the current formula for governmental subdivision aid to counties and replace it with some combination of a flat per capita grant and an equalizing grant, as described in Chapter 9.**

**Recommendation 9: Nebraska should retain the current formula for governmental subdivision aid to municipalities but supplement this aid with an equalizing grant, as described in Chapter 10.**

Any increase in aid to counties or municipalities would require an increase in state taxes. Our recommendation to expand the sales tax to some services and to nonbasic foods would generate sufficient revenue for a significant expansion in state aid, even if, as we recommend, the sales tax on business machinery and equipment purchases is repealed. If these recommendations are not implemented or if the additional revenue they bring in is devoted to some other purpose, the next best source of revenue would be a small across-the-board increase in income tax rates.

**Recommendation 10: Increased state aid to counties and municipalities in poor fiscal condition should be financed by extending the sales tax to services or, if necessary, by increasing income tax rates.**

Finally, because street and highway maintenance makes up such a large share of the service responsibilities of counties and municipalities, we believe that the highway trust funds should continue to be a major source of state assistance to these jurisdictions.

**Recommendation 11: Nebraska should retain, or even expand, its assistance through the highway trust funds and investigate the possibility of focusing that aid more heavily on jurisdictions with relatively high responsibility for highways or streets.**



**State Educational Policy.** As shown in Chapter 11, the differences in fiscal condition across school districts in Nebraska are even more dramatic than the differences in fiscal condition across counties or across municipalities. As a result, some school districts in the state are forced to select much lower educational quality or much higher tax burdens than are other districts. We believe that this outcome violates the widely accepted view that all children should have access to a good education without imposing an unreasonable tax burden on the taxpayers in their district.

The main source of the existing fiscal disparities across school districts is the current arrangement of districts, with its preponderance of tiny, elementary-only districts, some of which are in excellent fiscal condition and others of which are in very poor fiscal condition. The analysis in Chapter 11 reveals that consolidating school districts could dramatically reduce fiscal disparities across districts; that is, consolidation could promote equal educational opportunity by helping to insure that no child lives in a district that is at a great fiscal advantage (or a great fiscal disadvantage) compared to other districts. Furthermore, a major consolidation plan is likely to save the taxpayers of Nebraska a great deal of money because it would create districts large enough to benefit from significant economies of scale in the provision of education; that is, consolidated school districts could provide the same quality education as current school districts at a much lower cost.

We do not attempt to design a specific consolidation plan. Any such plan must consider nonfiscal issues, such as the benefits from different educational environments, the advantages of local control, and the best way to draw new district boundaries, which we do not address. Nevertheless, we believe that potential gains from consolidation in the form of reduced inequity among school districts and lower costs for education are so dramatic that extensive consolidation of existing school districts is warranted. The details of any consolidation plan should reflect nonfiscal as well as fiscal concerns.

**Recommendation 12. Nebraska should design and implement a major school-district consolidation plan.**

The general arguments about state aid presented earlier apply to aid for school districts as well as to aid for counties and municipalities. As shown in Chapter 11, however, current state aid to education, which consists of foundation aid, incentive aid, and equalization aid, does little to offset existing fiscal disparities across school districts. In fact, these programs combined actually make these disparities slightly worse, in part because the so-called incentive aid program is directed toward the districts in the best fiscal condition, and in part because the so-called foundation aid program, unlike its counterparts in other states, does not bring districts with relatively low tax bases up to a minimum educational standard. Because consolidation can reduce fiscal disparities so dramatically at no cost to the state, any reform of state aid programs should be coordinated with a consolidation plan. To put it another way, state aid to education should be redesigned to help offset fiscal disparities across school districts that remain after consolidation has been implemented, which will be much smaller than current disparities and therefore much cheaper to eliminate. This discussion leads to the following recommendations, all of which are discussed in Chapter 11.

**Recommendation 13. The Nebraska State Government should shift its emphasis in educational aid programs away from incentive aid and foundation aid toward equalization aid.**

**Recommendation 14. The Nebraska State Government should redesign its equalization aid formula so that it is more directed toward school districts that are in the poorest fiscal condition. This redesign should be coordinated with school-district consolidation, so that the new aid program can assist the districts in the poorest fiscal condition after consolidation has been implemented.**

**Recommendation 15. The Nebraska State Government should redesign its foundation aid formula to be consistent with the widely held view that foundation aid should bring all districts up to some minimum educational standard. This redesign also should be implemented after school-district consolidation.**

Finally, the level of state aid to education in Nebraska is far below the national average and this low level of aid is a key source of the relatively high property tax rates in the state. Increased state aid to education would be an excellent way to improve the fiscal footing of local education in Nebraska and to lower property taxes in the state. An increase in state aid would, of course require an increase in state taxes. To insure that higher state taxes lead to lower property taxes, the state also might want to combine the increased aid with a required one-time cut in school taxes and, as discussed in the next section, a full-disclosure law.

**Recommendation 16.** The Nebraska State Government should increase its budget for aid to local school districts. The best sources of revenue for such an increase are either the expansions in the sales tax base recommended earlier or a modest increase in state income tax rates, although a small increase in the sales tax rate also would be satisfactory. To insure that this policy change results in lower property taxes, any increase in state aid for education could be accompanied by a required one-time cut in school taxes.

**Property Tax Limitations.** Over the last twenty-five years, many states have attempted to keep down local property taxes by imposing property tax rate limits on local governments. When implemented in conjunction with increases in state aid or increased local access to broad-based taxes other than the property tax, these limitations may lead to lower property taxes. Even without more state aid or other taxes, these limits occasionally may encourage local governments to implement management reforms or to eliminate superfluous public services, but the available evidence indicates that by themselves limits either are ineffective, as local governments find ways to get around them, or else they simply lead to dramatic cuts in public service quality. The goal of improved local management can be better achieved through full disclosure laws, which require voter participation in any decision to raise tax rates and which are described in Chapter 12, and through technical and managerial assistance from a state government.

At the current time, all local governments in Nebraska except school districts face some kind of state-imposed property tax limit. These limits do not affect all local governments in the same way, however. When municipalities run into their property tax limit, for example, they can levy a sales tax, and when county governments in counties with townships run into their property tax limit, they can shift service responsibilities to townships. On the other hand, when county governments in counties without townships or municipalities that already levy a sales tax or special districts without an alternative revenue source and without an alternative service provider run into their property tax limits, they must either discover management improvements or, more likely, cut public service quality. Moreover, jurisdictions in poor fiscal condition are more likely than others to reach their property tax limits. Overall, therefore, the set of tax limits in Nebraska is complex and capricious and is particularly hard on the neediest local governments.

To eliminate these major problems with the current set of property tax limits in Nebraska, we offer the following two recommendations.

**Recommendation 17.** Nebraska should amend its constitution to eliminate the property tax rate limit facing county governments. This recommendation is discussed at length in Chapter 9. As less desirable alternatives, the state could replace the current county tax limit with a combined limit for counties and townships, allow counties to levy a sales tax in areas outside municipalities, or increase state aid to counties, particularly counties without townships.

**Recommendation 18.** Nebraska should replace its current limits on municipal and special district property tax rates with a full disclosure law and increased technical and managerial assistance to its local governments. A similar recommendation is presented in Chapter 12. A less desirable alternative would be for the state to simplify the current limits and make certain that they do not impose severe financial burden on jurisdictions that are in poor fiscal condition.

### **Economic Development Policy**

The business climate in Nebraska is competitive with that in other states in the country and with that in neighboring states. The analysis in Chapter 13 reveals that two main factors

influence employment, namely lower wages and a more educated labor force. More importantly, financial and tax incentive programs appear to have no effect on employment growth, a finding that corroborates previous evidence on the effects of tax-incentive programs. The important point here is that Nebraska has two important competitive advantages: relatively low wages and a labor force that is more educated than average.

On the other hand, Nebraska began a generous tax-incentive program (LB775) last year. This incentive program is very costly, and already a legislative bill (LB294) has been introduced to add a bracket to the corporate income tax to offset this program's revenue losses. Experience in other states suggests that this path for economic development is less than fruitful and that the benefits derived from tax-incentive programs are dubious and certainly not worth jeopardizing a well-designed corporate income tax to pay their cost.

We remain skeptical that the LB775 incentives are cost-effective ways to promote economic development. The available evidence indicates that the investment and employment tax credits and the personal property tax exemption are unlikely to add significantly to Nebraska's economic growth despite their large cost to state taxpayers. Moreover, these incentives distort a generally well-designed tax system and detract from its fairness. These incentives should be evaluated in the near future, and only the cost-effective ones should be retained. Regardless of its impact on economic development, however, the sales tax exemption for machinery and equipment represents sound tax policy, and our Recommendation 1 calls for extending it to all businesses.

State funding of job training programs appear to have some value in attracting new employment. Thus, the state might take a more activist role in economic development through funding of corporate training programs. Such activity fits with the finding that a more educated workforce seems to attract new employment and also fits with the governmental role of education.

**Recommendation 19.** Nebraska should investigate the possibility of implementing a new state program to assist businesses with their personnel training needs, as suggested in Chapter 13.<sup>1</sup>

### **Reporting, Data Collection, and Analysis**

Throughout this project, we have been struck by the limitations on the data and analysis available to policy makers in Nebraska. Indeed, the quality of information available in Nebraska is far below the quality we have encountered in other states. Good policy cannot be made without good information, and we recommend a series of steps to improve the quality of the information in Nebraska.

**Recommendation 20.** The Nebraska Department of Revenue should develop an income tax data file along with the capacity to use this file to analyze the impact of proposed income tax reforms on total income tax revenue and on the tax burden by income class. This file would consist of a random sample of Nebraska tax returns, updated annually, with appropriate additions for nonfilers.

**Recommendation 21.** The Nebraska Department of Revenue should investigate ways to merge an income tax data file with data on consumer spending so that it will be able to analyze the impact of proposals to broaden the sales tax base on sales tax revenue and the distribution of sales tax burdens.

**Recommendation 22.** The Nebraska Department of Revenue should develop a corporate income tax data file that is analogous to the recommended file for the individual income tax. Given the number of corporate returns and the amount of data needed for each return, we recommend that the file be based on a random sample of firms stratified by both Nebraska and total federal corporate income.

**Recommendation 23.** The Nebraska State Government should collect, on an annual basis, financial information for local governments based on a standardized accounting system. To implement this recommendation, the State must develop a better survey instrument than is currently used or, better still, it must require more consistent accounting practices and better reporting procedures for all local governments.

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<sup>1</sup>Some care is necessary in designing the funding of training programs, because the state constitution proscribes state payments to private training organizations.

**Recommendation 24.** The Nebraska State Government should maintain, and update annually, files of information on Nebraska counties, townships, municipalities, and school districts. These files should contain the financial information collected under the previous recommendation, as well as any other available information, such as income and population. Annual reports about the information in these files should be published each year, and the files should be made available, in computer-readable form, to interested parties.

**Recommendation 25.** The Nebraska State Government should develop the analytical capacity to examine the fiscal implications of school district consolidation, using the data collected under Recommendations 25 and 26 and the methods presented in Chapter 11.





## CHAPTER 1

# THE NEBRASKA STATE AND LOCAL REVENUE AND EXPENDITURE SYSTEM: A COMPARATIVE ANALYSIS OF STRUCTURE AND LEVELS<sup>1</sup>

by Jerry Miner and Philip Joyce

### Introduction

This chapter analyzes salient features of Nebraska's state and local fiscal system during the period 1977 to 1985. It describes and discusses the revenue sources and expenditure categories of both state and local governments in Nebraska and compares this fiscal system with both the U.S. average and a selected group of comparison states. The chapter focuses on the Nebraska fiscal system in 1985, but key trends between 1977 and 1985 are also considered. An overview of salient economic and demographic statistics are presented in Figure 1-1. An extensive set of detailed supporting tables, which permit additional calculations and analysis, is presented in Appendix 1-A.

This chapter contains six sections:

**Section 1** describes the structure of Nebraska's overall state and local fiscal system. This section analyzes the components of revenue and expenditure in per capita terms and per \$1,000 of personal income, and systematically compares the characteristics of Nebraska's fiscal system to the average for the United States.

**Section 2** examines Nebraska's division of fiscal responsibilities between the state government and the aggregate of local governments. This section presents the amounts and the state/local shares for a detailed list of revenue sources and expenditure categories. By comparing this information with the

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<sup>1</sup>The authors thank Deborah Thomas and Eric Will from the Office of Nebraska Senator Vard Johnson for their assistance in the preparation of this chapter. This chapter is based on Jerry Miner and Philip Joyce, "The Nebraska State and Local Revenue and Expenditure System: A Comparative Analysis of Structure and Levels," Nebraska Comprehensive Tax Study Staff Paper No. 6, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, February 1988).

FIGURE 1-1  
State of Nebraska  
Selected Economic and Demographic Statistics

<u>General Characteristics</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Population (000)	1557	1565	1574	1570	1577	1590	1597	1605	1606
Per Capita Income	6954	7957	8853	9272	10641	11037	11250	12312	13042
Employment (000)	722	749	747	732	741	741	746	761	768
Unemployment (%)	3.7	2.9	3.2	4.1	4.1	6.1	5.7	4.4	5.5
				<u>1977</u>		<u>1982</u>		<u>1985</u>	
Personal Income (\$m)				10810		17548		20931	
<u>Underlying Expenditure Characteristics</u>									
Elementary and Secondary Enrollments				312,048		273,766		266,116	
Higher Education Enrollments				67,419		77,526		81,163	
Highway Mileage				9,318		9,313		9,377	
Construction Miles- Highways				630		260		356	
					<u>1970</u>		<u>1980</u>		
Population Under 18 (%)					34.2		30.5		
Population Over 65 (%)					12.4		13.1		
Population Per Square Mile					19.4		20.5		
Urban Population (%)					61.5		62.9		
Population in Poverty (%)					10.1		10.7		

U.S. average, this section also reveals the relative decentralization of the Nebraska fiscal system.

**Section 3** extends the analysis of local revenue and expenditure to specific types of local governments: counties, municipalities, townships, school districts, and special districts. This section explores the role of each type of local government in Nebraska and compares this role with the U.S. average.

**Section 4** concerns intergovernmental grants. It describes the amounts and purposes of federal aid to state and local governments in Nebraska and of aid from the State of Nebraska to its local governments. This section also compares the role of intergovernmental grants in Nebraska with their role in the nation as a whole.

Trends in state and local revenue and expenditure in Nebraska from 1977 to 1985 are the subject of **Section 5**. Rates of growth in detailed revenue and expenditure categories are described and compared to national trends during this period.

Finally, **Section 6** compares Nebraska's fiscal system to that of selected other states. Particular attention is paid to differences and similarities between Nebraska's fiscal system and the systems in contiguous states.

### **Structure and Levels of Total State and Local Revenue and Expenditure**

#### **Revenue**

In 1985, as in the recent past, combined total state and local revenue in Nebraska has been above the national average both per capita and in relation to state personal income (Table 1-1). This finding is dominated, however, by Nebraska's utility revenue, which is approximately twice the national average and which arises because of the unique extent to which electricity is provided by special local authorities in Nebraska. The picture of Nebraska state and local revenue which emerges from looking at general revenue, which excludes utility revenue, is of a state whose 1985 revenue is seven percent less than the national average on a per capita basis (\$2,317) and is equal to the national average share of personal income (17.8 percent).

**Relative Importance of Sources.** As regards the relative importance of alternative sources of general revenue, Nebraska raises a somewhat larger-than-average share from charges

TABLE 1-1

## NEBRASKA: LEVELS OF STATE AND LOCAL REVENUE, 1985

Revenue Source	Amount		As a Percent of U.S. Average	
	Per Capita	Per \$1000 Personal Income	Per Capita	Per \$1000 Personal Income
<b>Total</b>	\$ 3,307	25.4	110	117
Utility and Other	991	7.6	194	207
General	2,317	17.8	93	99
<b>Federal Aid</b>	397	3.0	89	95
<b>Own-Source General</b>	1,920	14.7	93	99
Taxes	1,251	9.6	85	91
Property	541	4.2	125	133
Motor Fuel	79	1.9	139	148
Motor Vehicle	120	0.6	120	128
General Sales	247	1.8	70	75
Income	229	0.3	61	65
Individual	198	1.5	66	74
Corporate	31	0.2	41	40
Other	54	0.9	54	58
Charges	402	3.1	129	138
Education	139	1.1	151	162
Hospitals	158	1.2	175	187
Miscellaneous	266	2.0	94	101
<b>Exhibit:</b>				
Nebraska Per Capita Personal Income	\$13,042		94	

SOURCE: Tabulations by authors. Fiscal data and populations data from Bureau of the Census, Governmental Finances in 1984-5. Personal income data from Survey of Current Business (August 1987).

and miscellaneous revenue and a less-than-average proportion from taxes and from federal aid (Table 1-2). Own-source revenue, which excludes federal aid, shows Nebraska with a 10 percent higher-than-average share of taxes and a 50 percent higher-than-average share importance of charges.

Among taxes, the property tax, which provides the largest single source of state and local tax revenue for the nation, dominates in Nebraska to an even greater than average degree. Its 28 percent share of own-source revenue is one-third larger than the U.S. average. In contrast, Nebraska's dependence on the next two most important state and local taxes, general sales and income, are respectively a quarter to a third less than average. Reflective of the large area and low population density of the state, Nebraska's motor fuel revenue composes a third more of total taxes than average, although revenue from motor vehicle licenses is at the average. Finally, miscellaneous own-source revenue is exactly equal to the national average.

The unusually high utilization of charges in Nebraska mainly reflects charges for higher education tuition, for transfer tuition for elementary and secondary pupils who attend schools outside their home districts, and for hospital charges at the State University Hospital and at county, municipal and other local hospitals.

**Levels by Source.** In addition to the percent distribution of various revenue sources, levels of revenue are also key elements in depicting a state's fiscal system. Two standard measures of revenue level are conventionally used. One, per capita revenue, gives an indication of the absolute burden imposed by a particular revenue source. The other, revenue as a share of state per capita personal income is more a measure of relative burden, indicating the portion of personal income which is given up to provide revenue. These two measures allow standardized comparisons of revenue systems across states. While the value for one measure as a percent of the U.S. average generally is associated with a similar relative value for the other, this need not be so. For example, relatively low per capita revenue may be accompanied by a relatively high

TABLE 1-2

## NEBRASKA: STATE AND LOCAL REVENUE STRUCTURE, 1985

Revenue Source	Nebraska Percent	As a Ratio of U.S. Average Percent
<b>Share of Total Revenue</b>		
Utility and Other	30	176
General	70	84
<b>Share of General Revenue</b>		
Federal Aid	17	94
Taxes	54	92
Charges and Miscellaneous	29	122
<b>Share of Own-Source General Revenue</b>		
Taxes	65	92
Property	28	133
General Sales	13	76
Individual Income	10	71
Corporate Income	2	44
Motor Fuel	4	133
Motor Vehicle License	2	100
Other <sup>a</sup>	6	60
Charges	21	150
Education	7	157
Hospitals	8	181
Miscellaneous	14	100

<sup>a</sup>Includes liquor, cigarettes, insurance premiums, train miles, parimutual, estate, severance, and real estate transfer taxes.

SOURCE: Tabulations by authors. Fiscal data in Bureau of the Census, Governmental Finances in 1984-5.

level of revenue per \$1000 of personal income in a state with exceptionally low per capita personal income in comparison with the U.S. average.

The importance of alternative sources of revenue as revealed by their shares of the total is not necessarily an indication of their relative magnitude in relation to the national average amount per capita or percentage of state personal income. A state source which constitutes an above average proportion of revenue may still produce a below average revenue per capita or a share of income if the total amount of state collections is below average. Table 1-1 shows that the levels of various revenue sources in Nebraska tend to have the same relation to the national average as do the relative shares of the corresponding revenue sources.

As a consequence of the magnitude of utility revenue in Nebraska, total revenue, both per capita and per \$1000 of state personal income, is above average. Per capita own-source general revenue (\$1,920), however, is some 7 percent below average and as a share of state personal income (14.7 percent) it is almost exactly at the national average. The tax component of Nebraska own-source revenue lies even further below the national norm; the state raises 10 percent less per capita and 15 percent less per \$1000 of personal income. Above average charges account for Nebraska's being closer to the norm for general revenue and further below the norm for own-source revenue.

As regards specific tax and nontax revenue sources, both measures of revenue level reveal that property, motor fuel and motor vehicle license taxes produce above national average levels of revenue. The remaining state and local taxes--general sales, income, and other--yield significantly less than the U.S. average revenue. Most striking is that in 1985, Nebraska taxes on general sales and income raised, respectively, only 70 and 60 percent of the per capita national average.

**Summary and State Rankings.** In summary, data for 1985 show Nebraska's overall state and local general revenue to be below the national average revenue per capita and per

\$1000 of state personal income. In terms of state rankings, Nebraska is 28th in own general revenue per capita and 31st in own general revenue as a share of state personal income, while ranking 24th in state per capita personal income. As regards federal aid, Nebraska ranks 35th in both measures. Nebraska's exceptionally low revenue mobilization from general sales and corporate income taxes is reflected by its ranking below the 40th state for these taxes in both measures of tax burden. The individual income tax, too, is relatively underutilized, but not to so great an extent, as indicated by Nebraska's ranks of 35 and 37 respectively for the two burden measures. In contrast, Nebraska's unusually heavy reliance on the property tax clearly emerges from its rank of 6th for per capita revenue and 14th for income share from this source. For motor fuel taxes, Nebraska ranks 6th and 14th. State rankings also verify the above average importance of charges in the Nebraska fiscal system, placing it 8th and 10th respectively in revenue per capita and as a share of income.

### **Expenditure**

As with state and local revenue, Nebraska total expenditure both per capita and per \$1000 of personal income is above the national average due to the extraordinary importance of electric power provision by special districts. General expenditure, the more revealing measure, shows Nebraska essentially at the national average. The composition of general expenditure, however, reveals some key differences from national norms. For instance, as Tables 1-3 and 1-4 reveal, Nebraska's share of state spending for public sector wages and salaries is 1.14 times the average U.S. share, and per capita expenditure for wages and salaries is about 10 percent above average. Since current outlay, which includes materials and supplies as well as wages and salaries, is essentially at the average, spending for these nonsalary items comprises a somewhat lower than average share and level. Capital outlay, on the other hand, is some 10 percent above the national norm in per capita terms and as a share of total general expenditure and of personal income it exceeds the U.S. average by close to 20 percent.



TABLE 1-3

## NEBRASKA: STATE AND LOCAL EXPENDITURE STRUCTURE, 1985

Expenditure	Nebraska Percent	As a Ratio of U.S. Average Percent
<b>Share of Total Expenditure</b>		
Utility and Other	30	188
Salaries and Wages	49	114
<b>Share of Direct General Expenditure</b>		
Current	86	98
Capital	14	117
Education	39	111
Higher	12	133
Elementary	26	108
Highways	14	175
Welfare	9	69
Hospitals	9	129
Environment and Housing	8	100
Public Safety	6	75
Administration	4	80
Interest	4	67

SOURCE: Tabulations by authors. Fiscal data in Bureau of the Census, Governmental Finances in 1984-5.

TABLE 1-4

## NEBRASKA: STATE AND LOCAL DETAILED EXPENDITURE, 1985

Expenditure	Amount		As a Percent of U.S. Average	
	Per Capita	Per \$1000 Personal Income	Per Capita	Per \$1000 Personal Income
<b>Total</b>	\$3,238	248	117	125
Utility and Other	982	75	225	241
Direct General	2,255	173	97	104
Current	1,946	149	96	102
Capital	309	24	111	118
Education	887	68	110	117
Higher	265	20	121	129
Elementary	590	45	107	114
Highways	305	23	162	172
Welfare	209	16	72	77
Hospitals	204	16	135	144
Environment and Housing	172	13	91	97
Public Safety	140	11	72	77
Administration	98	8	81	86
Interest	100	8	73	78
<b>Exhibit:</b>				
Salaries and Wages	1,101	84	111	118

SOURCE: Tabulations by authors. Fiscal population and personal income data from sources listed in Table 1-2.

Relatively high capital spending in a single year could reflect the timing of major capital projects. In Nebraska, however, review of the period since 1977 shows a persistent above normal allocation to capital outlay. Inspection of detailed data on capital outlay reveals that it is concentrated on highways and, thus, is further reflection of the influence on public spending of the large land area and relatively low population density of Nebraska.

The functional distribution of direct general expenditure in Nebraska also shows persistent differences from national averages. Spending for education, (particularly higher education) highways and hospitals consistently exceeds national norms whether measured as share of the total budget, on a per capita basis or as a share of personal income. Outlay for environment and housing is essentially at the national average while the remaining functions, welfare, public safety, administration and interest are consistently below average. In Nebraska, spending for higher education in 1985 accounted for 12 percent of total direct general expenditure, a share one-third larger than average. The outlay of \$265 per capita was over 20 percent above that of the national average, and expenditure per \$1000 of personal income was almost 30 percent above the average. However, even greater at some 70 percent above the norm, whether measured as a share of total direct spending or as a level, was spending for highways. Elementary and secondary education receives above average support, but here the premium amounts to only about 10 to 15 percent. Welfare's share of the outlay is 25 percent less than the average and its per capita expenditure 30 percent less. Despite the relatively large share of the budget devoted to capital outlay during the period since 1977, interest payments also are considerably below the norm. This finding reflects the prohibition of state government issuance of debt in the Nebraska state constitution. Thus, the observed interest payments represent interest only on local authority borrowing.

State rankings also provide a useful summary perspective on expenditure as they do for revenue. Keeping in mind that Nebraska's per capita personal income ranks 24th, its ranking of

28th in per capita state and local direct general expenditure and 29th in share of income underscores the conclusion reached above that Nebraska falls just about at the average as regards spending. Among categories of functional expenditure, Nebraska's per capita outlays are ranked higher than its outlay as a share of personal income for both higher (16th and 20th respectively on the two burden measures) and elementary and secondary education (17th and 18th), for health and hospitals (16th and 15th) and for highways (7th and 10th). For all other functions, Nebraska's per capita expenditure ranking is below its income-share rank. Notably large deviations of expenditure rank from income rank are sanitation and sewerage (46th and 49th), fire (36th and 44th) and public welfare (29th and 33rd).

### **Summary and Conclusions**

A summary overview of Nebraska's fiscal system as of 1985 reveals a state whose general and own-source revenue is average in relation to income but below average in per capita terms. At the same time, direct general expenditure as a share of state income is slightly above average and per capita spending just below average. As regards sources of revenue, own-source tax revenue is about 90 percent of the average share, while charges amount to 1.5 times their average proportion. This feature of the Nebraska revenue structure was in place by 1982 and stands in contrast to the situation in 1977 when taxes constituted 75 percent of revenue and charges only 25 percent, shares essentially similar to the U.S. average. Property taxation is the only tax utilized more heavily in Nebraska than average, with general sales and income taxes notably below average. This pattern has essentially held throughout the period from 1977 to 1985. As for expenditure, Nebraska spends at above average levels for education, highways and hospitals and below average for all other functions. During the period from 1977 to 1985 spending for education and highways remained above average throughout and outlays for welfare and public safety continued to be below average. In contrast, per capita spending for hospitals rose from below to above average while environment and housing and administration

fell from above average in 1977 to below average in 1985.

## **Relative Responsibilities of State and Local Governments**

### **Introduction**

One of the key elements in describing and analyzing state and local fiscal systems is the relative responsibilities of various levels of governmental authority. State governments may raise a greater proportion of the total of state and local revenue or a relatively lesser proportion leaving the localities to utilize their revenue sources to a greater extent. The proportion of total revenue raised from state sources is, however, only one side of the issue. Given that, except for very small payments for administrative services, localities make no intergovernmental transfers to state government, a low state proportion of revenue implies a low state share of total state and local direct expenditure. Due to the prevalence of intergovernmental grants from states to localities, however, the reverse is not necessarily true. A high state share of revenue does not necessarily imply a high state share of total state and local direct expenditure. Revenue collected at state level can be transferred to local authorities who then operate the services and dispense direct outlays. Thus, a comprehensive portrait of the degree of centralization or decentralization within a state system requires examination of the relative roles of each level of government as regards both revenue sources and expenditure by function.

### **Revenue**

As with so many aspects of the Nebraska fiscal system, utility revenue distorts the pattern of distribution of the overall total of state/local revenues. Total revenue appears excessively oriented toward local collection since the utility revenue of the local special districts is included in this aggregate. A more accurate picture is given by general revenue which, at a 54 percent state share, is still some 10 percent below the national average, and provides a more accurate indication of the extent of local bias in the overall Nebraska revenue system. An even

more pronounced local orientation is found for own-source revenue for which the state share is a full 15 percent below the national average (Table 1-5).

The explanation for the below average state share of general and own-source revenues in Nebraska rests entirely on the 25 to 33 percent above average (Tables 1-1 and 1-2) revenue from the property tax, a solely local revenue source. At the same time, for those taxes which are to any extent shared by state and local authorities, i.e., general sales, motor vehicle and other taxes, Nebraska's state government raises an above average share. Furthermore, the individual income tax, shared in some states with local authorities, is solely collected by the state government in Nebraska. The state's share of total charges is slightly above average, while its share of miscellaneous revenue is below average. In the final analysis, however, the relatively high state shares of general sales, income, and motor vehicle taxes are more than offset by the substantially above average property taxes, which accrue only to local authorities.

A previous section referred to Nebraska's below average state and local general, own-source, and tax revenue. Table 1-6 reveals that this overall revenue position is the consequence of a 10 percent above average per capita local general revenue which is not sufficient to offset state per capita revenue of some 20 percent below average. As regards the components of state government revenue other than general revenue, per capita own-source revenue and taxes are 22 and 28 percent below average respectively. Per capita amounts of the major state general revenue sources, taxes on individual and corporate incomes and the general sales tax, are each approximately 30 percent below national average. In contrast, per capita local tax revenue is 7 percent above average, and the two major sources of local government revenue, the property tax (53 percent share) and current charges (25 percent share), are some 30 percent above the national norm.

### **Expenditure**

As mentioned above, the magnitude of the state share of revenue does not necessarily

TABLE 1-5

**NEBRASKA: DISTRIBUTION OF REVENUE AMONG STATE  
AND LOCAL GOVERNMENTS, 1985**

<u>Revenue Source</u>	<u>State Share</u>	<u>As a Ratio of U.S. Average Percent</u>
<b>Total</b>	40	66
Utility and Other	9	15
General	54	89
Federal Aid	82	103
<b>Own-Source General</b>	47	84
Taxes	52	84
Property	0	a
General Sales	86	104
Income	100	110
Individual	100	112
Corporate	100	100
Motor Vehicle	84	111
Motor Fuel	100	102
Other	80	103
Charges	38	103
Education	58	84
Hospital	27	96
Miscellaneous	39	81

<sup>a</sup>Zero Nebraska State share makes share relative to U.S. average meaningless.

SOURCE: Tabulations by authors. Fiscal data from Bureau of the Census, Governmental Finances in 1984-5.

TABLE 1-6

NEBRASKA: LEVELS OF PER CAPITA REVENUE AMONG STATE  
AND LOCAL GOVERNMENTS, 1985

Average Revenue Source	Per Capita Revenue		As a Percent of: U.S.	
	State	Local	State	Local
<b>Total</b>	\$1335	\$2269	73	135
Utility and Other	87	903	28	446
General	1247	1366	82	92
Federal Aid	327	70	92	77
State Aid	--	278	--	57
<b>Own-Source General</b>	902	1017	78	112
Taxes	648	604	72	107
Property	3	539	a	129
General Sales	213	35	73	57
Income	229	0	67	a
Individual	195		74	a
Corporate	31		41	a
Motor Vehicles	31	7	107	307
Motor Fuel	79	0	142	a
Other	93	24	50	50
Charges	151	251	131	128
Education	81	58	122	223
Hospital	43	116	172	176
Miscellaneous	104	162	76	112

<sup>a</sup>Nebraska per capita revenue is either zero or too low for meaningful comparison with U.S. average.

SOURCE: Tabulations by authors. Fiscal and population data from Bureau of the Census, Governmental Finances in 1984-5.



indicate the extent of involvement of the state government in direct expenditure and in the operation and administration of functional services. As Table 1-7 shows, apart from utility expenditure, the state government in Nebraska has about average responsibility for direct general expenditure, with the exception of capital outlays for which the state share is almost 30 percent above average. This, again, reflects the importance of highway construction carried out by the state government. Nebraska is typical in that the state government spends directly an average share for higher education and is not involved in direct expenditure for elementary and secondary education, although it provides some direct aid to local school districts. In 1983, Nebraska transferred administrative personnel costs of welfare from local to state budgets. Consequently, the state share of direct welfare expenditure in 1985 was 96 percent, an increase from 83 percent in 1977. The 1985 figure is comparable to other state administered welfare systems, but is 25 percent above the overall average which includes states in which substantial administrative and other costs of welfare are borne at the local level. Environment and housing and public safety are operated to an above average level by the Nebraska state government while local governments support an above average share of hospital expenditure.

Turning to per capita amounts, the state government's general direct expenditure is essentially at the nation's average. Within this average, however, the state government's capital outlay is 40 percent higher than average and its wage and salary bill is about 25 percent above the norm. Total spending by local governments is some 5 percent less than average, and their wage and salary bill is only 6 percent above the norm for local governments. As regards specific functions, the previously noted above average Nebraska total state and local spending for higher education and hospitals is reflected by above average spending by both state and local governments. For elementary and secondary education the level of per capita spending by Nebraska local governments is some 7 percent above average. Despite above average state government per capita spending for public safety, possibly a reflection of costs of patrolling the

TABLE 1-7

**NEBRASKA: STATE SHARE OF EXPENDITURE OF  
STATE AND LOCAL GOVERNMENTS, 1985**

Expenditure	State Share	As a Ratio of U.S. Average Percent
<b>Total</b>	41	69
Utility	4	9
General	42	105
Current	40	100
Capital	55	128
Salaries and Wages	33	110
<b>Direct General</b>	42	105
Education	28	100
Higher	83	98
Elementary	0	a
Highways	59	98
Welfare	96	126
Hospitals	35	80
Environment and Housing	32	152
Public Safety	38	127
Administration	30	79
Interest	49	107

<sup>a</sup>Zero Nebraska per capita share makes comparison with U.S. average meaningless.

SOURCE: Tabulations by authors. Fiscal data from Bureau of the Census, Governmental Finances in 1984-5.

extensive Nebraska state highway system, the relatively low level of spending by local authorities results in lower than average total state and local spending for this function.

The analysis reveals similar results for welfare, in that while state per capita spending exceeds the national average local spending is sufficiently below average to result in a total only 72 percent of the U.S. average. In this case, however, the analysis is somewhat misleading, since unlike other functions, direct welfare expenditure is not usually split between state and local authorities but is largely the province of only one level or the other. Thus, for Nebraska, the finding that Nebraska spends some 28 percent less than average on welfare is a consequence of relatively low state government spending for a primarily state financed welfare system. The 7 percent more than average spending shown for Nebraska state government in Table 1-8 is misleading because it compares Nebraska with all states, rather than with those which administer welfare through the state government. Since Nebraska's poverty level is close to the national average, low benefit levels are the most likely explanation for its observed below average per capita welfare expenditure.

The 62 percent above average per capita expenditure for highways in Nebraska is due exclusively to higher outlays at the local level by counties and townships, with state spending for this function almost 10 percent below the norm. Finally, below average total state and local spending for administration and interest is found at both state and local levels. The below average per capita administrative expenditure for local governments is somewhat surprising given that Nebraska has six times more local authorities per 1000 population than the U.S. average (2.1 vs. .34).

### **Summary**

The predominant features of the Nebraska state and local fiscal system that emerge from this analysis of revenue sources and functional expenditures are:

- That Nebraska's expenditures for education, highways and hospitals exceed the national average

TABLE 1-8

**NEBRASKA: PER CAPITA EXPENDITURE OF STATE  
AND LOCAL GOVERNMENTS, 1985**

Expenditures	Per Capita Expenditures		As a Percent of U.S. Average	
	State	Local	State	Local
<b>Total</b>	\$1330	\$2264	81	138
Utility	43	938	23	384
State Aid	431	17 <sup>a</sup>	67	99 <sup>a</sup>
Direct General	946	1309	101	95
Current	777	1169	95	96
Capital	169	139	140	88
<b>Direct General</b>				
Education	252	635	112	109
Higher	220	45	119	134
Elementary and Secondary	0	50	b	107
Highways	180	125	91	167
Welfare	202	7	107	11
Hospitals	71	133	158	158
Environment and Housing	55	87	91	78
Public Safety	53	117	140	64
Administration	29	69	64	91
Interest	49	51	78	70
<b>Exhibit</b>				
Salaries and Wages	366	735	124	106

<sup>a</sup>Intergovernment payments from local authorities to the State governments as reimbursement for services provided to local authorities.

<sup>b</sup>Zero amount of per capita expenditure makes comparison to U.S. average meaningless.

SOURCE: Tabulations by authors. Fiscal data from Bureau of the Census, Governmental Finances in 1984-5.

- That welfare, public safety and administration expenditure are lower than average
- That apart from higher education, the relatively better supported expenditure functions are financed and operated by local authorities while the less well supported expenditure functions are financed and operated by state authorities
- That the low revenue from state government sources and the high revenue from the local property tax relative to the national average reflects this pattern of assignment and support for functional responsibilities.

### **Revenue and Expenditure by Type of Local Authority**

#### **Revenue**

An essential ingredient of a picture of a state's fiscal system is to examine the finances of the different types of local authorities that comprise the local sector. In Nebraska as in all other states these include counties, municipalities, townships, school districts, and special districts. All told in Nebraska there are 3,324 of these local authorities each with some independent power to raise revenue and to make outlays. As mentioned above, Nebraska has 2.1 local authorities per 1000 population, an amount six times that of the U.S. average.

Viewed in terms of total revenue, special districts loom inordinately large due to their heavy utility revenue. More relevant is general revenue, whose distribution among types of local governments is shown in Table 1-9. School districts predominate, accounting for almost half of all general revenues. Townships, while numerous, account for less than 1 percent of local general revenue and expenditure. Municipalities, counties, and special districts receive respectively 25, 16, and 14 percent of total local general revenue. Over 60 percent of state aid to localities goes to school districts which also raise 42 percent of the own-source revenue of all local authorities. Federal aid to localities goes primarily to municipalities and special districts.

TABLE 1-9

NEBRASKA: DISTRIBUTION AND RELATIVE PER CAPITA REVENUE  
BY TYPE OF LOCAL GOVERNMENT, 1985

Revenue Source	Percent Distribution						Total Per Capita
	Counties	Municipalities	Townships	School Districts	Special Districts	Total	
Total	10	23	0	28	38	100	\$2,269
Utility and Other <sup>a</sup>	0	23	0	1	76	100	903
General	16	23	0	46	14	100	1,366
Intergovernmental	15	21	0	55	8	100	318
Federal Aid	15	37	1	16	31	100	70
State Aid	16	17	0	63	4	100	278
Own-Source General	17	24	0	42	16	100	1,017
Taxes	17	22	1	57	4	100	604
Charges	19	27	0	23	32	100	252
Exhibits: Per Capita							
General Revenue	\$233	\$447	\$40	\$652	\$201		b
Number of Units	93	535	470	1,069	1,157 <sup>c</sup>		3,324
Average Population							
Per Unit	16,882	2,110	457	1,469	1,357		
Average Population							
Relative to U.S.							
Average	25	29	15	11	19		
Per Capita Revenue as a Percent of U.S. Average							
	State	All			School Districts	Special Districts	
		Local	Counties	Municipalities			Townships
Total	73	135	63	69	16	131	504
Utility and Other <sup>a</sup>	28	446	0	120	0	486	1,482 <sup>c</sup>
General	82	92	65	55	17	130	155
Intergovernmental							
Federal Aid	92	77	55	48	40	235	105
State Aid	--	57	40	40	2	67	132
Own-Source General	78	112	78	59	21	188	186
Taxes	72	107	80	53	24	182	116
Charges							

TABLE 1-9 (CONT.)

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<sup>a</sup>Utility revenue is charges for utility services, primarily electricity. Other revenue is payments into government insurance trust by government employees.

<sup>b</sup>The sum of the per capita revenues of each type of local government is not equal to the total local per capita because appropriate populations are used for each local government in computing its per capita revenue. Total local per capita revenue is the sum of all local revenues divided by state population.

<sup>c</sup>Total districts of which 755 have taxing power.

SOURCE: Tabulations by authors. Fiscal data from Bureau of the Census, Governmental Finances in 1984-5. Data on number and population of units from Bureau of the Census, 1982 Census of Governments (Volume 1 - Governmental Organizations).

As shown in Table 1-10 school districts, townships and special districts rely on the property tax for virtually all of their own-source tax revenue. Counties and municipalities levy motor vehicle and other taxes, and thirteen municipalities levy a sales tax. School districts supplement the over 80 percent of their own-source revenue raised from the property tax with charges.

The second part of Table 1-9, presents per capita revenue by type of local jurisdiction relative to U.S. averages. As expected, due to their extraordinarily high utility revenue, Nebraska's special districts receive far more revenue than the average such district. As regards general revenue, counties and municipalities are substantially below the national average for such authorities, while Nebraska school districts and special districts are above average. On the whole, localities in Nebraska receive less than average per capita federal aid, but school districts receive twice the average aid per capita from this source. As discussed above, state aid to localities in Nebraska is only slightly above half of the national average, and except for special districts, state aid to all types of Nebraska local governments is well below national average. The observed above average levels of per capita local own-source revenue and taxes is due entirely to the school districts' almost double the national level of own-source revenue. Per capita own-source revenue and taxes for Nebraska counties and municipalities lie substantially below average.

### **Expenditure**

Total expenditure of local authorities is again distorted by the utility spending of the special districts. The more revealing measure, direct general expenditure, indicates that spending by school districts accounts for approximately half of the total with municipalities adding about another quarter. Counties constitute 16 percent of spending, special districts 11 percent, and townships a mere 1 percent.

Nebraska's pattern of relative distribution of local spending among types of local authorities is most unusual. For the U.S. as a whole, the general purpose local authorities, that is the counties, municipalities and townships, account for almost 60 percent of total local spending,



TABLE 1-10

**NEBRASKA: PERCENT OF LOCAL OWN SOURCE REVENUE  
BY TYPE OF LOCAL GOVERNMENT  
(in percentages)**

<u>Revenue Sources</u>	<u>Counties</u>	<u>Municipalities</u>	<u>Townships</u>	<u>School Districts</u>	<u>Special Districts</u>
Taxes	60	54	94	80	13
Property	52	33	94	80	13
General Sales	0	14	0	0	0
Motor Vehicles	2	14	0	0	0
Public Utility	6	5	0	0	0
Current Charges	27	27	0	13	47
Education	0	0	0	13	0
Hospital	20	9	0	0	35
Other <sup>a</sup>	7	19	0	0	12
Miscellaneous	13	18	6	7	40
Interest	7	8	0	4	31
Other <sup>b</sup>	6	10	6	3	9
Total	100	100	100	100	100
Share of Total Local Own-Source Revenue	17	24	1	42	16

<sup>a</sup>Includes sewerage charges, transportation charges and parks and recreation charges.

<sup>b</sup>Includes any fines and forfeitures, sale of property on special assessments.

SOURCE: Tabulations by authors. Fiscal data from Bureau of the Census, Governmental Finances in 1984-5.

while in Nebraska general purpose authorities spend only 40 percent. This difference is not related to the inordinate importance to the utility related activities of Nebraska special districts, since it is based on direct general expenditure which excludes utilities.

Examination of detailed relative per capita expenditure further exposes these differences. Nebraska general purpose governments spend less per capita for most of the functions for which they are responsible than their counterpart authorities throughout the nation. School districts, on the other hand, spend almost a third more on their single function. Special districts' per capita direct general spending of 60 percent above the average is concentrated on hospitals, fire, and natural resources. The result is that such functional services usually provided by general purpose local authorities as health, police and other safety, welfare, parks and recreation, housing and community, sewerage, and other sanitation are supported by local authorities in Nebraska to a less-than-average degree. Even total local spending for fire protection, for which special district expenditure is above national average, is below average due to the low outlays by the general purpose local authorities. The lesser support for these functional areas by Nebraska local authorities need not mean lower service levels if the state government's expenditure were sufficient to offset the lower local outlay. However, Table 1-11 reveals that, except for parks and recreation, those areas for which local per capita spending is below average are also areas where Nebraska state government spending is also below average.

In evaluating the findings regarding the below average spending of Nebraska general purpose local governments it is important to note that in many states municipalities and counties have responsibilities for financing local schools. Since this is not true for Nebraska, it is somewhat misleading to compare Nebraska general purpose local government spending with the U.S. average which includes states where such local governments do spend for schools. It is this difference in the assignment of local government functions which explains why, although

TABLE 1-11

NEBRASKA: STRUCTURE AND RELATIVE PER CAPITA AMOUNTS OF  
EXPENDITURE BY TYPE OF LOCAL GOVERNMENT, 1985

Expenditure	Percent Distribution						Total Per Capita
	Counties	Municipalities	Townships	School Districts	Special Districts	Total	
Total	10	22	0	28	40	100	\$2,264
Utility and Other	0	20	0	1	79	100	938
Intergovernmental	42	7	1	0	50	100	17
Direct General	16	23	1	49	11	100	1,309
Current Operation	16	21	0	52	11	100	1,169
Capital Outlay	16	43	1	27	13	100	139
Salaries and Wages	13	20	1	50	16	100	735

## Exhibit:

Per Capita Direct General Expenditure	\$208	\$431	\$42	\$644	\$148	a
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Per Capita Expenditures As a Percent of U.S. Average

Expenditures	State	All Local	Local				
			Counties	Municipalities	Townships	School Districts	Special Districts
Total	81	138	64	68	19	132	501
Utility and Other	23	384	b	106	b	c	894
Direct General	101	95	64	59	19	132	160
Current Operation	95	96	64	54	20	133	179
Capital Output	140	88	69	70	21	120	91
Education	112	109	2	e	e	133	b
Higher	119	134	b	3	a	169	b
Elementary and Secondary	d	107	3	e	e	130	b
Public Welfare	91	11	11	9	d	b	b
Hospitals	107	158	97	84	d	b	285

TABLE 1-11 (CONT.)

Expenditures	State	Local					
		All Local	Counties	Municipalities	Townships	School Districts	Special Districts
Health	44	30	23	47	a	b	b
Highways	158	167	235	120	97	b	34
Police	95	67	68	60	e	b	b
Fire	b	70	a	67	e	b	113
Other Safety	63	36	71	28	d	b	b
Natural Resources	168	284	114	b	b	b	509
Parks and Recreation	117	71	12	88	d	b	d
Housing and Community	43	65	d	51	d	b	83
Sewerage	d	70	d	91	e	b	16
Other Sanitation	b	50	44	49	d	b	11
Administration	64	91	109	67	14	b	b
Interest	78	70	19	54	d	117	128
<b>Exhibit:</b>							
Salaries and Wages	124	106	73	58	6	122	296

<sup>a</sup>The sum of the per capita revenues of each type of local government is not equal to the total local per capita because appropriate populations are used for each local government in computing its per capita revenue. Total per capita revenue is the sum of all local revenues divided by state population.

<sup>b</sup>Nebraska and U.S. Average per capita expenditures both essentially zero.

<sup>c</sup>Small amounts of utility revenue in Nebraska school districts gives meaningless high ratio here.

<sup>d</sup>Nebraska per capita expenditure essentially zero, U.S. average less than \$10 per capita.

<sup>e</sup>Nebraska per capita expenditure essentially zero, U.S. average above \$10 per capita.

SOURCE: Tabulations by authors. Fiscal and population data from Bureau of the Census, Governmental Finances in 1984-5.

Nebraska school districts spend 1.32 times the U.S. per capita average, per capita spending for elementary and secondary education is only 1.08 times the average.

### **State and Federal Aid**

The previous analysis of the structure and levels of Nebraska revenue and expenditure referred to levels of intergovernmental aid received and expended. Specific focus on intergovernmental aid is particularly useful because it reveals a crucial feature of Nebraska's fiscal system. Table 1-12 indicates that per capita federal aid to the Nebraska state government is some 8 percent below the national average and federal aid to Nebraska localities is more than 20 percent below the norm. This is not surprising given that, apart from aid to school districts, so much of federal aid to local government is targeted to benefit the urban poor. What is noteworthy is the extremely low relative per capita amounts of state aid to local governments in Nebraska. Per capita state aid to all local government is more than 40 percent below average. For counties and municipalities per capita state aid falls to 60 percent below average, and even school districts in Nebraska receive a third less per capita state aid than average. Only the special districts are granted more per capita state aid than the national average.

It is this low level of state aid which accounts for the observation that the local share of state and local revenue in Nebraska is above average yet its share of direct expenditure is below average. Nebraska transfers only 27 percent of state general revenue to its local authorities. This is a full third less than the typical share of state revenue granted to local governments. Thus, although Nebraska local governments raise an above average share of total revenue, the share of local government in total state and local direct expenditure is below normal. This occurs because local own-source revenue is augmented by a substantially below average level of state intergovernmental grants.

TABLE 1-12

**NEBRASKA: STATE AND FEDERAL AID PER CAPITA AND AS A SHARE  
OF GENERAL REVENUE OF RECIPIENT GOVERNMENT, 1985**

Aid Source/Revenue	Nebraska		As a Ratio of U.S. Average	
	Percent	Per Capita	Percent	Per Capita
<b>Federal Aid Received by:</b>				
State and Local Governments	17	\$397	81	89
State	26	327	127	92
Local*	5	70	57	77
Counties	5	11	84	55
Municipalities	8	35	39	48
Townships	12	5	216	40
School Districts	2	11	21	235
Special Districts	11	22	68	105
<b>State Aid Received by:</b>				
All Local	20	\$278	92	57
Counties	20	45	62	40
Municipalities	15	64	73	40
Townships	2	1	8	2
School Districts	27	174	51	67
Special Districts	5	10	84	132
<b>Local Aid Received by:</b>				
State Government		\$18		80
<b>Exhibit:</b>				
State Aid as Share of State General Revenue	27		67	

SOURCE: Tabulations by authors. Fiscal and population data from Bureau of the Census, Governmental Finances in 1984-5.

The state share in spending is the sum of direct state spending plus state aid to localities. Consequently, low state aid to localities does not necessarily imply a low state share in functional spending. The issue hinges on whether direct spending is performed at the state or local level. Table 1-13 shows that due to state direct spending in Nebraska for welfare and health and hospitals, the state share is at the national average. On the other hand, in elementary and secondary education, where there is virtually no direct state spending, low state aid results in a far below average state share.

In interpreting the relative magnitude of state aid it is crucial to recognize that such aid can come either from the state government's own revenue or can be from federal grants which are passed through the state government to local governments. Governmental finance statistics do not readily permit separation of state grants to local governments into these two sources. Consequently, a figure for per capita state aid or for state aid as a share of state revenue will be influenced by the amount of federal aid passed through. States which receive more such pass-through aid will have higher measures of state aid. Such measures, however, will not indicate higher state support of local authorities from state own revenue. Similarly, states which receive less pass-through aid will have misleadingly lower measures of state aid.

The issue, here, for Nebraska is whether the observed below average state aid figures are biased downward by a relatively low participation in federal pass-through grants. As far as we can tell, the answer is, no. The major state intergovernmental aid program in Nebraska is aid to public schools which accounts for 50 percent of state grants to local governments. Here, statistics are available which show that for the 1984-85 school year, federal aid passed-through amounted to 15 percent of Nebraska state aid to schools while nationally the federal pass-through averaged only 10 percent. Thus, for at least 50 percent of state aid, the effect of the federal pass-through is to impart an upward bias on measures of Nebraska state aid. Consequently, the

TABLE 1-13

**NEBRASKA AND UNITED STATES: FEDERAL, STATE  
AND LOCAL SOURCE OF DIRECT GENERAL  
EXPENDITURES BY FUNCTION, 1985**

Function	Nebraska			United States		
	Federal	State	Local	Federal	State	Local
Direct General	18	42	41	19	46	35
Public Welfare	57	35	7	56	36	8
Health and Hospitals	6	43	52	7	47	45
Elementary and Secondary Education	6	28	66	7	49	43

SOURCE: Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism, 1987.



conclusions reached above regarding Nebraska's relatively low state aid provision do not appear to be vitiated by consideration of the effects of federal pass-through aid.

## **Changes in Revenue and Expenditure Over the Past Decade**

### **Introduction**

Up to this point the description and analysis of revenue and expenditure has focused primarily on relationships prevailing in 1985, with occasional comment on whether salient features appear to have been recent developments or continuations of previous situations. This section systematically examines trends in revenue and expenditure. Table 1-14 contains information for the combined state and local government sector for three time periods; one covers the virtual decade between 1977 and 1985; the other two divide this extended period into the period from 1977 to 1982 and from 1982 to 1985. For each period, compound annual rates of change are given along with these changes relative to the average for state and local governments in the United States.

### **Revenue**

The relatively low levels of Nebraska own-source state and local general revenue, described above for 1985 in terms of per capita amounts and as a share of personal income, are reflected in Table 1-14 by the below average growth rate of per capita general revenue and its components during the past decade. For the entire period, Nebraska per capita general revenue grew only at 84 percent of the national average. This is in contrast to growth in Nebraska state per capita personal income which was only some 3 percent below average for the corresponding period. For the period from 1977 to 1982, the relative growth rate of revenue was only some 10 percent below the national average. However, for the period from 1982 to 1987, as the economic situation in Nebraska declined relative to the rest of the nation, the rate of growth of general revenue fell to only about three-quarters of the national average. Still, during this period when

TABLE 1-14

NEBRASKA: AVERAGE ANNUAL PERCENT CHANGES IN  
REVENUES AND EXPENDITURES

Revenue Source	Average Annual Percent Change			Percent Change Relative to U.S.		
	FY77-85	FY77-82	FY82-85	FY77-85	FY77-82	FY82-85
<b>Own-Source General</b>	7.8	8.4	6.7	84	89	75
<b>Taxes</b>	6.0	5.7	6.5	77	76	77
Property	5.0	3.9	6.8	92	88	96
General Sales	7.2	8.3	5.3	72	87	50
Motor Fuel	4.4	7.0	0.2	109	370	2
Income	6.7	4.9	9.7	67	50	94
Individual	7.7	5.4	11.7	72	51	106
Corporate	1.6	2.5	0.0	21	33	a
Motor Vehicle License	5.6	5.0	6.5	104	118	90
Other Taxes	8.9	10.5	6.5	107	103	118
<b>Charges and Miscellaneous</b>	12.0	15.0	7.0	87	94	71
Current Charges	10.7	12.3	7.9	103	106	95
Education	9.3	9.7	8.6	106	102	112
Hospitals	15.1	19.9	7.6	135	141	116
Miscellaneous	14.2	19.7	5.6	76	84	49
<b>Federal Aid</b>	6.8	6.0	8.2	119	104	143
<b>Direct General Expenditure</b>	8.2	8.4	4.9	102	93	110
Education	7.4	7.5	7.2	105	103	108
Higher Education	8.9	9.9	7.3	111	114	105
Elementary and Secondary	6.7	6.4	7.1	98	93	107
Welfare	11.1	11.7	10.1	138	129	159
Hospitals	11.8	12.6	10.3	253	285	207
Highways	7.9	6.8	9.9	89	72	121
Public Safety	9.6	10.5	7.9	109	122	89
Environment and Housing	7.0	9.7	2.7	45	44	50
Administration	6.7	7.7	5.0	59	58	61
Interest	17.6	15.9	20.4	458	-552	127
<b>Exhibits:</b>						
Per Capita State Personal						
Income	8.2	9.7	5.7	97	102	87
<b>Public Sector:</b>						
Salaries and Wages	8.1	9.1	6.3	113	120	100
Employment	.4	.3	.5	36	36	37

<sup>a</sup>Nebraska corporate income tax did not grow therefore comparisons with the U.S. are meaningless.

the growth of per capita personal income in Nebraska was 13 percent lower than the national average, growth rates of own-source revenue, taxes, and charges all were more than 25 percent below average.

Turning to growth rates of revenue from specific taxes over the entire period, only motor fuel and motor vehicle license taxes grew at an above average rate. General sales and individual income taxes especially lagged behind, each increasing over the full period some 30 percent less than average. By far, however, the worst performing tax was the corporate income tax, whose proceeds per capita increased only 1.6 percent over the period, a rate only some 20 percent of the U.S. average, and exhibited no increase at all from 1982 to 1985. The growth pattern of the sales and individual income over the earlier and later segments of the period is exactly opposite; growth in sales taxes was close to average during the earlier period and then fell off drastically to half the average in the period from 1982 to 1985, while growth of income taxes was only 60 percent of the national average in the earlier period followed by an growth of 90 percent of the average rate of increase in the recent period. The removal of food from the sales tax base in 1983 is the major explanation for its low revenue growth from 1982 to 1985. The poorer performance of income taxes in the earlier period, despite state per capita personal income growth keeping pace with the national average, is attributable to the federal income tax cut of 1981. Since Nebraska's income tax is a percentage of federal tax liability, the reduction in the federal income tax reduced revenue in 1981. In subsequent years Nebraska individual income tax revenue grew roughly in proportion to state personal income.

One of the few elements in the revenue system which did not contribute to the below normal growth rate of Nebraska's revenue system was current charges which grew at an average rate over the entire period. Miscellaneous revenue, however, where the per capita amount is above average, grew at an appreciably lower than average rate, contributing to the overall lower than average growth rate of own-source general revenue.

Rates of per capita revenue growth provide one indication of behavior of revenue over time. These rates, however, do not take account of price changes. Taking such changes into account by examining changes in real per capita revenue, reveals that Nebraska's real own-source per capita revenue remained essentially unchanged during the period from 1977 to 1985. Per capita tax revenue, however, decreased by 14 percent over the period with all of the major taxes exhibiting a decline in real per capita terms. These decreases were almost exactly offset by increases in real per capita charges and miscellaneous revenues.

### **Expenditure**

Despite the below average growth rate of general revenue, growth in federal aid and in revenue sources not included in general revenue permitted direct general expenditure to keep pace with national average growth rates. Spending by function grew, however, in an extremely uneven way. Higher education outlays expanded at a 10 percent greater rate than the U.S. average, elementary and secondary education at the average. Growth in expenditure for hospitals at more than two and a half times national average was most noteworthy, while welfare and public safety, both below average in per capita outlay in 1985, also exceeded national growth rates. Highway spending essentially held its own, but environment and housing grew at only half the average national rate.

In addition to the functional distribution of expenditure, earlier sections examined the division of direct expenditure between salaries and wages and other current expenditure and found Nebraska's personnel expenditure share and per capita spending to be above average. Growth of wages and salary payments during the period 1977 to 1985 increased over the entire period at the same rate as did total direct expenditure, essentially equalling the growth in Nebraska per capita personal income. In relation to the national average growth rate of per capita state and local public sector salaries and wages, Nebraska's growth rate was 1.13 times the average for the entire period, but was exactly at the national average for the more recent period

from 1982 to 1985. This growth in the public wage and salary bill was primarily due to increases in average rates of pay since public employment per capita in Nebraska grew at only 0.4 percent per year, approximately one-third that of the average national increase during the period. Without further analysis it is not possible to determine the extent to which the higher average rate of pay resulted from general increases in wages and salaries or from a shift in the composition of public employment from lower to higher paying areas of the public sector.

Changes in real per capita spending for specific functions provide useful indications of the evolution of support for service provision. Deflation of per capita expenditure shows a sharp reduction in real expenditure from 1977 to 1982 which was then offset by an increase from 1982 to 1985 which brought total real expenditure essentially back to its 1977 level. Comparing 1977 with 1985, not only was total real per capita direct expenditure essentially unchanged, so were real expenditures for higher education, highways, environment and housing and administration. The one major reduction in real per capita spending was for elementary and secondary education, reflecting the reduction in enrollments which occurred throughout the period. Areas where there were real spending increases include welfare, hospitals and interest.

### **Tax Capacity**

By far the best known indices of tax capacity and tax effort are those produced by the ACIR about every five years or so for a "representative tax system". The ACIR method first estimates the dollar amount of the tax base of each of some twenty revenue sources for each state. Then, for each state, the average national rate of tax for each base is applied to the tax base and the result divided by state population to get per capita tax capacity. This is finally converted to an index by relating state per capita capacities to the U.S. average per capita capacity. Tax effort is calculated simply as the ratio of actual per capita revenue from a source to the state's per capita tax capacity. Since the U.S. per capita capacity results from application of the average rate to the average base, the tax effort index for the U.S. equals 100. Consequently, standard

measures of tax effort for individual states show both the ratio of state collections to state capacity and a state's effort relative to the U.S. average.

Table 1-15 summarizes information from the two most recent ACIR estimates of tax capacity and tax effort for Nebraska. This table reveals some striking features of Nebraska's tax capacity in relation to the U.S. average. First, except for property taxes, tax capacity of all other taxes are below national average. Second, Nebraska's average property tax capacity is due entirely to its farm property capacity which is over five times above average. Capacity of other classes of property is below average. This structure goes a long way in explaining the low growth rate of Nebraska revenue during a period of declining farm income.

Table 1-15 also shows that between 1979 and 1984 Nebraska's overall per capita tax capacity, while increasing absolutely by 45 percent, declined slightly in relation to the U. S. average. The most notable increase in tax capacity was in residential property, but offsetting changes in the other categories of property tax capacity resulted in the maintenance of an average overall property tax capacity for Nebraska in both years. The decline in the relative capacity indices for sales and individual income taxes is in sharp contrast to the growth in relative corporate tax capacity which increased by over one half from 1977 to 1984.

As described above, tax effort indices relate actual collections to estimated tax capacities. In total, Nebraska's tax effort remained constant during the period under study at essentially the national average. Consistent with the previous discussion of the Nebraska revenue system, this average result is due to the combination of the above average effort regarding property taxation and below average efforts as regards all other tax sources. Analysis over time reveals that the contribution of personal income and especially corporate income taxes to overall tax effort has declined while that of the general sales tax has slightly increased.

Actual revenues can be thought of as the product of tax capacity times tax effort. Thus, the above average effort observed for property taxes, an entirely local revenue source, applied to

TABLE 1-15

**NEBRASKA: TAX CAPACITY AND TAX EFFORT  
1977 AND 1984**

Tax	Tax Capacity Per Capita		Tax Capacity as Percent of U.S. Average		Tax Effort Index	
	1979	1984	1979	1984	1979	1984
<b>Total</b>	\$851	\$1215	96	93	98	99
Sales	209	298	99	94	87	90
Individual, Inc.	145	225	88	82	92	84
Corporate, Inc.	40	62	71	84	79	69
Property	281	406	101	100	124	125
Farm	103	100	536	537	N/A	N/A
Nonfarm	178	306	69	79	N/A	N/A
Commercial	68	83	76	76	N/A	N/A
Residential	84	206	60	84	N/A	N/A

SOURCE: Advisory Commission on Intergovernmental Affairs, Tax Capacity of the Fifty States (1982 and 1986).

an average overall property tax capacity accounts for the relatively high own-source revenues of Nebraska local governments. Conversely, the below average effort applied to below average capacity for taxes utilized at state level explains the substantially below average own-source revenue of the government. In summarizing the comparisons of changes in tax capacity and tax effort, the most clear cut implication is that the relative decline in Nebraska's own-source tax revenue from an index of 98 in 1977 to one of only 85 in 1985 is due primarily to the application of a constant tax effort to a declining tax base. But within the total some significant changes among taxes also have occurred.

### **Comparison State Analysis**

#### **Introduction**

Two rather obvious benefits emerge from extending comparative analysis beyond national averages to a select group of comparison states. One is that it is particularly interesting and revealing to relate one states' fiscal performance to other states with similar fiscally relevant characteristics. For a state like Nebraska, with an unusually high proportion of its production in the agricultural sector, relatively few large cities, and an exceptionally low population density, particularly useful information emerges from comparison of its fiscal performance with similar states rather than with highly industrialized, urbanized states or with a national average which includes such states. The second benefit of comparison with a select group of states is that knowledge of the relation of Nebraska's fiscal system to that of states located in close proximity may help identify fiscal factors that attract or discourage population and enterprise from locating in Nebraska.

The states chosen for the comparative analysis were selected in accordance with both of these considerations. Colorado, Iowa, Kansas and Missouri all are neighboring states and, at the same time, have substantial similarities to Nebraska as regards income, economic base, and



broad cultural and other population characteristics. Minnesota and Wisconsin share agricultural and rural characteristics with Nebraska and have approximately the same per capita income; the ethnic composition of their population and their traditions of state and local service provision are, however, substantially different than Nebraska's.

The strategy used in presenting the comparison states analysis contained in Tables 1-16, 1-17, and 1-18 is to show the relevant figures for the U.S. average and the figure for each comparison state as a percentage of the national average. To keep the analysis within reasonable limits for this chapter, data are presented for the combined state and local sectors. Decentralization to local governments is indicated in terms of comparative state shares of revenue and direct spending, but there is no decomposition of local revenue and expenditure by types of local government.

### **Structure of Revenue and Expenditure**

Table 1-16 contrasts the structure of state and local revenue and expenditure among the comparison states. The relative balance between federal aid and own-source revenue as shares of total general revenue shows some variation. Nebraska and Iowa are extremely close to the national average. In Colorado and Kansas, and to a lesser degree in Minnesota, the federal aid as a share of general revenue is relatively low, causing the share of own-source revenue to be above the national average, while in Missouri and Wisconsin the reverse is true. Because of the relatively small importance of federal aid in total general revenue, variations of close to 20 percent in the federal aid share result in deviations of only about 4 percent in own-source share.

Among own revenue sources, Nebraska is notable for the low relative share raised from taxes. The 8 percent below national average share, which was commented on above, stands out as being low among this comparison group. It is interesting to note, however, that all of the comparison states raise less than the national average share of own-source revenue from taxes

TABLE 1-16

NEBRASKA AND COMPARISON STATES: DISTRIBUTION OF REVENUE SOURCES AND FUNCTIONAL  
EXPENDITURE IN RELATION TO UNITED STATES AVERAGE IN 1985

Revenue Source	U.S. Percent Distribution	State Percent Relative to U.S. Average Percent						
		Nebraska	Colorado	Iowa	Kansas	Minnesota	Missouri	Wisconsin
Total General	100	100	100	100	100	100	100	100
Federal Aid	18	97	82	98	83	90	109	109
Own-Source General	82	101	104	101	104	102	98	98
Taxes	59	92	98	99	97	97	98	98
Property	17	135	113	131	120	92	72	72
General Sales	14	76	121	81	81	74	138	138
Motor Fuel	2	151	100	121	111	118	94	94
Income	15	66	82	99	87	135	95	130
Individual	12	71	92	104	85	142	104	134
Corporate	3	44	41	78	92	98	58	122
Motor Vehicle	1	130	81	170	104	144	141	141
Other	9	58	56	49	87	68	82	82
Charges	12	139	116	131	109	111	111	111
Education	4	163	163	167	132	115	133	133
Hospitals	4	186	91	157	122	114	138	138
Miscellaneous	11	102	123	73	134	118	85	85
Direct General Expenditure	100	100	100	100	100	100	100	100
Education	35	113	106	111	113	94	105	105
Higher	9	124	119	141	134	90	95	95
Elementary and Secondary	24	109	102	100	109	97	110	110
Welfare	13	74	71	93	68	120	84	84
Hospitals	7	139	97	119	100	99	126	126
Highways	8	166	111	172	159	126	127	127
Public Safety	8	74	101	68	74	65	95	95
Environment and Housing	8	93	115	89	82	98	104	104
Administration	5	83	123	82	105	97	68	68
Interest	6	75	107	56	117	117	84	84
Other	10	--	--	--	--	--	--	--
Exhibit:								
Per Capita State Personal Income		102	107	95	104	105	95	95

SOURCE: Tabulations by authors. Fiscal data from Bureau of the Census, Governmental Finances in 1984-5. Personal income data from Survey of Current Business (August 1987).

TABLE 1-17

**NEBRASKA AND COMPARISON STATES: PER CAPITA REVENUE AND EXPENDITURE  
IN RELATION TO U.S. AVERAGE, 1985**

Revenue Source	U.S. Per Capita Amount	Per Capita Revenue and Expenditure Relative to U.S. Average						
		Nebraska	Colorado	Iowa	Kansas	Minnesota	Missouri	Wisconsin
<b>Total General</b>	\$2,504	93	101	91	96	124	76	113
<b>Federal Aid</b>	445	89	83	89	80	112	83	118
<b>Own-Source General</b>	2,059	93	105	92	99	127	75	112
<b>Taxes</b>	1,465	85	99	91	93	121	74	129
Property	435	124	114	120	115	114	55	105
General Sales	353	70	122	75	77	92	105	123
Income	374	61	84	91	83	167	73	136
Individual	301	66	93	95	82	177	80	140
Corporate	74	41	43	72	80	123	43	117
Motor Fuel	57	139	101	111	107	146	72	98
Motor Vehicle	32	119	81	154	98	177	106	68
Other	215	54	57	45	83	85	63	110
<b>Charges</b>	312	129	118	120	104	137	85	87
Education	92	151	166	153	126	143	101	90
Hospitals	91	174	91	143	116	140	104	45
<b>Miscellaneous</b>	282	94	124	67	128	146	65	68
<b>Direct General Expenditures</b>	\$2,313	97	105	100	96	123	77	113
Education	807	110	111	111	108	116	81	107
Higher	219	121	124	141	128	111	73	118
Elementary and Secondary	553	107	107	100	104	119	85	102
Welfare	291	72	74	93	66	148	65	193
Hospitals	151	135	101	119	96	122	97	44
Highways	189	161	115	172	152	154	97	119
Public Safety	194	72	105	68	71	80	73	140
Environment and Housing	190	91	120	88	78	121	79	131
Administration	121	81	128	82	101	119	52	1122
Interest	136	74	111	56	112	144	65	118

SOURCE: Tabulations by authors. Fiscal and population data from Bureau of the Census, Governmental Finances in 1984-5.

TABLE 1-18

NEBRASKA AND COMPARISON STATES: RELATIVE STATE SHARE OF TOTAL STATE  
AND LOCAL REVENUE SOURCES AND FUNCTIONAL EXPENDITURE, 1985 DIRECT

Revenue Source	State Share in Relation to U.S. Average							
	U.S. Average Percent	Nebraska	Colorado	Iowa	Kansas	Minnesota	Missouri	Wisconsin
General Revenue	61	89	83	99	88	104	99	108
Federal Aid	80	102	103	104	104	102	100	108
Own-Source General	56	84	80	98	86	105	99	107
Taxes	62	84	79	97	93	114	99	106
Property	4	a	a	a	a	a	a	120
Sales	83	104	66	120	99	120	92	120
Income	91	110	110	110	110	110	98	110
Individual	89	112	112	112	112	112	98	112
Corporate	100	100	100	100	100	100	100	100
Motor Fuel	98	102	102	102	102	102	102	102
Motor Vehicle	93	90	88	103	104	104	104	108
Other	78	103	80	117	104	114	65	120
Charges	37	103	119	123	121	103	93	115
Education	71	82	113	101	93	98	93	109
Hospital	28	96	114	129	136	126	81	209
Miscellaneous	48	81	61	80	31	65	108	99
Direct General Expenditure	40	105	86	106	96	96	105	100
Education	28	100	112	113	100	107	85	105
Higher	1	a	a	a	115	a	a	a
Elementary and Secondary	85	98	112	95	93	118	100	91
Welfare	76	126	74	118	128	74	129	110
Hospitals	44	80	106	117	120	112	91	123
Highways	60	98	86	91	93	77	107	65
Public Safety	30	127	68	101	103	81	89	95
Environment Housing	21	152	68	81	113	123	105	78
Administration	38	79	62	64	8	73	129	110
Interest	46	107	101	83	110	87	151	87

<sup>a</sup>State share too low for meaningful comparison with U.S. average

SOURCE: Tabulations by authors. Fiscal data from Bureau of the Census, Governmental Finances in 1984-5.

and, consequently, have above average shares from charges and/or miscellaneous revenue. Nebraska among the group has the lowest tax share and the highest charges share.

As regards direct general expenditure, the comparison groups also exhibit some noteworthy uniformities. Except for Minnesota, all devote an above normal share of spending to education. Among the plains states, except for Missouri, the above average share is particularly concentrated on higher education. Despite the almost 25 percent above average share which Nebraska devotes to higher education, its share is exceeded by both Iowa and Kansas. Other functional expenditures receiving above average shares in the comparison group include highways and to a lesser degree hospitals. Explanation for the former is straightforward given that all of these states are characterized by large areas and low population densities. Even here Nebraska's 66 percent above average share for highways is topped by Iowa's 72 percent. Explanation for the high share of expenditure devoted to hospitals among this group, led by Nebraska's almost 40 percent above average share, is less obvious. Perhaps it is a reflection of the lower shares devoted to other functions rather than to any special conditions militating for public hospital care.

Inescapably, if some functions receive a higher than average share of spending, others must receive a lower share. For Nebraska, as mentioned above, these are welfare and public safety. Here, too, the plains states comparison group is remarkably similar. With the sole exception of public safety for Colorado, they all display lower than average shares for these two functions. Wisconsin demonstrates a similar pattern, but Minnesota devotes a 20 percent above average share to welfare. Here again, the over 25 percent below average spending share of Nebraska is more than matched by other states in the group. The most obvious hypothesis here is that the selection of states with low density and high rural proportions gives a sample with relatively less poverty and crime and consequently lesser shares of spending for welfare and public safety.

### **Revenue and Expenditure Levels**

Previous discussion indicates that Nebraska's per capita general and own-source revenue are some 7 percent below the national norm and its per capita charges almost 30 percent above average. All of the comparison states except Missouri raise more own-source revenue per capita than Nebraska, including both Iowa and Wisconsin, which have lower state per capita personal incomes. Total per capita taxes in Nebraska also are lower than all comparison states except Missouri; and, for general sales and income taxes, Nebraska's per capita revenues are below those of Missouri. Per capita, Nebraska's main state and local revenue producer, the property tax, outstrips all of the comparison states, although Iowa at 20 percent above the per capita national average comes close to Nebraska's 24 percent figure. Among the comparison states, only Minnesota collects more per capita from charges than does Nebraska, although here again, Iowa is not far behind among the plains states.

In per capita direct general expenditure, Missouri again lies far below any of the comparison states. Consistent with its relatively high revenue, Minnesota's per capita spending lies above the rest; otherwise all of the comparison states fall within a narrow band around the norm. Levels of relative functional expenditure mirror, to a considerable degree, the patterns for relative expenditure shares. Nebraska's 21 percent above average spending for higher education is exceeded by Colorado, Iowa, and Kansas. All other states support elementary and secondary education at least at the national average level, but only Minnesota spends more per capita than Nebraska. Nebraska's per capita hospital expenditure exceeds all other plains states and, despite a below average spending for environment and housing, only Colorado among the plains states spends more.

### **Relative Roles of State and Local Governments**

Nebraska is characterized earlier in the chapter as a state with both a decentralized revenue and expenditure structure. The above normal decentralization of revenue to local

governments is characteristic of the other four plains states in the comparison group, but does not apply to the two nonplains comparison states which are slightly above average in terms of revenue centralization to the state level. The above average expenditure centralization of Nebraska, however, is matched by only two of the plains states (Iowa and Missouri) with the other two below average in state share of expenditure. The factor which rationalizes differences between revenue and expenditure centralization is, of course, state aid. Nebraska, despite its low state share of revenue, makes below normal use of transfers to local governments. This, results in state government having an above average share of direct general expenditure. This is not true for Colorado or Kansas, where relative decentralization of revenue is matched by decentralization of direct expenditure.

For own-source general revenue and taxes as well, Nebraska's state share is below average due primarily to the high relative importance of the solely local property tax. The state share of nonproperty taxes in Nebraska is roughly the same as in the comparison states. The only exceptions are for the sales tax, where Colorado provides local governments with greater access to this revenue source and Iowa allows them virtually no access to sales taxation.

State shares of direct expenditure present a rather different pattern. Here, the comparison states display a far more varied pattern. While expenditure for elementary and secondary education is virtually an exclusive function of local government in all the comparison states as it is throughout most of the nation, there is variation in the degree of local expenditure for higher education. Among the comparison states Iowa, Kansas, and Wisconsin along with Nebraska, rely on greater local contributions for higher education than the others. The level of government with formal responsibility for direct welfare spending is largely an administrative matter. Table 1-18 reveals that among the comparison states Nebraska, Iowa, and Missouri are largely state run systems while Colorado and Minnesota involve more local participation. In addition, state government in Nebraska is responsible for the operation of public safety and

environment and housing services to a greater degree than in any of the comparison states. Hospitals is the only function for which state operation is significantly and systematically below average in Nebraska in comparison with the group. Here, the presence of special hospital districts leads to a higher local share of spending.

### **Summary and Conclusions**

Whether measured per capita or as a share of state personal income, state and local general revenue and direct general expenditure in Nebraska in 1985 did not depart greatly from the U.S. average. Nebraska's revenue structure is unusual, however, in that the major producers of state revenue nationwide, sales and income taxes, are used relatively little, while charges and the property tax are used to a greater extent than elsewhere. The result is that Nebraska's state government general revenue per capita is substantially below average while the corresponding revenue of local governments is above average.

Although Nebraska's total state and local expenditure is close to the national average, education, particularly higher education, highways and hospitals are supported at above-average levels per capita, while welfare, public safety, and administration receive less than average support. The exceptionally low level of state aid to local authorities in Nebraska leaves an above-average share of spending responsibility in the hands of the state government, despite the relatively low state revenue per capita.

Nebraska has an exceptionally large number of local governments, with six times the number of local authorities per 1000 population than the average state. These local authorities are mainly financed by property taxes and charges. School districts account for almost half of local authority revenue and spending. As mentioned above, low state aid results in below-average overall spending by local authorities. Among local authorities school and special



districts spend more than average, whereas municipalities and counties spend far less than average.

Trends in own-source per capita revenue in Nebraska reveal a general pattern of lower than average growth during the period 1977-85. Offsetting this pattern to some degree was an above-average increase in federal aid. This aid increase permitted direct general expenditure per capita to grow at a rate slightly above the national average. Compared to national trends, rates of growth in spending for interest, hospitals and welfare were exceptionally large and those for environment, housing and administration exceptionally low.

Nebraska's fiscal system bears a striking similarity to those of its neighboring plains states. In all of these states, below-average state taxation is combined with greater than average charges and property taxes. Like Nebraska, these states are characterized by significantly above-average spending for higher education and highways and below-average spending for welfare.

## Appendix Tables

Tables 1-A1 to 1-A2 Broad Classification of Characteristics of  
Revenue and Expenditure

Tables 1-B1 to 1-B2 Detailed Classification of Own-Source Revenue  
and Direct General Expenditure

SOURCES: Data for all Appendix Tables are from Bureau of the Census, *Governmental Finance*, selected years, and *Survey of Current Business*, selected issues.

## Appendix A-1

## Revenue and Expenditure in Nebraska- 1977 to 1985

	Nominal (\$millions)			Real (1982 \$millions)		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	2683	4206	5312	4060	4206	4579
Utility and Other Revenue	677	1194	1591	1024	1194	1371
General Revenue	2007	3012	3721	3036	3012	3208
Federal Aid	364	498	638	551	498	550
Own Source General Taxes	1643 1221	2514 1647	3083 2010	2485 1847	2514 1647	2658 1732
Total Expenditure	2840	4241	5200	4296	4241	4483
Utility and Other Expenditure	977	1387	1577	1477	1387	1359
Direct General Expenditure	1863	2852	3622	2818	2852	3122
Current Operation	1528	2418	3125	2311	2418	2694
Capital Outlay	335	434	496	507	434	428
Exhibit: Salaries and Wages	922	1459	1769	1395	1459	1525

Appendix A-2

Nebraska Revenue and Expenditure for State and Local Governments  
(\$millions)

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	1119	1658	2144	1842	2948	3644
Utility and Other Revenue	75	98	140	601	1097	1451
General Revenue	1044	1561	2003	1241	1852	2193
Intergovernmental Revenue	297	407	554	347	491	559
From Federal	273	383	525	91	114	113
From State	0	0	0	256	377	446
From Local	22	24	29	0	0	0
Own Source General Taxes	749	1154	1449	894	1361	1634
	613	861	1040	608	786	970
Total Expenditure	1042	1646	2137	2133	3095	3636
Intergovernmental Expenditure	319	483	547	17	19	27
Utility and Other Expenditure	44	70	70	933	1317	1507
Direct General Expenditure	680	1094	1520	1183	1759	2102
Current Operation	534	967	1248	994	1522	1878
Capital Outlay	146	197	272	189	237	224
Exhibit: Salaries and Wages	254	428	587	667	1031	1181

Appendix A-3

Real Revenue and Expenditure for Nebraska State and Local Government  
(1982 \$millions)

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	1832	1658	1848	3014	2948	3141
Utility and Other Revenue	123	98	121	984	1097	1250
General Revenue	1709	1561	1727	2030	1852	1891
Intergovernmental Revenue	485	407	478	567	491	482
From Federal	447	383	453	149	114	97
From State	0	0	0	418	377	385
From Local	36	24	25	0	0	0
Own Source General Taxes	1225	1154	1249	1463	1361	1409
	1003	861	897	995	786	836
Total Expenditure	1706	1646	1842	3490	3095	3134
Intergovernmental Expenditure	521	483	471	28	19	23
Utility and Other Expenditure	71	70	60	1527	1317	1299
Direct General Expenditure	1113	1094	1310	1936	1759	1812
Current Operation	874	967	1076	1626	1522	1619
Capital Outlay	239	197	235	309	237	193
Exhibit: Salaries and Wages	416	428	506	1092	1031	1018

Appendix A-4

Per Capita Revenue and Expenditure for Nebraska- 1977 to 1985

	Nominal			Real (1982 \$)		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	1723	2645	3307	2607	2645	2851
Utility and Other Revenue	435	751	991	657	751	854
General Revenue	1289	1894	2317	1950	1894	1997
Federal Aid	234	313	397	354	313	342
Own Source General Taxes	1055 784	1581 1036	1920 1251	1596 1186	1581 1036	1655 1079
Total Expenditure	1824	2667	3238	2759	2667	2791
Utility and Other Expenditure	627	872	982	949	872	846
Direct General Expenditure	1196	1794	2255	1810	1794	1944
Current Operation	981	1521	1946	1485	1521	1678
Capital Outlay	215	273	309	325	273	266
Exhibit: Salaries and Wages	592	917	1101	896	917	949
Per Capita Personal Income	6954	11037	13042	10520	11037	11243

Appendix A-5

Per Capita Revenue and Expenditure for Nebraska

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	719	1043	1335	1183	1854	2269
Utility and Other Revenue	48	61	87	386	690	903
General Revenue	671	982	1247	797	1165	1366
Intergovernmental Revenue	190	256	345	223	309	348
From Federal	176	241	327	58	72	70
From State	0	0	0	164	237	278
From Local	14	15	18	0	0	0
Own Source General Taxes	481	725	902	574	856	1017
	394	541	648	390	494	604
Total Expenditure	669	1035	1330	1370	1947	2264
Intergovernmental Expenditure	205	304	341	11	12	17
Utility and Other Expenditure	28	44	43	599	828	938
Direct General Expenditure	437	688	946	760	1106	1309
Current Operation	343	608	777	638	957	1169
Capital Outlay	94	124	169	121	149	139
Exhibit: Salaries and Wages	163	269	366	428	648	735
Per Capita Personal Income	6954	11037	13042	6954	11037	13042

Appendix A-6

Real Per Capita Revenue and Expenditure for Nebraska  
(1982 Dollars)

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	1177	1043	1151	1936	1854	1956
Utility and Other Revenue	79	61	75	632	690	779
General Revenue	1098	982	1075	1304	1165	1177
Intergovernmental Revenue	312	256	298	364	309	300
From Federal	287	241	282	96	72	61
From State	0	0	0	269	237	240
From Local	23	15	16	0	0	0
Own Source General Taxes	787 644	725 541	778 558	940 639	856 494	877 520
Total Expenditure	1096	1035	1147	2242	1947	1951
Intergovernmental Expenditure	335	304	294	18	12	14
Utility and Other Expenditure	46	44	37	981	828	809
Direct General Expenditure	715	732	816	1243	1935	1128
Current Operation	562	510	670	1044	1438	1008
Capital Outlay	153	124	146	199	334	120
Exhibit: Salaries and Wages	267	269	315	701	648	634
Per Capita Personal Income	11381	11037	11243	11381	11037	11243



Appendix A-7

	Nebraska			
	Revenues and Expenditures Per \$1000 Personal Income 1977 to 1985			
Per Capita Revenue and Expenditure as % of Total- Nebraska	FY77	FY82	FY85	
Total Revenue	1.00	1.00	1.00	248 240 254
Utility and Other Revenue	0.25	0.28	0.30	63 68 76
General Revenue	0.75	0.72	0.70	186 172 178
Federal Aid	0.14	0.12	0.12	34 28 30
Own Source General Taxes	0.61 0.46	0.60 0.39	0.58 0.38	152 143 147 113 94 96
Total Expenditure	1.00	1.00	1.00	263 242 248
Utility and Other Expenditure	0.34	0.33	0.30	90 79 75
Direct General Expenditure	0.66	0.67	0.70	172 163 173
Current Operation	0.54	0.57	0.60	141 138 149
Capital Outlay	0.12	0.10	0.10	31 25 24
Exhibit: Salaries and Wages	0.32	0.34	0.34	85 83 84
Per Capita Personal Income				6954 11037 13042

Appendix A-8

Revenue and Expenditure as % of Total for Nebraska

	State Government			All Local Government		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	1.00	1.00	1.00	1.00	1.00	1.00
Utility and Other Revenue	0.07	0.06	0.07	0.33	0.37	0.40
General Revenue	0.93	0.94	0.93	0.67	0.63	0.60
Intergovernmental Revenue	0.26	0.25	0.26	0.19	0.17	0.15
From Federal	0.24	0.23	0.24	0.05	0.04	0.03
From State	0.00	0.00	0.00	0.14	0.13	0.12
From Local	0.02	0.01	0.01	0.00	0.00	0.00
Own Source General	0.67	0.70	0.68	0.49	0.46	0.45
Taxes	0.55	0.52	0.49	0.33	0.27	0.27
Total Expenditure	1.00	1.00	1.00	1.00	1.00	1.00
Intergovernmental Expenditure	0.31	0.29	0.26	0.01	0.01	0.01
Utility and Other Expenditure	0.04	0.04	0.03	0.44	0.43	0.41
Direct General Expenditure	0.65	0.66	0.71	0.55	0.57	0.58
Current Operation	0.51	0.59	0.58	0.47	0.49	0.52
Capital Outlay	0.14	0.12	0.13	0.09	0.08	0.06
Exhibit: Salaries and Wages	0.24	0.26	0.27	0.31	0.33	0.32

Appendix A-9

Nebraska Revenue and Expenditure Per \$1000 in Personal Income

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	104	95	102	170	168	174
Utility and Other Revenue	7	6	7	56	62	69
General Revenue	97	89	96	115	106	105
Intergovernmental Revenue	27	23	26	32	28	27
From Federal	25	22	25	8	7	5
From State				24	21	21
From Local	2	1	1			
Own Source General	69	66	69	83	78	78
Taxes	57	49	50	56	45	46
Total Expenditure	96	94	102	197	176	174
Intergovernmental Expenditure	29	28	26	2	1	1
Utility and Other Expenditure	4	4	3	86	75	72
Direct General Expenditure	63	62	73	109	100	100
Current Operation	49	55	60	92	87	90
Capital Outlay	13	11	13	17	14	11
Exhibit: Salaries and Wages	24	24	28	62	59	56
Per Capita Personal Income	6954	11037	13042	6954	11037	13042

Appendix A-10

Revenue and Expenditure in Nebraska Relative to the U. S.

	In Per Capita \$			Per \$1000 Personal Income		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	112	112	110	118	117	117
Utility and Other Revenue	181	193	194	190	201	207
General Revenue	99	96	93	104	100	99
Federal Aid	82	83	89	87	87	95
Own Source General Taxes	104	99	93	109	103	99
	98	90	85	103	94	91
Total Expenditure	123	118	117	130	123	125
Utility and Other Expenditure	274	230	225	288	239	241
Direct General Expenditure	96	96	97	101	100	104
Current Operation	92	93	96	97	96	102
Capital Outlay	124	117	111	130	121	118
Exhibit: Salaries and Wages	103	111	111	109	116	118
Per Capita Personal Income				95	96	94

Appendix A-11

Nebraska Per Capita Revenue and Expenditure as % of US

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	77	73	73	132	136	135
Utility and Other Revenue	30	26	28	487	467	446
General Revenue	87	83	82	98	96	92
Intergovernmental Revenue	86	86	92	64	61	60
From Federal	84	85	92	78	78	77
From State				60	58	57
From Local	114	112	80			
Own Source General Taxes	88	82	78	123	121	112
	86	77	72	115	111	107
Total Expenditure	77	77	81	153	144	138
Intergovernmental Expenditure	72	71	67	127	142	99
Utility and Other Expenditure	23	25	23	561	410	384
Direct General Expenditure	94	94	101	98	97	95
Current Operation	88	95	95	94	96	96
Capital Outlay	127	129	140	121	109	88
Exhibit: Salaries and Wages	102	110	124	104	111	106
Per Capita Personal Income	95	96	94	95	96	94

Appendix A-12

Nebraska Revenue and Expenditure Per \$1000 Personal Income Relative To US

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Total Revenue	81	76	77	139	142	144
Utility and Other Revenue	32	27	30	512	486	476
General Revenue	92	86	87	103	100	98
Intergovernmental Revenue	90	89	98	67	64	64
From Federal	88	88	99	81	82	82
From State				63	60	61
From Local	120	116	86			
Own Source General	92	85	83	130	126	120
Taxes	90	80	77	120	115	114
Total Expenditure	81	81	87	161	150	148
Intergovernmental Expenditure	76	74	71	133	147	106
Utility and Other Expenditure	24	26	24	590	425	410
Direct General Expenditure	99	97	108	103	101	101
Current Operation	92	99	102	99	99	102
Capital Outlay	133	133	150	128	113	94
Exhibit: Salaries and Wages	107	115	132	109	116	113
Per Capita Personal Income	95	96	94	95	96	94

Appendix B-1

Detailed Breakdown of Nebraska Revenue and Expenditure

	(\$millions) In Nominal Dollars			(1982 \$millions) In Real Dollars		
	FY77	FY82	FY85	FY77	FY82	FY85
Own Source General Revenue	1643	2514	3083	2688	2514	2658
Taxes	1221	1647	2010	1998	1647	1732
Property	570	706	869	933	706	749
General Sales	221	337	397	362	337	342
Motor Fuel	88	126	128	144	126	110
Income	213	275	368	348	275	317
Motor Vehicle License	39	50	61	63	50	53
Other Taxes	91	153	187	149	153	161
Charges and Miscellaneous	422	868	1074	690	868	925
Current Charges	279	509	646	456	509	557
Education	106	173	223	174	173	193
Hospitals	80	202	254	131	202	219
Miscellaneous	143	359	427	234	359	368
Direct General Expenditure	1863	2852	3622	3049	2852	3122
Education	781	1145	1425	1278	1145	1228
Higher	209	341	426	342	341	367
Elementary and Secondary	547	764	947	895	764	816
Welfare	141	250	336	230	250	290
Hospitals	131	242	328	214	242	283
Highways	257	365	489	421	365	422
Public Safety	105	177	225	172	177	194
Environment and Housing	155	252	276	254	252	238
Administration	91	135	157	149	135	136
Interest	43	91	160	70	91	138

Appendix B-2

Detailed Breakdown of Nebraska Revenue and Expenditure  
(\$millions)

	State Government					All Local Governments				
	FY77	FY82	FY85	FY88	FY85	FY77	FY82	FY85	FY88	FY85
Own Source General Revenue	749	1154	1449	1449	1449	894	1361	1634		1634
Taxes	613	861	1040	1040	1040	608	786	970		970
Property	3	3	4	4	4	567	703	865		865
General Sales	199	289	341	341	341	22	48	56		56
Motor Fuel	88	126	128	128	128	0	0	0		0
Income	213	275	368	368	368	0	0	0		0
Motor Vehicle License	35	44	51	51	51	4	6	11		11
Other Taxes	76	124	149	149	149	15	29	38		38
Charges and Miscellaneous	136	293	409	409	409	286	575	665		665
Current Charges	101	183	243	243	243	178	326	404		404
Education	64	101	130	130	130	42	72	94		94
Hospitals	23	50	69	69	69	57	152	186		186
Miscellaneous	35	110	167	167	167	108	249	261		261
Direct General Expenditure	680	1094	1520	1520	1520	1183	1759	2102		2102
Education	212	327	405	405	405	569	818	1020		1020
Higher	187	287	353	353	353	22	55	73		73
Elementary and Secondary	0	0	0	0	0	547	764	947		947
Welfare	118	217	324	324	324	23	33	12		12
Hospitals	65	96	114	114	114	66	146	213		213
Highways	135	188	288	288	288	122	177	201		201
Public Safety	35	63	86	86	86	70	124	139		139
Environment and Housing	44	74	88	88	88	112	178	188		188
Administration	29	39	47	47	47	62	95	110		110
Interest	3	22	78	78	78	40	69	82		82



Appendix B-3

Nebraska Detailed Revenue and Expenditure in Real Terms  
(in millions of 1982 dollars)

	State Government					All Local Governments				
	FY77	FY82	FY85	FY85	FY77	FY82	FY85	FY82	FY85	
Own Source General Revenue	1225	1154	1249	1463	1361	1409				
Taxes										
Property	1003	861	897	995	786	836				
General Sales	5	3	4	928	703	746				
Motor Fuel	325	289	294	37	48	48				
Income	144	126	110	0	0	0				
Motor Vehicle License	348	275	317	0	0	0				
Other Taxes	57	44	44	6	6	9				
	124	125	128	25	29	33				
Charges and Miscellaneous	222	293	353	468	575	573				
Current Charges										
Education	165	183	209	291	326	348				
Hospitals	105	101	112	69	72	81				
Miscellaneous	38	50	59	93	152	160				
	57	110	144	177	249	225				
Direct General Expenditure	1113	1094	1310	1936	1759	1812				
Education										
Higher	348	327	349	931	818	879				
Elementary and Secondary	306	287	305	35	55	63				
	0	0	0	895	764	816				
Welfare	193	217	279	37	33	10				
Hospitals	106	96	99	108	146	184				
Highways	221	188	249	200	177	173				
Public Safety	58	63	74	114	124	120				
Environment and Housing	71	74	76	183	178	162				
Administration	47	39	40	102	95	95				
Interest	5	22	68	65	69	71				

Appendix B-4

Per Capita Detailed Revenue and Expenditure for Nebraska

	(\$millions) In Nominal Dollars			(1982 \$millions) In Real Dollars		
	FY77	FY82	FY85	FY77	FY82	FY85
Own Source General Revenue	1055	1581	1920	1727	1581	1655
Taxes	784	1036	1251	1283	1036	1079
Property	366	444	541	599	444	467
General Sales	142	212	247	232	212	213
Motor Fuel	56	79	79	92	79	68
Income	138	173	229	225	173	197
Motor Vehicle License	25	32	38	41	32	33
Other Taxes	57	96	116	94	96	100
Charges and Miscellaneous	271	546	668	443	546	576
Current Charges	179	320	402	293	320	347
Education	68	109	139	112	109	120
Hospitals	51	127	158	84	127	136
Miscellaneous	92	226	266	150	226	229
Direct General Expenditure	1196	1794	2255	1958	1794	1944
Education	502	720	887	821	720	765
Higher	134	215	265	219	215	229
Elementary and Secondary	351	480	590	575	480	508
Welfare	90	157	209	148	157	181
Hospitals	84	152	204	137	152	176
Highways	165	229	305	270	229	263
Public Safety	67	111	140	110	111	121
Environment and Housing	100	159	172	163	159	148
Administration	58	85	98	96	85	84
Interest	27	57	100	45	57	86
Per Capita Personal Income	6954	11037	13042	11381	11037	11243

Appendix B-5

Nebraska Per Capita Revenue and Expenditure in Detail

1-67

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Own Source General Revenue	481	725	902	574	856	1017
Taxes	394	541	648	390	494	604
Property	2	2	3	364	442	539
General Sales	128	181	213	14	30	35
Motor Fuel	56	79	79	0	0	0
Income	137	173	229	0	0	0
Motor Vehicle License	22	28	31	2	4	7
Other Taxes	49	78	93	10	18	24
Charges and Miscellaneous	87	184	255	184	361	414
Current Charges	65	115	151	114	205	251
Education	41	64	81	27	45	58
Hospitals	15	32	43	36	95	116
Miscellaneous	22	69	104	69	157	162
Direct General Expenditure	437	688	946	760	1106	1309
Education	136	206	252	365	515	635
Higher	120	180	220	14	34	45
Elementary and Secondary	0	0	0	351	480	590
Welfare	76	137	202	15	21	7
Hospitals	42	60	71	42	92	133
Highways	87	118	180	78	111	125
Public Safety	23	40	53	45	78	87
Environment and Housing	28	46	55	72	112	117
Administration	18	25	29	40	60	69
Interest	2	14	49	26	43	51
Per Capita Personal Income	6954	11037	13042	6954	11037	13042

Appendix B-6

Nebraska Real Per Capita Revenue and Expenditure in Detail  
(1982 Dollars)

	State Government				All Local Governments			
	FY77	FY82	FY85	FY85	FY77	FY82	FY82	FY85
Own Source General Revenue	787	725	778	778	940	856	877	
Taxes	644	541	558	558	639	494	520	
Property	3	2	2	2	596	442	464	
General Sales	209	181	183	183	24	30	30	
Motor Fuel	92	79	68	68	0	0	0	
Income	223	173	197	197	0	0	0	
Motor Vehicle License	37	28	27	27	4	4	6	
Other Taxes	80	78	80	80	16	18	20	
Charges and Miscellaneous	143	184	220	220	301	361	357	
Current Charges	106	115	130	130	187	205	217	
Education	67	64	70	70	45	45	50	
Hospitals	24	32	37	37	60	95	100	
Miscellaneous	37	69	89	89	114	157	140	
Direct General Expenditure	715	688	816	816	1243	1106	1128	
Education	223	206	218	218	598	515	547	
Higher	197	180	190	190	23	34	39	
Elementary and Secondary	0	0	0	0	575	480	508	
Welfare	124	137	174	174	24	21	6	
Hospitals	68	60	61	61	69	92	115	
Highways	142	118	155	155	128	111	108	
Public Safety	37	40	46	46	73	78	75	
Environment and Housing	46	46	47	47	117	112	101	
Administration	30	25	25	25	65	60	59	
Interest	3	14	42	42	42	43	44	
Per Capita Personal Income	10520	11037	11243	11243	10520	11037	11243	

Appendix B-7

Nebraska Detailed Revenue and Expenditure Per \$1000 of Income

Nebraska Detailed Revenue and Expenditure as % of Total

	FY77	FY82	FY85	FY77	FY82	FY85
Own Source General Revenue	152	143	147	1.00	1.00	1.00
Taxes	113	94	96	0.74	0.65	0.65
Property	53	40	42	0.35	0.28	0.28
General Sales	20	19	19	0.13	0.13	0.13
Motor Fuel	8	7	6	0.05	0.05	0.04
Income	20	16	18	0.13	0.11	0.12
Motor Vehicle License	4	3	3	0.02	0.02	0.02
Other Taxes	8	9	9	0.05	0.06	0.06
Charges and Miscellaneous	39	49	51	0.26	0.35	0.35
Current Charges	26	29	31	0.17	0.20	0.21
Education	10	10	11	0.06	0.07	0.07
Hospitals	7	12	12	0.05	0.08	0.08
Miscellaneous	13	20	20	0.09	0.14	0.14
Direct General Expenditure	172	163	173	1.00	1.00	1.00
Education	72	65	68	0.42	0.40	0.39
Higher	19	19	20	0.11	0.12	0.12
Elementary and Secondary	51	44	45	0.29	0.27	0.26
Welfare	13	14	16	0.08	0.09	0.09
Hospitals	12	14	16	0.07	0.08	0.09
Highways	24	21	23	0.14	0.13	0.14
Public Safety	10	10	11	0.06	0.06	0.06
Environment and Housing	14	14	13	0.08	0.09	0.08
Administration	8	8	8	0.05	0.05	0.04
Interest	4	5	8	0.02	0.03	0.04
Per Capita Personal Income	6954	11037	13042			

% Distribution of Nebraska Detailed Revenue and Expenditure

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Own Source General Revenue	1.00	1.00	1.00	1.00	1.00	1.00
Taxes	0.82	0.75	0.72	0.68	0.58	0.59
Property	0.00	0.00	0.00	0.63	0.52	0.53
General Sales	0.27	0.25	0.24	0.03	0.04	0.03
Motor Fuel	0.12	0.11	0.09	0.00	0.00	0.00
Income	0.28	0.24	0.25	0.00	0.00	0.00
Motor Vehicle License	0.05	0.04	0.03	0.00	0.00	0.01
Other Taxes	0.10	0.11	0.10	0.02	0.02	0.02
Charges and Miscellaneous	0.18	0.25	0.28	0.32	0.42	0.41
Current Charges	0.13	0.16	0.17	0.20	0.24	0.25
Education	0.09	0.09	0.09	0.05	0.05	0.06
Hospitals	0.03	0.04	0.05	0.06	0.11	0.11
Miscellaneous	0.05	0.10	0.11	0.12	0.18	0.16
Direct General Expenditure	1.00	1.00	1.00	1.00	1.00	1.00
Education	0.31	0.30	0.27	0.48	0.47	0.49
Higher	0.28	0.26	0.23	0.02	0.03	0.03
Elementary and Secondary	0.00	0.00	0.00	0.46	0.43	0.45
Welfare	0.17	0.20	0.21	0.02	0.02	0.01
Hospitals	0.10	0.09	0.08	0.06	0.08	0.10
Highways	0.20	0.17	0.19	0.10	0.10	0.10
Public Safety	0.05	0.06	0.06	0.06	0.07	0.07
Environment and Housing	0.06	0.07	0.06	0.09	0.10	0.09
Administration	0.04	0.04	0.03	0.05	0.05	0.05
Interest	0.00	0.02	0.05	0.03	0.04	0.04

Appendix B-9

Nebraska Detailed Revenue and Expenditure Per \$1000 Personal Income

	State Government				All Local Governments			
	FY77	FY82	FY85	FY88	FY77	FY82	FY85	FY88
Own Source General Revenue	69	66	69	69	83	78	78	78
Taxes								
Property	57	49	50	50	56	45	46	46
General Sales	0	0	0	0	52	40	41	41
Motor Fuel	18	16	16	16	2	3	3	3
Income	8	7	6	6	0	0	0	0
Motor Vehicle License	20	16	18	18	0	0	0	0
Other Taxes	3	2	2	2	0	0	1	1
	7	7	7	7	1	2	2	2
Charges and Miscellaneous	13	17	20	20	26	33	32	32
Current Charges	9	10	12	12	16	19	19	19
Education	6	6	6	6	4	4	4	4
Hospitals	2	3	3	3	5	9	9	9
Miscellaneous	3	6	8	8	10	14	12	12
Direct General Expenditure	63	62	73	73	109	100	100	100
Education	20	19	19	19	53	47	49	49
Higher	17	16	17	17	2	3	3	3
Elementary and Secondary	0	0	0	0	51	44	45	45
Welfare	11	12	15	15	2	2	1	1
Hospitals	6	5	5	5	6	8	10	10
Highways	12	11	14	14	11	10	10	10
Public Safety	3	4	4	4	6	7	7	7
Environment and Housing	4	4	4	4	10	10	9	9
Administration	3	2	2	2	6	5	5	5
Interest	0	1	4	4	4	4	4	4
Per Capita Personal Income	6954	11037	13042	13042	6954	11037	13042	13042

Appendix B-10

Nebraska Detailed Revenue and Expenditure as % of U. S.

	Per Capita			Per \$1000 Personal Income		
	FY77	FY82	FY85	FY77	FY82	FY85
Own Source General Revenue	104	99	93	109	103	99
Taxes	98	90	85	103	94	91
Property	129	125	125	135	131	133
General Sales	86	81	70	90	84	75
Motor Fuel	135	173	139	142	180	148
Income	79	62	61	82	64	65
Motor Vehicle License	119	123	120	124	128	128
Other Taxes	51	53	54	54	55	58
Charges and Miscellaneous	127	122	113	134	127	120
Current Charges	126	130	129	133	136	138
Education	146	148	151	153	153	162
Hospitals	133	170	175	139	176	187
Miscellaneous	129	111	94	136	116	101
Direct General Expenditure	96	96	97	101	100	104
Education	107	108	110	113	113	117
Higher	113	120	121	119	125	129
Elementary and Secondary	108	105	107	113	110	114
Welfare	58	65	72	60	67	77
Hospitals	80	117	135	110	121	144
Highways	174	154	162	165	160	172
Public Safety	68	74	72	75	77	77
Environment and Housing	166	98	91	106	102	97
Administration	114	89	81	102	92	86
Interest	27	66	73	56	68	78
Per Capita Personal Income				95	96	94



Appendix B-11

Nebraska Per Capita Detailed Revenue and Expenditure as % of U. S.

	State Governments			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Own Source General Revenue	88	82	78	123	121	112
Taxes						
Property	86	77	72	115	111	107
Sales	18	14	15	133	130	129
Motor Fuel	91	84	73	58	69	57
Income	137	175	142	0	0	0
Motor Vehicle License	87	67	67	0	0	0
Other Taxes	116	115	107	143	220	308
Charges and Miscellaneous	54	54	55	43	47	50
Current Charges	99	99	101	147	138	121
Education	118	127	131	132	132	128
Hospitals	132	124	124	173	202	223
Miscellaneous Revenue	138	157	172	131	174	177
Direct General Expenditure	67	72	76	184	147	112
Education	94	93	101	98	97	95
Higher	111	113	112	106	107	109
Elementary and Secondary	125	122	119	63	109	134
Welfare	0	0	0	109	106	107
Hospitals	73	76	91	27	32	11
Highways	106	101	107	104	130	158
Public Safety	138	136	158	187	179	167
Environment and Housing	90	94	91	64	72	64
Administration	136	146	140	91	86	78
Interest	89	69	64	101	101	91
	8	36	78	90	90	70

Appendix B-12

Nebraska Revenue and Expenditure Per \$1000 as % of U.S.

	State Government			All Local Governments		
	FY77	FY82	FY85	FY77	FY82	FY85
Own Source General Revenue	92	85	83	130	126	120
Taxes						
Property	90	80	77	120	115	114
Sales	19	15	16	139	135	138
Motor Fuel	143	182	152	61	72	60
Income	91	70	72	0	0	0
Motor Vehicle License	122	120	114	0	0	0
Other Taxes	57	56	59	151	229	327
				45	49	53
Charges and Miscellaneous	104	103	108	155	144	129
Current Charges	124	132	139	138	138	136
Education	139	129	132	181	210	236
Hospitals	145	163	182	137	181	188
Miscellaneous Revenue	71	75	81	194	153	119
Direct General Expenditure	99	97	108	103	101	101
Education						
Higher	116	117	120	111	111	116
Elementary and Secondary	131	127	127	66	114	143
	0	0	0	114	111	115
Welfare	77	79	98	28	34	11
Hospitals	112	105	114	109	135	169
Highways	145	142	168	197	186	178
Public Safety	95	98	98	67	75	68
Environment and Housing	142	152	149	96	90	83
Administration	94	72	68	106	105	97
Interest	8	38	83	94	93	74
Per Capita Personal Income	95	96	94	95	96	94

## CHAPTER 2

### ALTERNATIVE FISCAL PROJECTIONS FOR THE STATE OF NEBRASKA<sup>1</sup>

by Julie L. Eberhardy and Kerri L. Ratcliffe

#### Introduction

The 1980s are a time of fiscal uncertainty for state governments. Rainy-day funds, surpluses, and conservative spending provide some forms of protection against uncertainty. Another is effective fiscal planning.

In this study, we provide Nebraska with a computer-based planning and decision-aiding tool.<sup>2</sup> This tool is but one part of overall fiscal planning and cannot be a substitute for budget forecasting, funds analysis, or accounting decisions. This fiscal planning instrument tells state policy makers the circumstances under which they will have hard choices to make--but it cannot determine which choice is right. It is appropriate to leave such discretionary decisions to state policy makers.

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<sup>1</sup>This forecasting model would not have been possible without the information and advice provided by many people in Nebraska. In particular the authors wish to thank Mr. Mike Calvert and Mr. Tom Berquist of the Legislative Fiscal Office and Mr. Mike Gomez of the Department of Revenue. Also we want to thank Mr. Robert Luth of the Department of Administrative Services, Ms. Mary Steiner of the Department of Social Services, the staff of the Department of Education, and Mr. Tim Kemper of the Nebraska Bureau of Business Research. This chapter is based on Julie L. Eberhardy and Kerri L. Ratcliffe, "Alternative Fiscal Projections for the State of Nebraska," Nebraska Comprehensive Tax Study Staff Paper No. 7, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, January 1988).

<sup>2</sup>This analysis is based on the studies by R. Bahl and L. Schroeder, "Projecting and Planning State and Local Government Fiscal Activity in a Declining Region: The New York Case," Metropolitan Studies Program Monograph No. 5, The Maxwell School (Syracuse, NY: Syracuse University, December 1980); and K. L. Bradbury and J. Yinger, "Making Ends Meet: Boston's Budget in the 1980s", *New England Economic Review* (March/April 1984): 18-28, and especially R. Bahl and D. Weist, "Fiscal Projections for the State of Hawaii," Metropolitan Studies Program Occasional Paper No. 96, The Maxwell School (Syracuse, NY: Syracuse University, May 1985).

To demonstrate how this model can aid decision-making, we use it estimate Nebraska's future revenues and expenditures. We ask what revenues will be if tax burdens are held constant, and what expenditures will be if service quality is held constant. In addition, we estimate the revenues required to finance service improvement and service retrenchment.

Our results do not indicate an optimistic fiscal future for Nebraska. The State of Nebraska cannot finance an improvement in the quality of state services given its present revenue structure. Should federal aid reductions occur, financing current service quality will probably require increased tax burdens. In contrast, the State can easily finance an austerity service level and still sustain a substantial decrease in the tax burden. Finally, the joint effects of slow growth in the projected sales tax base and reductions in federal aid will produce a substantial loss in fiscal resources for the State.

This chapter has five parts. In the next two sections, we present the general assumptions and statistical results. The reader not interested in the details of how the projections are made, or in the underlying data used, need go no further. The third and fourth part of the chapter describes the technical specifications of the model. In this more detailed presentation, we identify the spreadsheet formats, the data sources, and the exact forecasting methods used. Finally, the remainder of the chapter presents instructions for operating the spreadsheets. This section details the methods for modifying the spreadsheets and identifies other issues that state policy makers might choose to incorporate into the model.

## **General Assumptions**

### **Revenues**

In projecting revenues our primary interest was to answer the question: How much money would the State raise over the next several years, given varied economic conditions, if effective tax rates remained at their current levels? Thus, revenues are projected separately for the income tax, the sales tax, miscellaneous revenues, and federal aid. Our approach is to project

state tax bases and miscellaneous revenues, and to project federal aid on the basis of Nebraska's historical share of various federal grants. Income and sales tax bases are projected using regression analysis and revenues are then estimated by holding the base year tax burden (effective tax rates) constant. Miscellaneous revenues are projected using trend analysis. Each revenue category is forecasted using an "optimistic" economic growth path (baseline assumptions) and a less optimistic future vision characterized by slower economic growth and lower productivity measures (low growth assumptions).

### **Expenditures**

Expenditures are projected for scenarios that differ in economic assumptions and service levels. The "expansion" service levels answer the following question: How much will it cost the State over the next six years to provide public services that will expand in quality to match the growth in the Nebraska State economy? The "current" service scenarios calculate spending needed to continue the service level provided in 1986. The "austerity" scenario projections are predicated upon a reduction in the service level. For each of the three expenditure projections, a "baseline" economic growth path and a "low" economic growth path for the State economy are considered.

**Expansion.** Under the expansion scenario, the level and quality of services is enhanced so that service levels and service costs increase faster than client populations. As Nebraska's real personal income increases, State residents are likely to demand a better package of public services. This scenario examines the spending that would be required to meet such higher demand. Therefore, compensation per employee is assumed to grow at the same rate as the CPI-W, a measure of inflation, plus the growth in real incomes, maintaining the base year parity between public and private sector salaries. In addition, the employee-to-client ratio is assumed to grow at the same rate as real income based on the assumption that an increased demand for public services requires service expansion that is in proportion to the increase in real income.

Growth in operating expenses is calculated on a per employee basis and then driven by CPI-W increases. Similarly, travel costs per employee are increased by CPI-W. These expenditures will increase due to rising employee-to-client projections, but are not driven by real income increases. It is not assumed therefore that personal income increases will result in increased demand for support services such as operating and travel expenses. In contrast, in the calculation of capital outlays and government aid, the base year amount per client is increased at a rate equal to CPI-W and real income combined. The real value of these expenditures therefore increase.

**Current.** Under the current service projection, real expenditure levels are held constant. The number of employees is assumed to keep pace with projected increases in client population, but not to increase with growth in real income. Operating, travel, capital outlay, and government aid are increased by inflation only. Therefore, the projected expenditures reflect the same level of public services offered in the base year. This projection is similar to the expansion scenario in one important respect: wages increase by projected nominal growth as defined by CPI-W and real income growth. This assumption is predicated on a belief that the State will not be able to maintain current service levels if the compensation gap between State government workers and private sector employees is allowed to widen.

**Austerity.** Austerity is the final version of expenditure projections. This scenario allows employee compensation to grow with the CPI, providing for cost-of-living increases only. The gap between private and public sector compensation therefore widens, and the State's ability to attract and retain a competent workforce is greatly limited. In addition, the number of employees is frozen in face of a growing State population, resulting in declines in service quality.

Operating and travel costs increase with inflation as these items must often be purchased at market prices. Since both operating and travel costs are tied to number of employees--which is frozen--the increases reflect growth in costs solely due to inflation. These increases do not

indicate maintained or improved service levels because the ratio of employees to clients is declining.

Total capital outlay expenditures are frozen at the base year level. Government aid is similarly frozen, but only for those departments without a designated client population. In the case of education, medical assistance, and public assistance, government aid increases by inflation.

### **Statistical Results and Conclusions**

A graphical representation of the results of this study exposes the adverse implications for the State of Nebraska should federal aid reductions occur. The difference between current federal aid levels and the reductions in federal aid as proposed by the Reagan Administration is of great importance to Nebraska.

Figure 2-1 shows nominal dollar revenue projections assuming no further federal aid reductions, and expenditure trends for the three service level policy projections under baseline growth assumptions. Revenue projections will not support an expansion in service levels, but coincide with the requirements for financing current services. If growth in the State economy approximates the baseline growth predicted and no further reductions in federal aid occurs, Nebraska will, for example, be able to allow the number of public employees to grow in proportion to the growth in the specific population which they serve, and allow for increases in the compensation of State employees which are comparable to growth in compensation for the private sector. Finally, if Nebraska chooses to allow service quality reductions over the next six years, the austerity service level, there exists ample room for some form of relaxation of effective tax rates.

Figure 2-2 illustrates the importance of federal aid to Nebraska's fiscal future. As in Figure 2-1, baseline nominal projections are graphed but revenue projections incorporate federal aid reductions as proposed by the Reagan administration. Should these reductions occur, the

FIGURE 2-1  
nominal baseline

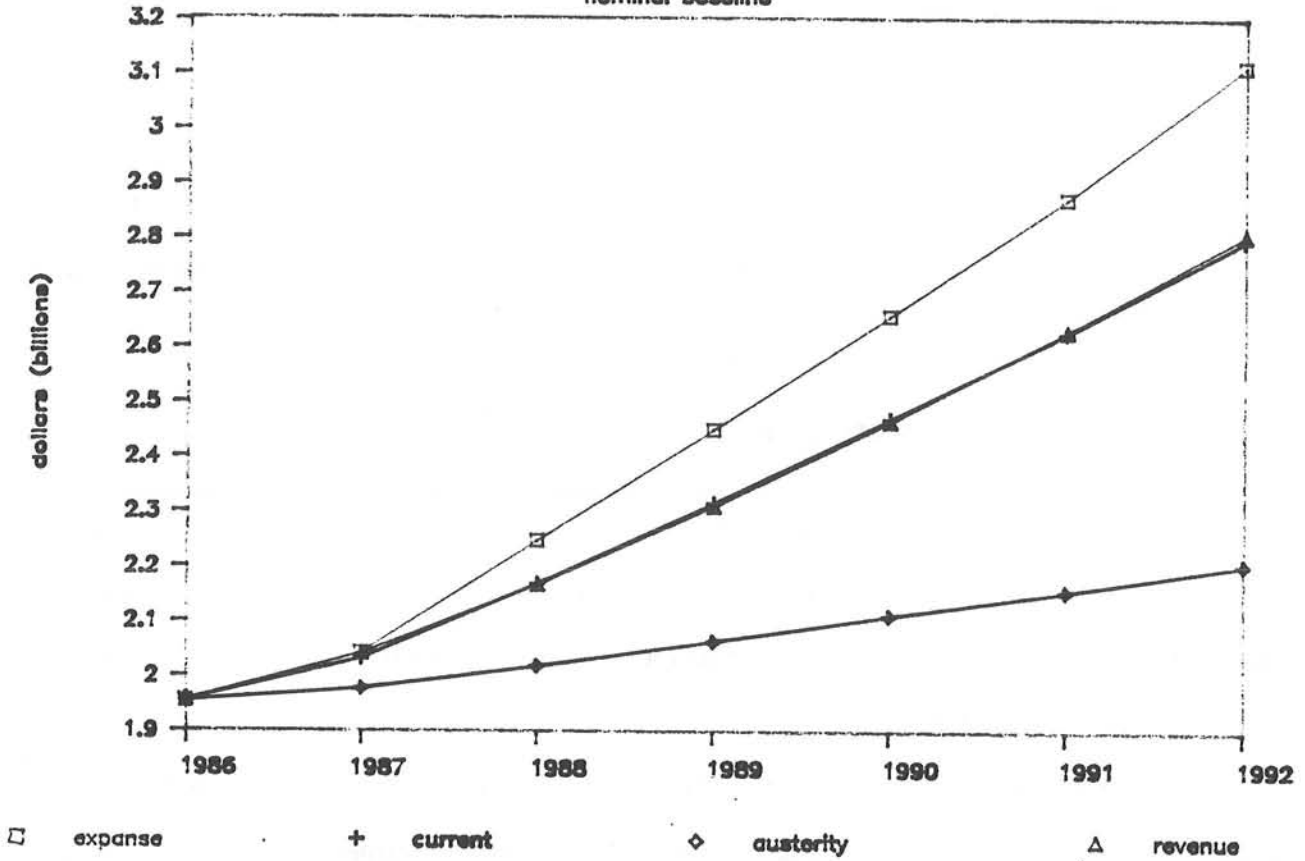
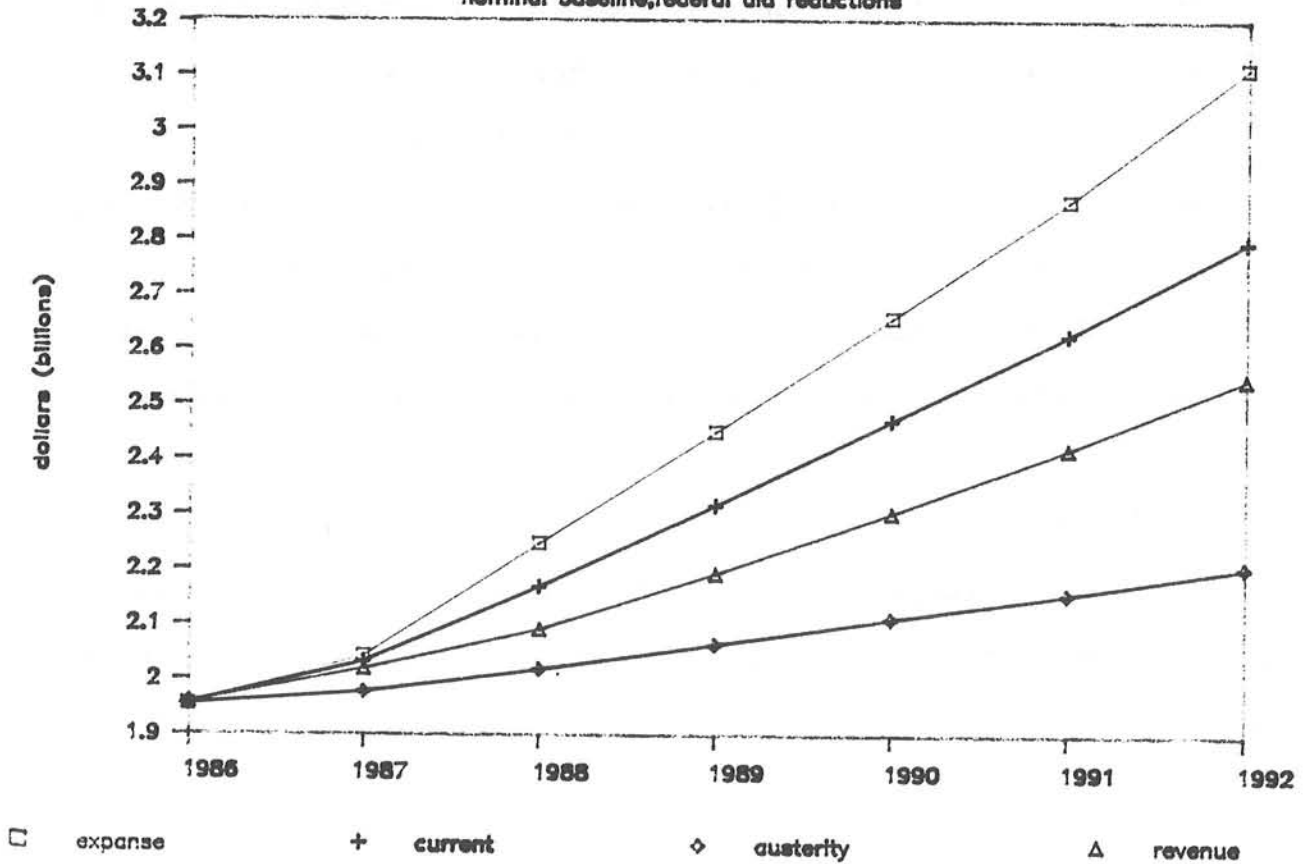


FIGURE 2-2

nominal baseline, federal aid reductions





State will not be able to maintain either expansion or current service levels given the baseline revenue structure.

Using low growth economic assumptions, it is predicted that the State will not be able to provide an expanded service level but can maintain its current service level if no further reductions in federal aid occur. Figure 2-3 illustrates low growth nominal projections for each expenditure scenario, assuming the current level of federal aid. (Although revenues fall below current expenditures, the gap falls within the margin of error suggested below and the revenue and expenditure projections are considered in balance.)

In contrast, Figure 2-4 shows that an even greater deficit will plague Nebraska should further federal aid reductions occur. If low economic growth is experienced for a period beyond 1992, the gap between Nebraska's revenues and the requirements for current service expenditures will continue to widen. If the total tax burden is not increased, Nebraska will have to implement some large cuts in service levels.

Tables 2-1 and 2-2 summarize these results numerically. Because the results are highly sensitive to the choice of assumptions, a 3 percent allowance for error is suggested. A deficit/surplus which is 3 percent or less of expenditures should be interpreted as a balanced budget.

Although nominal figures provide some interesting conclusions, another way to interpret the results of this study is to provide an answer to the question: What is the income elasticity of the revenue system needed to finance the expenditure results? The elasticity of expenditures represents the percentage change in expenditures for a 1 percent change in some measure of economic growth. Following standard practice, income is used as a measure of economic performance.

Such an exercise is useful to determine the revenue growth that would be necessary to meet expenditures demands as the economy grows. This "required" elasticity could then be compared to the "actual" elasticity of the projected revenue structure. To bring projected

FIGURE 2-3

nominal low growth

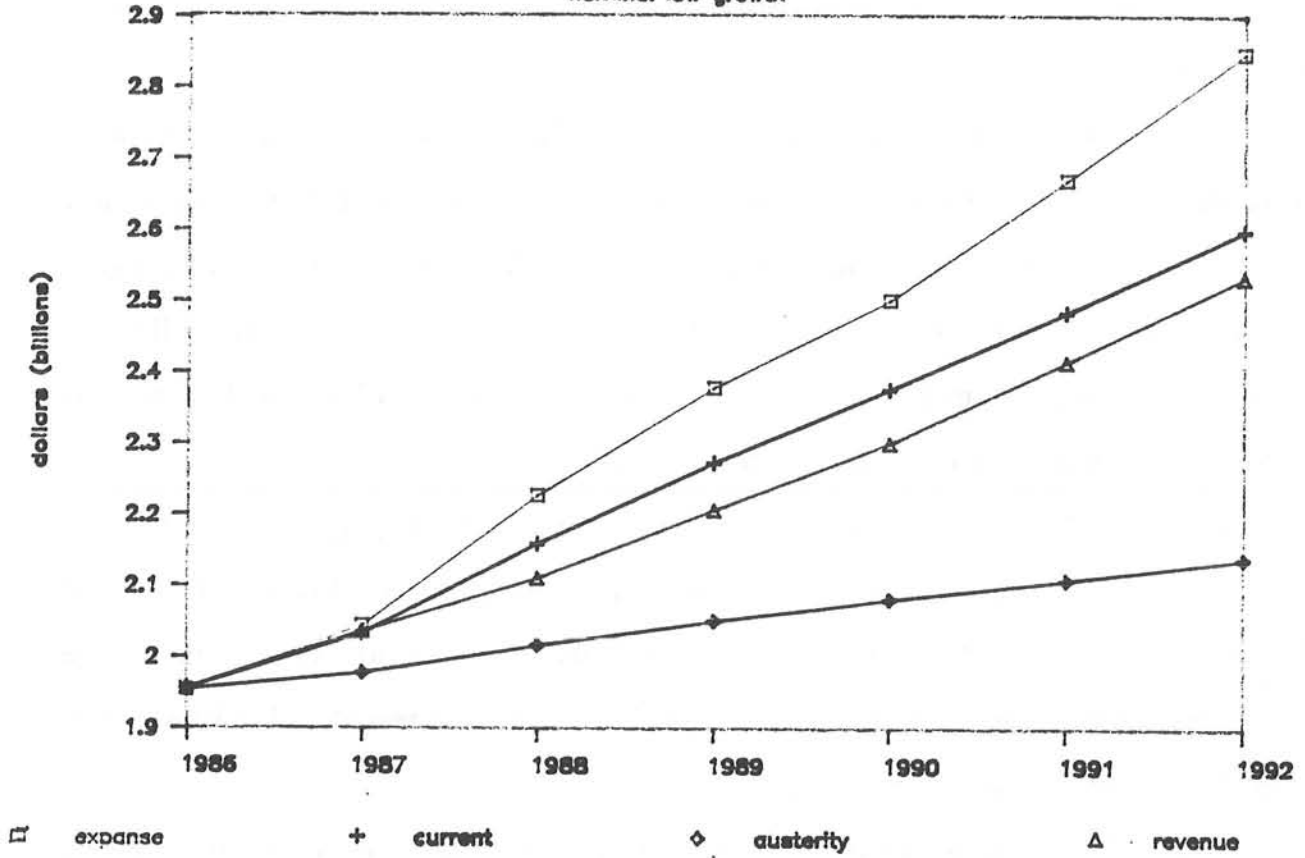


FIGURE 2-4

nominal low growth, fed aid reductions

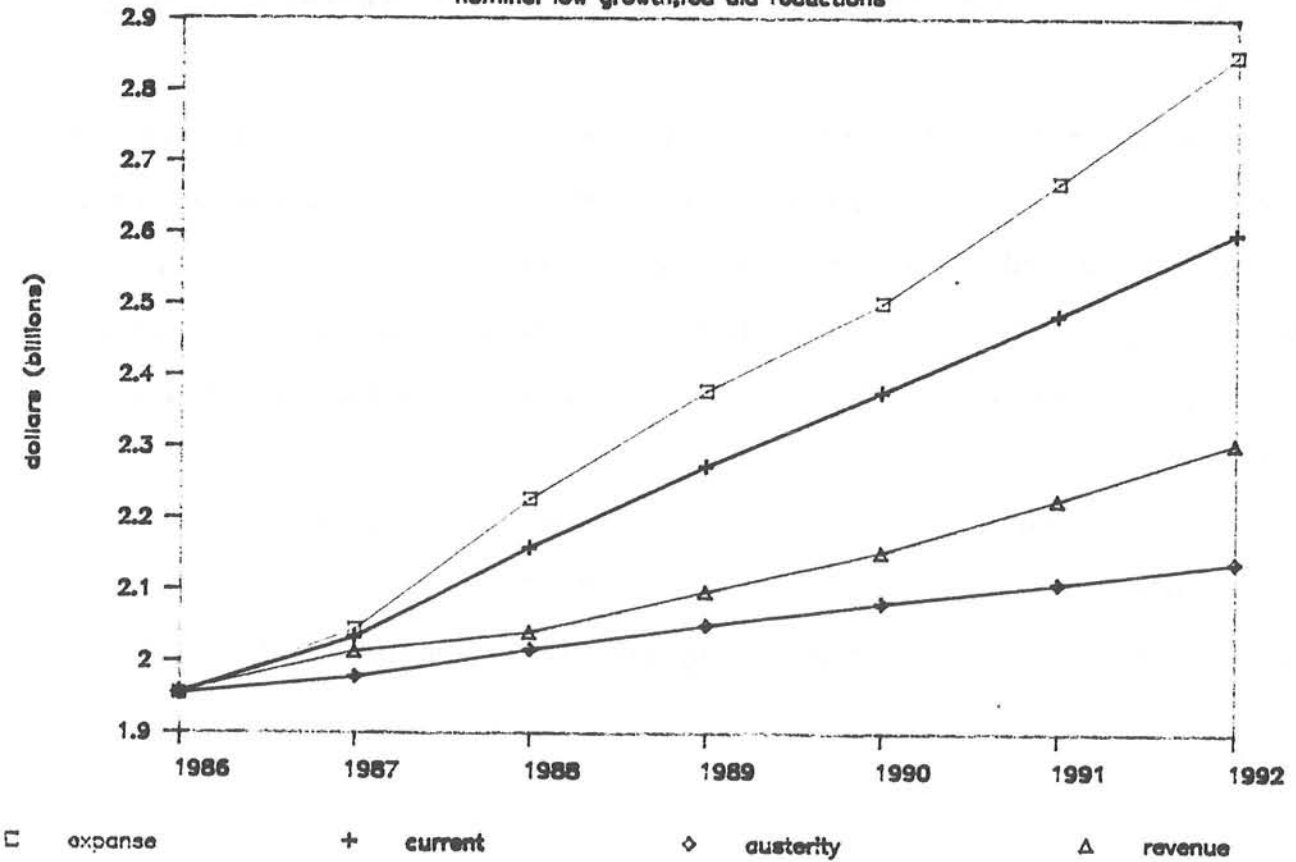


TABLE 2-1  
EXECUTIVE SUMMARY REVENUES AND EXPENDITURES  
(in thousands)

	Actual 1986	Projections					1992	2000	1986-1992 Percentage Change	1986-2000 Percentage Change
		1987	1988	1989	1990	1991				
<b>Expansion (Baseline)</b>										
Revenue	\$1,955,491	\$2,041,569	\$2,167,541	\$2,311,195	\$2,466,545	\$2,631,738	\$4,729,722	43.63	141.87	
Expenditures	1,955,491	2,045,208	2,250,756	2,453,983	2,662,759	2,876,757	5,438,992	59.46	178.14	
Balance	0	\$ (3,639)	\$ (83,216)	\$ (142,788)	\$ (196,214)	\$ (245,019)	\$ (709,270)			
As a Percent of Expenditures	0.0	(0.2)	(3.7)	(5.8)	(7.4)	(8.5)	(13.0)			
<b>Expansion (Low)</b>										
Revenue	\$1,955,491	\$2,035,638	\$2,110,297	\$2,206,197	\$2,300,593	\$2,415,000	\$3,809,616	29.60	94.82	
Expenditures	1,955,491	2,046,354	2,229,558	2,381,289	2,504,375	2,673,780	4,252,211	45.81	117.45	
Balance	0	\$ (10,716)	\$ (119,262)	\$ (175,092)	\$ (203,782)	\$ (258,780)	\$ (442,596)			
As a Percent of Expenditures	0.0	(0.5)	(5.3)	(7.4)	(8.1)	(9.7)	(10.4)			
<b>Current (Baseline)</b>										
Revenue	\$1,955,491	\$2,041,569	\$2,167,541	\$2,311,195	\$2,466,545	\$2,631,738	\$4,729,722	43.63	141.87	
Expenditures	1,955,491	2,032,832	2,169,838	2,317,526	2,472,618	2,628,518	4,379,395	43.14	123.95	
Balance	0	\$ 8,736	\$ (2,297)	\$ (6,331)	\$ (6,073)	\$ 3,220	\$ 9,722			
As a Percent of Expenditures	0.0	0.4	(0.1)	(0.3)	(0.2)	0.1	0.3			
<b>Current (Low)</b>										
Revenue	\$1,955,491	\$2,035,638	\$2,110,297	\$2,206,197	\$2,300,593	\$2,415,000	\$3,809,616	29.60	94.82	
Expenditures	1,955,491	2,033,976	2,159,514	2,273,983	2,377,752	2,485,986	3,381,755	32.99	72.94	
Balance	0	\$ 1,662	\$ (49,218)	\$ (67,786)	\$ (77,159)	\$ (70,986)	\$ 427,861			
As a Percent of Expenditures	0.0	0.1	(2.3)	(3.0)	(3.2)	(2.9)	12.7			
<b>Austerity (Baseline)</b>										
Revenue	\$1,955,491	\$2,041,569	\$2,167,541	\$2,311,195	\$2,466,545	\$2,631,738	\$4,729,722	43.63	141.87	
Expenditures	1,955,491	1,978,917	2,020,578	2,066,076	2,113,047	2,158,118	2,642,086	12.87	35.11	
Balance	0	\$ 62,651	\$ 146,962	\$ 245,119	\$ 353,498	\$ 473,619	\$ 2,087,637			
As a Percent of Expenditures	0.0	3.2	7.3	11.9	16.7	21.9	79.0			
<b>Austerity (Low)</b>										
Revenue	\$1,955,491	\$2,035,638	\$2,110,297	\$2,206,197	\$2,300,593	\$2,415,000	\$3,809,616	29.60	94.82	
Expenditures	1,955,491	1,979,381	2,017,728	2,052,255	2,083,367	2,110,424	2,370,650	9.45	21.23	
Balance	0	\$ 56,257	\$ 92,568	\$ 153,942	\$ 217,226	\$ 304,576	\$ 1,438,966			
As a Percent of Expenditures	0.0	2.8	4.6	7.5	10.4	14.4	60.7			

TABLE 2-2  
EXECUTIVE SUMMARY REVENUES AND EXPENDITURES: FEDERAL AID REDUCTIONS  
(in thousands)

	Actual		Projections						1986-1992	1986-2000
	1986	1987	1988	1989	1990	1991	1992	2000	Percentage Change	
<b>Expansion (Baseline)</b>										
Revenue	\$1,955,491	\$2,018,596	\$2,090,591	\$2,192,337	\$2,302,922	\$2,419,722	\$2,548,885	\$4,287,116	119.23	
Expenditures	1,955,491	2,045,208	2,250,756	2,453,983	2,662,759	2,876,757	3,118,272	5,438,992	178.14	
Balance	0	\$(26,612)	\$(160,165)	\$(261,646)	\$(359,837)	\$(457,035)	\$(569,387)	\$(1,151,876)		
As a Percent of Expenditures	0.0	(1.3)	(7.1)	(10.7)	(13.5)	(15.9)	(18.3)	(21.2)		
<b>Expansion (Low)</b>										
Revenue	\$1,955,491	\$2,013,179	\$2,039,747	\$2,097,047	\$2,152,476	\$2,226,013	\$2,305,779	\$3,481,606	78.04	
Expenditures	1,955,491	2,046,354	2,229,558	2,381,289	2,504,375	2,673,780	2,851,251	4,252,211	117.45	
Balance	0	\$(33,175)	\$(189,811)	\$(284,242)	\$(351,899)	\$(447,766)	\$(545,473)	\$(770,605)		
As a Percent of Expenditures	0.0	(1.6)	(8.5)	(11.9)	(14.1)	(16.7)	(19.1)	(18.1)		
<b>Current (Baseline)</b>										
Revenue	\$1,955,491	\$2,018,596	\$2,090,591	\$2,192,337	\$2,302,922	\$2,419,722	\$2,548,885	\$4,287,116	119.23	
Expenditures	1,955,491	2,032,832	2,169,838	2,317,526	2,472,618	2,628,518	2,799,040	4,379,395	123.95	
Balance	0	\$(14,237)	\$(79,246)	\$(125,189)	\$(169,696)	\$(208,797)	\$(250,155)	\$(92,279)		
As a Percent of Expenditures	0.0	(0.7)	(3.7)	(5.4)	(6.9)	(7.9)	(8.9)	(2.1)		
<b>Current (Low)</b>										
Revenue	\$1,955,491	\$2,013,179	\$2,039,747	\$2,097,047	\$2,152,476	\$2,226,013	\$2,305,779	\$3,481,606	78.04	
Expenditures	1,955,491	2,033,976	2,159,514	2,273,983	2,377,752	2,485,986	2,600,617	3,381,755	72.94	
Balance	0	\$(20,797)	\$(119,767)	\$(176,936)	\$(225,275)	\$(259,973)	\$(294,838)	\$(99,851)		
As a Percent of Expenditures	0.0	1.0	(5.5)	(7.8)	(9.5)	(10.5)	(11.3)	3.0		
<b>Austerity (Baseline)</b>										
Revenue	\$1,955,491	\$2,018,596	\$2,090,591	\$2,192,337	\$2,302,922	\$2,419,722	\$2,548,885	\$4,287,116	119.23	
Expenditures	1,955,491	1,978,917	2,020,578	2,066,076	2,113,047	2,158,118	2,207,163	2,642,086	35.11	
Balance	0	\$39,678	70,013	126,261	189,875	261,603	341,721	\$1,645,031		
As a Percent of Expenditures	0.0	2.0	3.5	6.1	9.0	12.1	15.5	62.3		
<b>Austerity (Low)</b>										
Revenue	\$1,955,491	\$2,013,179	\$2,039,747	\$2,097,047	\$2,152,476	\$2,226,013	\$2,305,779	\$3,481,606	78.04	
Expenditures	1,955,491	1,979,381	2,017,728	2,052,255	2,083,367	2,110,424	2,140,227	2,370,650	21.23	
Balance	0	\$(33,798)	22,019	44,792	69,110	115,590	165,552	\$1,110,956		
As a Percent of Expenditures	0.0	1.7	1.1	2.2	3.3	5.5	7.7	46.9		

revenue growth in line with required revenue growth, the State might consider restructuring the revenue system.

Table 2-3 details the income elasticity of expenditures for each of the economic scenarios. In addition, various measures of projected revenue income elasticities are estimated. Under expansion, baseline expenditures grow 46 percent faster than income (an elasticity of 1.46). Therefore, the required income elasticity of revenue to finance this expansion is 1.46.

As the table details, the income elasticity of tax revenues and the income elasticity of miscellaneous revenues are insufficient to support the expenditure growth occurring in expansion. If the State desires to minimize ad hoc rate and base adjustments as additional revenues are needed for service expansion, then the tax system must be restructured to respond to state economic growth. One way to do this is to rely more upon elastic revenue sources, and less upon the inelastic sales tax.

As shown in Table 2-3, excluding sales tax increases the elasticity measure substantially--income and other tax revenues experience growth adequate to finance service expansion. Sales tax projections depress the elasticity measure due to the extremely slow growth projected for the sales tax base. Given this analysis, the State might consider the feasibility of lessening reliance upon this revenue source, thereby increasing the automatic revenue response to economic growth.

The current service level has a income elasticity of approximately unity. Under assumptions of baseline economic growth, the projected income elasticity of tax revenues is high enough to support this service level. The elasticity of tax revenues is not sufficient under assumptions of low economic growth however, unless sales tax is excluded. Finally, the revenue income elasticity necessary to finance the austerity service level is satisfied by all revenue income elasticity measures. Revenues will automatically increase at a pace adequate for financing this level of expenditure.

TABLE 2-3

EXECUTIVE SUMMARY REVENUES AND EXPENDITURES:  
INCOME ELASTICITIES

	1986-1992 Percentage Change			
	<u>Expenditures</u>	<u>Tax Revenues</u>	<u>Tax Revenues Minus Sales Tax</u>	<u>Own-Source Revenues</u>
<b>Income Base</b>				
Baseline	40.70	40.70	40.70	40.70
Low Growth	29.87	29.87	29.87	29.87
<b>Expansion</b>				
Baseline	59.46	47.42	66.94	41.25
Low Growth	45.81	17.11	31.03	28.94
<b>Current</b>				
Baseline	43.14	47.42	66.94	41.25
Low Growth	32.99	17.11	31.03	28.94
<b>Austerity</b>				
Baseline	12.87	47.42	66.94	41.25
Low Growth	9.45	17.11	31.03	28.94
	1986-1992 Income Elasticity			
<b>Income Base</b>				
Baseline	1.00	1.00	1.00	1.00
Low Growth	1.00	1.00	1.00	1.00
<b>Expansion</b>				
Baseline	1.46	1.17	1.64	1.01
Low Growth	1.53	0.57	1.04	0.97
<b>Current</b>				
Baseline	1.06	1.17	1.64	1.01
Low Growth	1.10	0.57	1.04	0.97
<b>Austerity</b>				
Baseline	0.32	1.17	1.64	1.01
Low Growth	0.32	0.57	1.04	0.97

Table 2-4 provides an additional, and final summary of results--revenue estimates. The difference between baseline and low growth revenue scenarios is an indication of how a changing economic performance can affect the yield of the present revenue system. This percentage difference, which shows the sensitivity of revenue yield to the business cycle, is not controllable by State actions. The only recourse available to the State to compensate for these losses is discretionary rate and base adjustments. As shown in the table, the gap between total baseline revenue projections (federal aid reductions assumed) and total low growth revenue projections widens from a 2.5 percent difference in 1987 to 10.5 percent in 1992.

In general, the outlook for the State, as presented by these forecasts, is troubling. The projections assume the best of economic circumstances: a stable growth in national and State personal income, low inflation rates, no major public service emergencies, etc. Yet even given this "rosy" future vision, the projected revenue-generating capabilities of the State cannot finance expenditure demands in the majority of scenarios constructed here. Additionally, revenue forecasts are highly susceptible to changes in federal policy, an external event not within the State's control.

On the positive side, revenues appear potentially adequate to finance current spending levels, and the severity of the projected deficits might be mitigated by favorable economic developments not foreseen in our projections. In contrast, the fiscal condition of the State could be very seriously compromised by the combination of further federal aid reductions and the inelastic propensities of the tax revenue structure. If these aid reductions occur, the State must either raise tax burdens, cut service quality, or both. Nebraska may want to consider contingency plans in the event of changes in federal policy.

The remainder of this chapter details the technical specifications of the model and provides the spreadsheet operating instructions. The spreadsheet formats, the data sources, and the specific methods used in forecasting revenues and expenditures are presented next.

TABLE 2-4  
TOTAL REVENUES  
(in thousands)

	1986	1987	1988	1989	1990	1991	1992	2000	1986-1992 Percentage Change	1986-2000 Percentage Change
<b>Baseline</b>										
Income Tax	\$ 324,385	\$ 334,864	\$ 356,819	\$ 379,020	\$ 402,570	\$ 428,080	\$ 456,407	\$ 770,365	40.70	137.48
Sales Tax	311,605	304,693	308,569	316,432	322,320	328,435	334,476	358,753	7.34	15.13
Miscellaneous	724,187	770,978	827,579	892,600	964,999	1,044,201	1,130,347	2,089,015	56.08	188.46
Intergovernmental										
Constant	595,314	631,032	674,574	723,143	776,656	831,021	887,531	1,511,589	49.09	153.91
Cutback	595,314	608,060	597,625	604,285	613,033	619,005	627,654	1,068,983	5.43	79.57
<b>Total</b>										
Constant	1,955,491	2,041,569	2,167,541	2,311,195	2,466,545	2,631,738	2,808,761	4,729,722	43.63	141.87
Cutback	1,955,491	2,018,596	2,090,591	2,192,337	2,302,922	2,419,722	2,548,884	4,287,116	30.34	119.23
<b>Low Growth</b>										
Income Tax	324,385	334,864	355,400	371,508	383,508	402,219	421,283	631,416	29.87	94.65
Sales Tax	311,605	312,878	312,045	292,151	279,825	278,607	275,681	272,459	-11.53	-12.56
Miscellaneous	724,187	770,978	824,380	878,458	934,208	993,420	1,056,801	1,785,521	45.93	146.56
Intergovernmental										
Constant	595,314	616,918	618,471	664,080	703,052	740,753	780,573	1,120,220	31.12	88.17
Cutback	595,314	594,459	547,921	554,930	554,936	551,767	552,014	792,210	-7.27	33.07
<b>Total</b>										
Constant	1,955,491	2,035,638	2,110,297	2,206,197	2,300,593	2,415,000	2,534,337	3,809,616	29.60	94.82
Cutback	1,955,491	2,013,179	2,039,747	2,097,047	2,152,476	2,226,013	2,305,779	2,481,606	17.91	78.04
Percentage Difference: Baseline and Low Growth										
Income Tax	0.0	0.0	0.4	2.0	5.0	6.4	8.3	22.0		
Sales Tax	0.0	-2.6	-1.1	8.3	15.2	17.9	21.3	31.7		
Miscellaneous	0.0	0.0	0.4	1.6	3.3	5.1	7.0	17.0		
Intergovernmental										
Constant	0.0	2.3	9.1	8.9	10.5	12.2	13.7	34.9		
Cutback	0.0	2.3	9.1	8.9	10.5	12.2	13.7	34.9		
<b>Total</b>										
Constant	0.0	0.3	2.7	4.8	7.2	9.0	10.8	24.2		
Cutback	0.0	0.3	2.5	4.5	7.0	8.7	10.5	23.1		



## **Expenditure Technical Specifications**

### **Spreadsheet Format**

Expenditures are divided according to the Nebraska functional areas of government and then subdivided by major agency groupings. Expenditures within each agency are further divided in account categories: personal services, operating, travel, capital outlay, and government aid. The expenditure taxonomy is as follows:

### **Program Disaggregation by Functional Area**

#### **General Government**

- Department of Economic Development
- Revenue Department
- State Treasurer's Office
- Other General Government

#### **Education**

- Department of Education
- University
- State Colleges
- Community Colleges
- Post-Secondary Commission and State College Trustees
- Other Education

#### **Public Safety-Criminal Justice**

- State Patrol
- Supreme Court
- Correctional Services
- Crime Commission

#### **Human Resources**

- Social Services
- Public Institutions
- Health
- Labor
- Other

#### **Transportation**

- Department of Roads
- Other

#### **Natural Resources**

## Data Sources

Base year employee totals are taken from the "Legislator's Guide". The base year expenditure amounts are 1986 paid expenditures as reported in the "State of Nebraska Annual Budgetary Report for the year ended June 30, 1986" with the following exceptions:

University operating expenses are reduced by \$33,136,680 and personal services by \$18,299,290. These amounts comprise University trust fund expenditures for services provided to nongovernmental sources. To avoid inconsistent treatment of revenues and expenditures (the corresponding revenue reimbursements are not forecasted) this trust fund expenditure has been subtracted from the 1986 base figure.

The Department of Education operating expenses are reduced by \$111,010, personal services by \$4,495, and government aid by \$18,045,210. These amounts comprise the Temporary School Fund trust fund expenditures of the Department of Education and corresponding revenues are not forecasted. The government aid amount can be determined by reconciling the government aid amounts as reported in the budgetary report, which includes trust fund expenditures, with those reported in the "Legislator's Guide to Nebraska State Agencies 1987-1988", which excludes trust fund amounts. The personal services amount is reported in the Budgetary Report. According to information from Robert D. Luth, State of Nebraska Department of Administrative Services, the remaining balance is operating expenses.

Other General Government operating expenses are reduced by \$22,152,997. This information was provided by Robert D. Luth and the total reduction is comprised of \$4,218,632 Employee Retirement Systems retirement funds, \$5,000,652 Administrative Services health insurance expenditures, and \$12,933,713 Risk Management State Claims Board health insurance expenditures. Retirement and health expenditures are excluded from this model because of the difficulties associated with accurate forecasts both of public demand for these expenditures and of revenues generated for these expenditures.

The Department of Education Government Aid base year amount is subdivided into foundation aid, incentive aid, equalization aid, special education aid, federal aid passed through, and miscellaneous. The base year amounts for each were determined as follows:

Foundation aid and incentive aid are calculated using the formulas detailed in the Education "Exception to Standard Formulas" section. These amounts are then subtracted from the total 1985-86 General expenditure for "State Aid and School Food Services/Aid" as reported in the "Legislator's Guide" to determine base year equalization aid.

Special Education aid is reported in the "Legislator's Guide", General expenditure for "Special Education/Aid".

Federal Aid passed through is reported in the "Legislator's Guide", State Department of Education, Government Aid expenditures, federal fund.

The remaining aid amount is categorized as miscellaneous government aid.

The data used in the expenditure projections are presented in Table 2-5. Further explanation of growth rates and inflation rates is appropriate, due to the integral nature of each.

Accumulated Growth rates and compound growth rates are conceptually very different. Accumulated growth measures the overall growth which has occurred since the base year. For instance, if in year two CPI-W increases 2 percent and in year three CPI-W increases 3 percent, the accumulated growth is  $1.02 \times 1.03$ , or 1.0506 percent.

The compound growth rate is the yearly growth rate necessary for a present value (e.g., 1986) to grow to a future value (e.g., 1990) over the number of compounding periods (4 years).

The inflation measures used to drive revenue and expenditure projections differ. Revenues are driven by the implicit Gross National Product (GNP) deflator whereas expenditures are driven by the Consumer Price Index (CPI).

The GNP deflator is a measure of the average change in national market prices of goods and services as compared to average levels in a base period. Because the revenue model is designed to predict Nebraska's total revenue base under different economic circumstances, the authors believe that a broad based measure of economic activity is appropriate. As such a broad based measure, the implicit GNP deflator reflects the effects of economic and demographic changes upon the entire revenue base. In this way, the implicit GNP deflator is an appropriate driver for tax revenues.

The CPI-W is provided by the Bureau of Labor Statistics and is a measure of the cost of living based on all urban wage earners and clerical workers. CPI-W is chosen as the deflator for expenditures due to the labor intensive nature of public output. With this in mind, the optimum method for predicting the cost of public services is through estimating the cost of public employee wages and benefits. By providing a deflator based on wages, CPI-W accomplishes

TABLE 2-5

## NEBRASKA DATA SOURCES: EXPENDITURE PROJECTIONS

Population estimates are based on the Bureau of Economic Analysis, 1985 BEA Regional Projections. Forecasted amounts are provided for the years 1990, 1995, and 2000. The intervening years are determined by calculating an annual compound growth rate.

CPI-W is taken from The Economic and Budget Outlook: FYs 1988-1992, CBO 1987 annual report and then averaged to determine the fiscal year percentage changes. Accumulated growth is then calculated. For instance, the 1988 growth is the average of calendar years 1987 and 1988 growth rates. The 1988 accumulated growth can then be determined by multiplying 1.0255 (1987 fiscal percentage change) by 1.039 (1988 fiscal percentage change). This results in an overall growth from 1986 of 1.0655.

The calculation of CPI-Medical is determined by the five year average, 1982 through 1986, of the ratio of percentage change in CPI-Medical to the percentage change in CPI-W. The resulting average of 102.62 percent is then applied to forecasts of CPI-W to estimate CPI-Medical. The data used in this analysis can be found in Appendix C.

Real Income Base is projected by the regression model described in the revenues technical specifications. The income projections are for the calendar year and therefore it has been chosen to lag this base by one year in order to estimate income tax revenues. Effectively then, we assume an approximate 6 month lag between income increases (declines) and resulting revenue increases (declines). Likewise, expenditure pressures resulting from income increases and decreases are assumed to be delayed by 6 months. Thus, revenues and expenditures are treated in a consistent manner. The growth in real income base is then accumulated from 1986.

this task. Because wages and other compensation are often tied to CPI-W by labor contract or negotiations, the expenditure deflator assumption is empirically supported.

Percentage changes in the GNP price deflator are consistently below percentage changes in CPI-W. This slower revenue growth is explained by the labor intensive nature of public sector output. Due to this characteristic, public sector output is not as responsive to cost-saving technological improvements as is private sector production. Thus, the cost of public services is more difficult to contain--forcing public sector costs to grow more rapidly than national market prices of goods and services.

Another deflator often used for State expenditures is the State and Local Government Purchases Deflator. Since the CBO does not provide forecasts of this deflator, Appendix 2-A details the results of a regression equation which might be used to predict a State and Local Government Purchases Deflator. The user therefore has the option to replace CPI-W with these estimates. Replacing CPI-W with these estimates will increase expenditures more rapidly since the purchases deflator percentage changes are much higher than those for CPI-W.

### Cell Formulas

Details of the standard cell formulas utilized in the expenditure spreadsheets are presented and exceptions to these formulas are then discussed by functional category.

### Expansion:

$$\frac{\text{Base year employees}}{\text{Base year clients}} \times \text{Projected clients} \times \text{income growth}$$

$$\frac{\text{Base year personal service costs}}{\text{Base year employees}} \times \text{Projected employees} \times (\text{CPI-W} + \text{income growth})$$

$$\frac{\text{Base year operating expenses}}{\text{Base year employees}} \times \text{Projected employees} \times \text{CPI-W}$$

$$\frac{\text{Base year travel costs}}{\text{Base year employees}} \times \text{Projected employees} \times \text{CPI-W}$$

<u>Base year capital outlays</u>	
Base year clients	x Projected clients x (CPI-W + income growth)

<u>Base year government aid</u>	
Base year clients	x Projected clients x (CPI-W + income growth)

**Current:**

<u>Base year employees</u>	
Base year clients	x Projected clients

<u>Base year personal service costs</u>	
Base year employees	x Projected employees x (CPI-W + income growth)

<u>Base year operating expenses</u>	
Base year employees	x Projected employees x CPI-W

<u>Base year travel costs</u>	
Base year employees	x Projected employees x CPI-W

<u>Base year capital outlays</u>	
Base year clients	x Projected clients x CPI-W

<u>Base year government aid</u>	
Base year clients	x Projected clients x CPI-W

**Austerity:**

Base year employees

<u>Base year personal service costs</u>	
Base year employees	x Projected employees x CPI-W

<u>Base year operating expenses</u>	
Base year employees	x Projected employees x CPI-W

$$\frac{\text{Base year travel costs}}{\text{Base year employees}} \times \text{Projected employees} \times \text{CPI-W}$$

Base year capital outlays

Base year government aid

### Exceptions to Standard Formulas

**Education.** The Department of Education's client population is the number of students (K-12) in public schools. The Department has projected enrollments by grade for public and private schools through 1996. Projections for this model however, are concerned only with the number of students in public schools. Public school enrollment projections are estimated by multiplying the Department's projections for total enrollment by .88, the historical distribution of public school enrollments.

Enrollment for the year 2000 is based upon the 1992-1996 enrollment forecasts. From 1992 to 1996 the Department projects enrollment to fall an average of 1.67 percent per year. By continuing this trend over the period 1997-2000, we project public school enrollment for the year 2000. Projections for the year 2000 enrollments by grade level are determined by maintaining the 1996 grade level distributions.

In the Austerity scenario, Department of Education employment remains constant except when enrollment decreases. When this occurs, the base line year (1986) ratio of employees to public school enrollment is maintained.

Special Education Aid follows the general model except that the client population is Special Education population. In 1986, special education students numbered approximately 31,214 according to the "Legislator's Guide". To forecast this client group, the ratio of the 1986 special education students to 1986 total school enrollments is held constant.

Foundation Aid is distributed on a per student basis with variations in dollar amount per student depending upon grade level. In 1986 Foundation Aid was distributed in the following manner:

<u>Grade Level</u>	<u>Dollars Per Student</u>
Kindergarten	154.42
Grade 1-6	308.84
Grade 7-8	370.81
Grade 9-12	432.38

The State Foundation Aid formula with modifications (E,C, or A) for the different spending scenarios is shown below.

$$\begin{aligned}
 \text{Foundation Aid} = & K * 154.42 \begin{matrix} (E) \\ (C) \\ (A) \end{matrix} + G1-6 * 308.84 \begin{matrix} (E) \\ (C) \\ (A) \end{matrix} + G7-8 * 370.81 \begin{matrix} (E) \\ (C) \\ (A) \end{matrix} \\
 & + G9-12 * 432.38 \begin{matrix} (E) \\ (C) \\ (A) \end{matrix}
 \end{aligned}$$

Where: K = Projected Kindergarten enrollment.  
 G1-6 = Projected Grade 1 - 6 enrollment.  
 G7-8 = Projected Grade 7 - 8 enrollment.  
 G9-12 = Projected Grade 9 - 12 enrollment.  
 E = Expansion = CPI-W + growth in real income.  
 C = Current = CPI-W  
 A = Austerity = 1

Incentive aid is calculated in the same fashion as Foundation Aid except in this case aid is distributed on the basis of the number of teachers and their respective degree level. The ratio of students to teachers is held constant under all three scenarios. The projections for teachers by degree are obtained by dividing projected public school enrollment by the base year ratio and then multiplying this number by the base year breakdown of teacher by degree. Base year Incentive Aid was distributed in the following fashion:

<u>Degree Level</u>	<u>Dollars Per Teacher</u>
Doctorate	350
Master's Degree	250
Bachelor's Degree	150



One final component of Incentive Aid is aid for summer school programs. The 1986 amount for this program was \$18.00 per student. The ratio of base year summer school enrollment to total public school enrollment is assumed to remain constant in the future. The State Incentive Aid formula with modifications (E,C, or A) for the different spending scenarios is shown below.

$$\text{Incentive Aid} = \text{Dr} * 350 \begin{matrix} \text{(E)} \\ \text{(C)} \\ \text{(A)} \end{matrix} + \text{MA} * 250 \begin{matrix} \text{(E)} \\ \text{(C)} \\ \text{(A)} \end{matrix} + 150 * \text{BA} \begin{matrix} \text{(E)} \\ \text{(C)} \\ \text{(A)} \end{matrix} + \text{SE} * 18 \begin{matrix} \text{(E)} \\ \text{(C)} \\ \text{(A)} \end{matrix}$$

Where: Dr = Number of teachers projected with Doctorates.  
 MA = Number of teachers projected with Master's Degrees.  
 BA = Number of teachers projected with Bachelor's Degrees.  
 SE = Enrollment in public school summer school.  
 E = Expansion = CPI-W + growth in real income.  
 C = Current = CPI-W  
 A = Austerity = 1

The University's client population is enrolled students. Enrollments are projected based on a historical ten-year trend of students as a proportion of Nebraska's population, with the last three years weighted more heavily to reflect the aging of the population in general. The same method is used to project enrollments for the State Colleges and the Technical Community Colleges. When the more detailed enrollments projections now being prepared in Nebraska are completed, they may be substituted here. University and State College employees includes faculty and administrative and support staff.

The Community Colleges are operated locally, and since State expenditures are Government Aid only, employees need not be projected here. Aid is projected with the standard formula.

The combined subdivision of Post-Secondary Commission and the Trustees of the State Colleges is assumed to have as client base the enrollments of University plus State Colleges plus Community Colleges. It has a total base year number of employees of 8. This is maintained in

all three scenarios. The client population of Other Education subdivision is the Nebraska population.

**Human Resources.** Appendix 2-B details an analysis of Nebraska's aging population. Shown are the age distributions for the years 1970, 1975, 1980, 1985, 2000, and 2020. A graphical presentation of the 1985 and 2020 age distributions is included. A striking feature of the post-war United States has been the baby boom of the late 1940s and 1950s and the subsequent falling off of the birth rate in the 1960s. Nebraska's population distributions reflect this national trend.

The age groups over 24 are predicted to grow explosively in coming decades and cause an unprecedented transformation in the age makeup of Nebraska. Health care for the very old will become an even more critical concern for Nebraska in the years 2020 and beyond. Expenditure pressures for education and public assistance should decline; but it is difficult to predict whether this decline will offset the expenditure pressures from an aging population.

The predicted population transformation is not relevant for the years forecasted in this study. However, given the large impact the change in population will have on future revenues and expenditures, State policy makers might wish to conduct an analysis of Nebraska's population distribution regularly.

The client populations for Public Aid and Medical Aid projections for the Social Services agency are forecasts of population aged 65 and older and population under 14 years of age. The 1985 population distribution as reported in Census Bureau's "Current Population Reports for 1985" is applied to the 1986 population total. The 1990 distribution of population as reported in the University of Nebraska Bureau of Business Research "Nebraska Population Projections 1985-2020" is applied to the 1990 population forecast. The compound growth rate 1986-1990 is then used to compute the intervening years.

The population distribution for the year 2000 as reported in the Bureau of Business Research population projections is applied to the year 2000 population projection. To forecast

1991 and 1992, the distribution for 1995 is slightly modified. The BBR reports a 1995 distribution of .243 for 0-14, .631 for 15-64, and .126 for 65 and older. The distribution for ages 0-14 did not change from 1990 to 1995, and forecasts for 1991 and 1992 reflect this. The percentage of 15-64 increased slightly, and for 65 and older the percentage decreased slightly. Again, the distribution forecasts for 1991 and 1992 conform to this projection.

Based on analyses of Nebraska AFDC and Medicaid payments, 75 percent of Public Assistance monies are estimated to flow to the population under 14 years of age, and 45 percent of Medical Assistance expenditures are estimated paid to the population 65 and older. Holding this percentage constant, the formula for projecting these aid amounts are:

$$\begin{aligned} & ((.75 \times \text{base year expenditure}) / \text{base year 0-14} \times \text{projected 0-14}) / .75. \\ & ((.45 \times \text{base year expenditure}) / \text{base year 65+} \times \text{projected 65+}) / .45. \end{aligned}$$

The percentages cancel and the aid projections are therefore driven by growth in that population grouping which is dominantly serviced by the aid expenditure.

Medical Aid and Health & Medical Aid are formulated using CPI-Medical for inflation. Since medical costs increase at a greater rate than the cost of other items, CPI-Medical is anticipated to be a better measure of the inflation rate for these programs.

**Transportation.** Personal services are computed by multiplying wages per employee (base year) times the number of projected employees which in turn is a function of motor vehicle registrations. Vehicle registrations are chosen to drive employee projections because a trend analysis revealed that vehicle registrations grow slower than population.

Since capital outlay in the form of road construction comprises a large percentage of expenditures, it is forecasted as a function of projected vehicle miles. Again, historical analysis shows a slower growth rate for vehicle miles as compared to that of population.

## Revenue Technical Specifications

### Spreadsheet Format

Revenues are divided into four major categories: income taxes, sales taxes, miscellaneous revenues, and federal aid. Each revenue category is forecasted using baseline and low growth assumptions. The revenue taxonomy is as follows:

#### Revenue Categories

##### Income Taxes

##### Sales Taxes

- Retail

- Wholesale

- Food

- Other

##### Miscellaneous

- Corporate Income

- Motor Vehicle Taxes

- Other Taxes

- Other Revenues

##### Federal Aid (Constant and Cutback)

- Administration of Justice

- Community & Regional Development

- Education, Training & Employment

- Energy, Natural Resources, and Agriculture

- Health, Income Security, Veterans

- National Defense

- Transportation

- Aid from Local Sources

### Data Sources

The base year amounts used in the revenue spreadsheets are the 1986 revenues reported in Nebraska's 1986 Comprehensive Annual Financial Report with the following exception:

To avoid any biases in revenue and expenditure projection comparisons which would unavoidably occur if the 1986 surplus were forecasted, 1986 income tax revenues are decreased by the amount of this surplus (\$24,863,820). Forecasting a surplus would overestimate the tax burden ratio and, in turn, revenue estimates. Because a surplus would grow by the same economic assumptions driving all other forecasts, it is desirable to use base year revenue and expenditure totals which represent a balanced budget.

Cash basis accounting complicates any efforts to identify revenues actually earned in 1986, effectively barring attempts to estimate which revenue sources contributed to the surplus. However, a large percentage of the revenue increase experienced in 1986 can be attributed to the 1985 income tax rate increase. According to the "1986 Nebraska Comprehensive Annual Financial Report", the timing of the increase resulted in a large percentage of 1985 revenues flowing into the 1986 Treasury. Based upon this information, the income taxes are reduced by the full amount of the surplus.

Data used in the revenues projections are presented in Table 2-6.

### **Income Tax Projections**

Personal income tax revenues are predicted using a regression model, detailed in Appendix 2-C. Real growth in Nebraska gross state product, Nebraska unemployment and employment rates are the independent variables used in the equation.

Nebraska gross state product is an appropriate indicator of Nebraska's economic growth and decline, and is positively correlated with income. In addition, the unemployment rate is a significant indicator of income changes when the rate is lagged one year. This delayed effect is due to the existence of government social programs and individual savings which allow income levels to be maintained initially upon unemployment.

The use of the employment to population ratio at first seems redundant but unemployment increases can occur simultaneously with employment increases in periods of rising population. Although employment estimates furnished by the BEA are available to the user who wishes to maintain data source uniformity in the data set, BBR estimates are chosen for this study because it is the authors' belief that these estimates more accurately reflect Nebraska's specific economic and demographic trends.

A time trend variable is included in the regression model to explain growth in income which is not captured by the other variables.

The regression equation predicts personal income base under both baseline and low growth assumptions. The predicted calendar year income base is then lagged one calendar year and revenues are then estimated. In effect then, increases in the income base are assumed to lag

TABLE 2-6

## NEBRASKA DATA SOURCES: REVENUE PROJECTIONS

**Nebraska Gross State Product:** Bureau of Business Research, University of NE Lincoln, "Economic Projections 1984-1995"

**Population:** Bureau of Economic Analysis, 1985 BEA Regional Projections. Forecasted populations are provided for the years 1990, 1995, and 2000. The intervening years are determined by calculating an annual compound growth rate.

**Unemployment:** 70 percent of projected national unemployment averages provided by the Congressional Budget Office (CBO), "The Economic and Budget Outlook: Fiscal Years 1988-1992".<sup>a</sup>

**Employment:** Bureau of Economic Analysis, "BEA 1985 Regional Projections" and Business of Bureau Research, University of Nebraska Lincoln, "Economic Projections 1984-1995". As with population, compound annual growth rates are estimated for intervening years.<sup>b</sup>

**GNP Implicit Price Deflators:** CBO, "The Economic and Budget Outlook: Fiscal Years 1988-1992".

**Disposable Income:** 86 percent of projected nominal income base.<sup>c</sup>

**Interest Rates:** CBO, "The Economic and Budget Outlook: Fiscal Years 1988-1992", Three-Month Treasury Bill Rate.

**Nominal GNP:** Congressional Budget Office, "The Economic and Budget Outlook: Fiscal Years 1988-1992".

**Total Federal Aid:** "The Budget of the U.S. Government, Fiscal Year 1988, Special Analysis H."

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<sup>a</sup>Since 1950, Nebraska's unemployment rate has fluctuated between 48 percent and 70 percent of the national rate. The most conservative estimate, and the one chosen for this study, is 70 percent.

<sup>b</sup>No estimate is available for BEA low growth employment so 1987-1992 BEA low growth employment projections are calculated by multiplying low growth BBR compounded annual growth rate (cagr) by the 1986 ratio of BEA cagr to BBR cagr: Baseline BEA cagr.  
Low growth BEA cagr=Baseline BBR cagr x Low growth BBR cagr.

<sup>c</sup>Historical rate of disposable income to total base is .86.

6 months behind the resulting increases in income revenues. The ratio of base year 1986 total personal income tax revenues to the 1985 income tax base is applied to the forecasted lagged income bases. This ratio, the income tax revenue burden, or effective tax rate, is equal to 1.5213. (\$324,385,425/1985 nominal base \$21,323,123,000.)

The tax burden measure is a crucial element in evaluating the revenue projections. Holding the broadly defined tax burden constant does not necessarily mean that actual tax rates are constant--the State must determine which tax rates should be applied to the base to insure that effective tax rates remain constant. These discretionary decisions are not addressed by the spreadsheet.

### **Sales Tax Projections**

Sales tax revenues constitute approximately 17 percent of total revenues and 22 percent of Nebraska State own source revenues. The application of a regression model to the gross sales base discloses several worrisome trends in this significant revenue base.

First, real gross sales are decreasing during periods in which real disposable income is growing. Secondly, contrary to expectations, historical percentage increases in disposable income are not, on average, positively correlated with percentage increases in gross sales. Several prior years show an increase in real terms in disposable income and a percentage decline in real gross sales. Income is not the sole explanatory variable for gross sales fluctuations, but the behavior of income and sales is often expected to correlate more closely than what is observed. This unique relationship greatly influences the structure and conclusions of the regression models.

The format of the spreadsheet is similar to that of the income spreadsheet. Regression equations for retail, wholesale, food, and all other gross sales predict the calendar year sales base. Food sales are presented separately from the retail category because of this category's tax-free status. The detailed statistics of each equation can be found in Appendix 2-D.

A time trend variable, real disposable income, and the unemployment rate lagged one year are the independent variables for real retail, wholesale, and food gross sales. The independent variables for the real other gross sales regression equation are a time trend variable, real disposable income, and the interest rate. Because of the statistical significance of interest rates, this measure of general economic condition is used in place of the unemployment rate. The inclusion of financial institutions in the other sales base contributes to the statistical significance of interest rates.

Disposable income is represented in various matrices in all regression models even when income is statistically insignificant. Theoretically, disposable income should be a powerful predictor of sales and it is conceivable that further disaggregations of sales categories would improve its statistical significance.

Total predicted calendar year sales are averaged to estimate fiscal year gross sales. Unlike income, an immediate revenue response to increases/decreases in the sales base is assumed. Total predicted real base is then inflated and multiplied by a tax burden measure to estimate total revenues. The ratio of 1986 revenues to  $(1986+1985)/2$  base is the sales tax burden, and is held constant at 1.0679. As with the income tax burden measure, increasing the tax burden measure is one method to close revenue and expenditure gaps.

According to the "1984 Nebraska Department of Revenues Annual Report", other sales constitutes 51 percent of the sales tax base and generate approximately 41 percent of sales tax revenue. Retail sales is the other significant category generating 48 percent of revenues. In real terms, the predicted bases of the two sales categories which together comprise approximately 90 percent of sales tax revenues, do not perform well in either economic condition. Under baseline economic assumptions, nominal retail sales increase 28 percent in the period of 1986 to 1992 and nominal other sales *decrease* 10 percent. Under low growth assumptions these sales bases fare worse. Nominal retail sales increase only 4 percent and nominal other sales *decrease* 28 percent.



It is apparent that sales tax revenues are highly sensitive to the economic and demographic variables applied.

### **Miscellaneous Revenue Projections**

To calculate predictions of miscellaneous revenues for the period 1987-92 and 2000, miscellaneous revenues are separated into four revenue groups: corporate income, motor vehicles and special fuels, other tax revenues, and other revenues.

Predictions for these revenues are made under both baseline and low growth assumptions using the 1977-86 real compound growth rate for each category, and the GNP implicit price deflator. Appendix 2-E contains historical trend analyses for these revenues and estimates of other growth rates which the State may choose to incorporate in the spreadsheet.

### **Federal Aid Projections**

The major assumption in predicting this revenue source is that the level of State spending will not decrease with corresponding reductions in federal aid. That is, for government expenditures dependent upon/subsidized by federal aid financing, the State is not given an option to reduce or discontinue spending on that program should federal aid monies dissipate. Therefore, federal aid dependency is never a consideration in forecasting expenditures.

There are many factors that can be included when projecting federal revenues for the State of Nebraska. We recognize the fact that in the long run, the flow of dollars to states will largely be dictated by policy decisions made at the federal level. Furthermore, we assert that federal intergovernmental aid is tied to national economic growth, represented in our model by nominal Gross National Product. As the nominal GNP grows (shrinks) in a given year, federal expenditures on intergovernmental aid will grow (shrink), and as a result, aid to the states will grow (shrink).

Our model ties federal aid to particular agencies in the Nebraska government to seven functional categories designated by the Congressional Budget Office. The major purpose of this model is not to generate aid forecasts for those specific agencies. The model does identify how

much aid Nebraska will receive under each of the seven functional categories, given certain assumptions regarding economic growth. As structured, the model gives each agency a general idea of how they fit in as part of a broader category.

The 1986 federal fund agency expenditures, supplied by the State of Nebraska Budget Office, are assumed to correspond to the 1986 federal revenue each agency received. This estimation of base year federal revenues applies to all aid categories with the exception of transportation aid.

According to the 1986 Annual Budgeting Report, the federal portion of intergovernmental revenue was \$558,820,917. Expenditures from the federal fund only equaled \$435,069,699, leaving \$123,751,218 in revenues unaccounted for using the above method of allocation. The difference in the figures is assumed to be gas tax revenues which is not listed as a federal fund expenditure. According to the Bureau of the Census, "State Government Finances in 1985", transportation aid accounted for 27.2 percent of total federal aid. According to the Nebraska Budget Office Report, transportation expenditures were only .35 percent of total aid. Therefore, we assumed that the unallocated \$123 million was federal transportation aid, which increased transportation's share of aid to approximately 22.5 percent. Although the discrepancy is not completely reconciled, the validity of the base year numbers is increased dramatically.

The largest agencies have been selected and divided into the seven categories detailed in the "1988 Budget of the U.S. Government, Special Analysis H" projections. In the spreadsheet, federal grants-in-aid by functional category do not equal total grants-in-aid--those federal categories not applicable to Nebraska are not included in the spreadsheet. The agencies are further divided into State functional categories (e.g., General Government, Public Safety, Human Resources, etc...).

The spreadsheet examples given should not be considered a strict forecast of expected federal aid trends, rather the spreadsheets are to be used to give an idea of how particular

economic trends can affect federal aid to Nebraska. We have designed two models to estimate federal aid to Nebraska: a Constant model and a Cutback model.

The Constant model assumes a constant ratio of federal aid to GNP. In 1986, the ratio of total federal aid to nominal GNP is 2.66 percent and is unchanged for the forecasted years. The amount of federal aid allocated to the State of Nebraska remains a constant percentage of total aid and the ratio of each functional category to total federal aid is held constant. The Constant Baseline and Constant Low Growth differ only in the GNP figures used; the federal aid to GNP ratio applied are the same in both cases.

The Cutback model is based upon a decreasing ratio of total federal grants-in-aid to all states as a percentage of GNP. According to Special Analysis H, total federal intergovernmental aid will gradually decline as a portion of GNP, from approximately 2.7 percent in 1986 to approximately 1.8 percent in 1992. These ratios are reflected in the spreadsheet. The only difference between Cutback Baseline and Cutbacks Low Growth are the GNP projections used; the federal aid to GNP ratios are the same.

In both scenarios, the ratio of aid to Nebraska by functional category is held as a constant percentage of federal grants-in-aid by category. For example, the total for Administration of Justice aid to Nebraska is approximately 1.2 percent of all Administration of Justice aid appropriated by the federal government in 1986. This percentage is applied to projections. In addition, the state agency's portion of the aid category is held constant. For example, aid received by the Equal Opportunity Commission in Nebraska is approximately 0.23 percent of total Administration of Justice aid appropriated by the federal government. This ratio is applied to projections.

The projections of the local portion of intergovernmental aid are calculated by keeping constant the 1986 ratio of local aid to total intergovernmental aid. The local aid portion has historically experienced large fluctuations. Yet, since the local portion of intergovernmental aid

is very small, fluctuations in this revenue have relatively insignificant impacts upon total aid amounts. Therefore, holding the distribution ratio constant provides a realistic estimate.

The constant scenario does not yield dramatic results and the cutback scenario is not particularly reassuring. Under constant aid forecasts, each category experiences the same real growth in the period 1986-1992: 18.17 percent baseline and 12.08 percent low growth.

In contrast, under the cutback scenario, each category experiences unique nominal and real growths. Programs that come under the heading of Health, Income Security and Veterans, the largest category in the State, will experience a 15.36 percent nominal increase under baseline growth and only a 1.46 percent nominal increase under low growth. Although this category experiences the smallest real decline (9 percent baseline and 13 percent low growth), it is the largest category so many vital departments will be affected.

Conversely, Community and Regional Development is one of the smaller categories of Nebraska aid and this category declines over 50 percent in real terms. This decline does not greatly impact on total aid figures, but the effect will be felt quite heavily at the agency level.

Other results of particular interest are found in the Transportation category and the Energy, Natural Resources and Agriculture category. Declines in transportation aid exceed 25 percent. Future highway and road repairs will not enjoy today's federal subsidy, and the State may be forced to delay some necessary maintenance. The Energy, Natural Resources and Agriculture category will experience a 50 percent decline. The effect on total federal aid is small but the future of Nebraska farms could be greatly compromised.

### **Operating Instructions**

The spreadsheets, forecasts, and analysis encompass only a few of the myriad of possible scenarios which could be predicted using this fiscal planning tool. It is designed to allow for two primary types of changes: economic and demographic "driver" variables such as population, employment, CPI, GNP, Gross State Product and Real Income; and the service level definitions,

such as employees per client, or dollars of capital outlay per client.

The flexibility of this program invites the user to substitute updated projections or more detailed or accurate information as it becomes available. In addition, the user can substitute the new information and carry the broad service quality scenarios further out in time. For example, when updated economic projections or actual 1987 revenues and expenditures become available, the user may enter this new information, designate 1987 as the base year, and the spreadsheet will recalculate all projections.

The forecasting model is contained on four floppy disks. Each expenditure scenario is contained on a separate disk and can be referenced by the following file names:

CURBASE.WK1.....Current Baseline  
 CURLOW.WK1.....Current Low Growth  
 EXPBASE.WK1.....Expansion Baseline  
 EXPLOW.WK1.....Expansion Low Growth  
 AUSTBASE.WK1.....Austerity Baseline  
 AUSTLOW.WK1.....Austerity Low Growth

The revenue spreadsheet can be accessed on the fourth disk under the filename REVENUE.WK1.

The spreadsheet is entirely interactive which is a great asset and a great danger. The user must always remain aware that changing any number or any formula will cause automatic update of all cells accessing the revised cell. For this reason, the user must develop a comprehensive, global understanding of the spreadsheets.

Before proceeding to the detailed descriptions of spreadsheet formats, the following are some Lotus commands particularly relevant to all spreadsheets.

Two Lotus formulas used profusely in the spreadsheets are @rate and @sum. The former returns a compound annual growth rate, defined in the Expenditure Technical Section, and the latter returns the sum of designated cells.

Two pfkeys used often in the spreadsheets are pfkey 2 and pfkey 4. Pfkey 2 allows the

user to edit a cell. Pfkkey 4 holds portions of a formula constant when that formula is copied. Therefore, in the majority of cells the user will see something similar to the following:

$$(c\$25\$/c\$24\$)*d24$$

This formula, when copied across the row, will hold the ratio of cell c25 to cell c24 constant, but allow for d24 to change to e24, f24, etc. In the case of personal services then, the ratio of base year personal services to number of base year employees is held constant and then multiplied by each year's projected number of employees.

The user should become familiar with the process of "/Range, name". In this way, assumption tables which are universal to the expenditure spreadsheets need only be changed once and then "/File, combine, copy, range" can be used to update all other spreadsheets.

### **Changing Assumptions: Expenditures**

The economic and demographic assumptions located in the tables at the top of the spreadsheets are applicable to the state finances as a whole. Assumptions applicable to a particular expenditure category, such as a program's client population, are placed in tables under the appropriate expenditure category.

When assumptions of real income are modified, the accumulated growth is automatically recalculated. This in turn recalculates all projections driven by income growth. Similarly, changing the CPI-W percentage changes will update not only the CPI-W accumulated growth, but also the CPI-Medical percentage change and its accumulated growth. When these updates occur, all projections which access these assumptions will be revised. Updating population, the final general assumption, will revise the expenditures of those programs whose client base is population, and will revise the population age distributions which are used in projecting social services government aid.

Individual category assumption tables are also interactive. For instance, foundation education aid and incentive education aid are tied to some measure of economic growth in the

expansion and current service scenarios. The projections of these aid amounts are therefore formula driven and will alter if CPI-W and/or income is modified.

When estimates of the client population are changed (e.g., population, enrollments, 65 and older), the number of employees will change and expenditure projections will update accordingly. The only exception occurs in the case of austerity service projections where the employment levels are held constant. To change the number of employees under this scenario, each cell must be accessed directly and the numbers changed manually.

To preserve the interactive update of the spreadsheets, the user must become familiar with which cells are formula driven, and which are numerical entries. Perhaps the best way to achieve this familiarity is to study the individual cells in each spreadsheet before attempting to effect changes. When the user is familiar with the components of each cell, the following suggestions for spreadsheet modifications could be made.

#### **Using the Spreadsheets: Expenditures**

The base year should be updated to 1987 when current information is available. To accomplish this, the user enters in the new base year amounts, names this range, and uses the Lotus /File, combine command to incorporate these changes into the other spreadsheets.

The State might desire to replace CPI-W percentage changes with the State and Local Purchase Deflator percentage changes estimated in Appendix 2-A. Or, the State might replace the population age distribution estimates with estimates of specific client projections. Finally, homestead exemptions could be forecasted separately and tied to some estimate of client population. According to the "Layman's Guide to State and Local Revenue and Taxation", approximately 4/5's of homestead exemption expenditures are on behalf of the elderly. With estimates of future tax rates and reimbursement rates, the State might develop a separate projection of this expenditure.

A realistic assumption might be that two of the next five years will be a recession. The State could then change the economic assumptions to include a recession scenario. To

accomplish this, a real decline in GNP would be forecasted, no real increase in state personal income would be allowed, the inflation rate could be held at the level of the 1981-82 recession, and the number of welfare recipients could be allowed to increase.

### **Changing Assumptions: Revenues**

The four revenue categories, although combined into one spreadsheet, are projected using very different methods. Although the forecast methods vary by revenue category, the spreadsheet is interactive in many respects. For example, a summary table presented at the end of the revenue spreadsheet will automatically update when modifications occur.

The employment to population ratio used in the income spreadsheets is updated automatically when either population or employment projections are modified. Similarly, the deflator index will change when revised percentage changes of GNP Implicit Price Deflators replace the present assumptions. Finally, the projections will be modified if any assumption is changed or if the regression coefficients are revised.

Since the predicted income bases are used in the sales tax regressions, the sales tax assumptions table will be updated if any changes in the income spreadsheet occur. Additionally, disposable income predictions are tied to income predictions and will also revise. The deflator index will change when revised percentage changes of GNP Implicit Price Deflators replace the present assumptions. Similar to the income spreadsheet, the projections will be modified if any assumption is changed or if the regression coefficients are revised.

The GNP Implicit Price Deflators used in the miscellaneous revenues assumptions table is updated as explained above. The growth rate assumptions are not interactive--that is, the rates are not accumulated--so these numerical entries must be update manually.

The Federal Aid spreadsheet is almost entirely interactive. Changing nominal GNP estimates will update the forecasts of grants-in-aid, the grants-in-aid by category, and all revenue forecasts. Changing the percentage change in GNP Implicit Price Deflators will update the deflator index and modify revenue forecasts. Again, the asset of interaction can be a detriment if



the user is unfamiliar with the interrelations of the spreadsheet. If any cell which is formula driven is replaced unintentionally with a numerical entry, the interaction of the spreadsheet is compromised.

### **Using the Spreadsheet: Revenues**

The regression equations can be easily modified. In the case of other sales tax, whose regression proved troublesome, the State might choose to hold real other sales base constant rather than allowing for its rapid decrease. Additionally, Appendix 2-E details other growth rates which might be used in forecasting miscellaneous revenues. Finally, as with expenditures, the State could replace CPI-W with estimates of the State and Local Purchases Deflator, or the State could use the spreadsheet to evaluate a recessionary period's impact on state revenues.

APPENDIX 2-A

FILE: DEFLATE APPND A1 S.U. COMPUTING AND NETWORK SERVICES VM/SP

APPENDIX 2-A  
Price Deflators

OBS	STATE & LOCAL DEFLATE	GNP DEFLATE	PERCENT CHANGE S & L	PERCENT CHANGE GNP	CPI-W MEDICAL	CPI-W	MEDICAL INDEX PERCENT OF CPI-W	PERCENT CHANGE MED/ CPI-W
1	39.2	42.0	.	.	120.6	116.3	1.03697	.
2	41.9	44.4	6.8878	5.71429	128.4	121.3	1.05853	1.50438
3	44.4	46.5	5.9666	4.72973	132.5	125.3	1.05746	0.96832
4	47.8	49.5	7.6577	6.45161	137.7	133.1	1.03456	0.63044
5	52.8	54.0	10.4603	9.09091	150.5	147.7	1.01896	0.84742
6	58.1	59.3	10.0379	9.81481	168.6	161.2	1.04591	1.31580
7	62.0	63.1	6.7126	6.40809	184.7	170.5	1.08328	1.65520
8	66.1	67.3	6.6129	6.65610	202.4	181.5	1.11515	1.48538
9	71.1	72.2	7.5643	7.28083	219.4	195.3	1.12340	1.10468
10	77.7	78.6	9.2827	8.86427	240.1	217.7	1.10289	0.82260
11	86.2	85.7	10.9395	9.03308	287.2	247.0	1.16275	1.45754
12	93.4	94.0	8.3527	9.68495	295.1	272.3	1.08373	0.26855
13	100.0	100.0	7.0664	6.38298	326.9	288.6	1.13271	1.80019
14	104.7	103.9	4.7000	3.90000	355.1	297.4	1.19401	2.82910
15	109.9	107.7	4.9666	3.65736	382.7	307.6	1.24415	2.26621
16	115.4	111.2	5.0045	3.24977	401.2	318.5	1.25965	1.36418
17	119.3	114.1	3.3795	2.60791	431.0	323.4	1.33271	4.82802

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SOURCES: Bureau of Economic Analysis, "National Income and Product Accounts" and "Survey of Current Business", Table 7.4.  
Bureau of Labor Statistics, "Handbook of Labor Statistics", December 1980, "Monthly Labor Review", April 1985, and "CPI Detailed Report", January 1987.

DEP VARIABLE: PERCENT CHANGE  
IN STATE & LOCAL  
DEFLATOR

## ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	1	63.61482776	63.61482776	112.397	0.0001
ERROR	14	7.92374324	0.56598166		
C TOTAL	15	71.53857100			
ROOT MSE		0.7523175	R-SQUARE	0.8892	
DEP MEAN		7.224489	ADJ R-SQ	0.8813	
C.V.		10.41344			

## PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB >  T
INTERCEP	1	1.62027661	0.56107393	2.888	0.0119
PERGNP	1	0.86612828	0.08169665	10.602	0.0001

PEARSON CORRELATION COEFFICIENTS  
/ PROB > |R| UNDER H0:RHO=0 / NUMBER OF OBSERVATIONS

	SLG	GNP	PERSLG	PERGNP	TIME
SLG	1.00000 0.0000 17	0.99922 0.0001 17	-0.48658 0.0560 16	-0.45003 0.0803 16	0.99388 0.0001 17
GNP	0.99922 0.0001 17	1.00000 0.0000 17	-0.47395 0.0637 16	-0.43098 0.0956 16	0.99319 0.0001 17
PERSLG	-0.48658 0.0560 16	-0.47395 0.0637 16	1.00000 0.0000 16	0.94299 0.0001 16	-0.46319 0.0708 16
PERGNP	-0.45003 0.0803 16	-0.43098 0.0956 16	0.94299 0.0001 16	1.00000 0.0000 16	-0.41877 0.1064 16
TIME	0.99388 0.0001 17	0.99319 0.0001 17	-0.46319 0.0708 16	-0.41877 0.1064 16	1.00000 0.0000 17

FORECASTS OF PERCENT CHANGE IN  
STATE & LOCAL PURCHASES  
DEFLATOR

Calendar year:

Fiscal year:

1985	5.00	1985	
1986	3.40	1986	4.20
1987	4.39	1987	3.90
1988	4.91	1988	4.65
1989	5.17	1989	5.04
1990	5.26	1990	5.22
1991	5.26	1991	5.26
1992	5.26	1992	5.26
2000	4.82	2000	4.91

APPENDIX B

## APPENDIX B

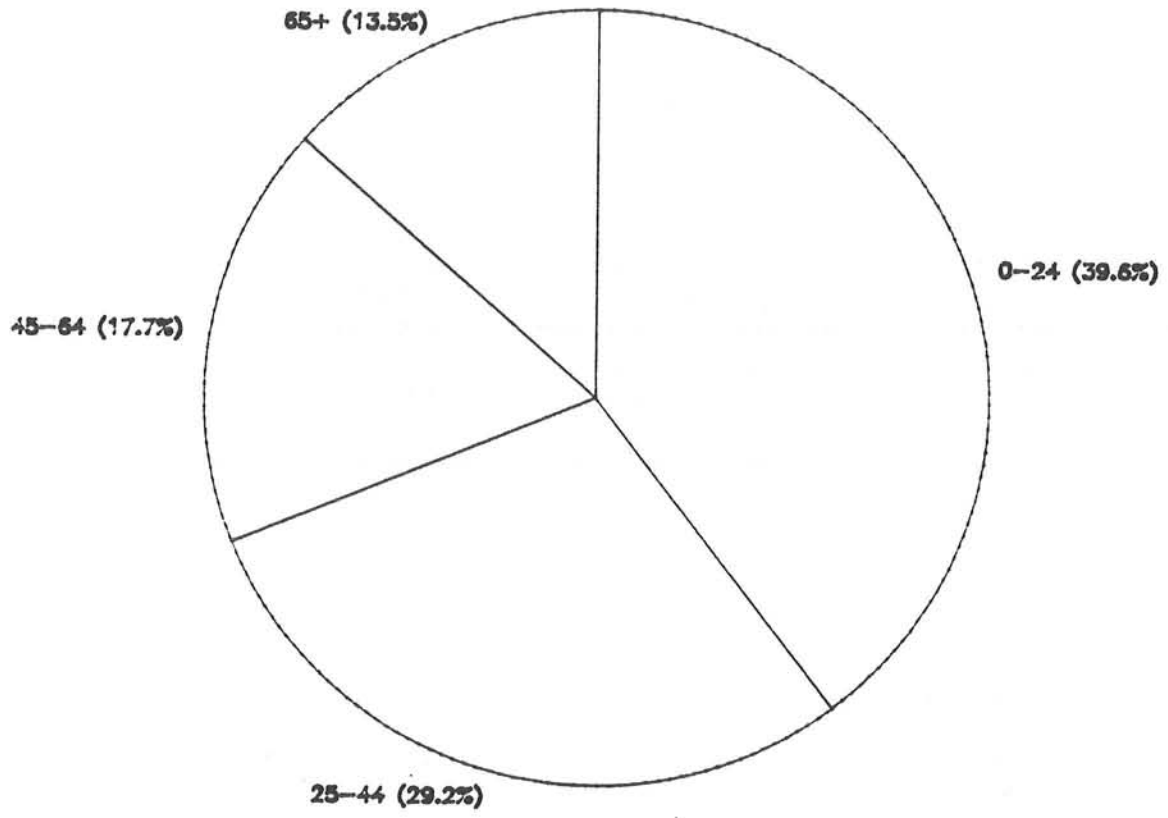
## Distribution of Nebraska's Population

year	0-24	25-44	45-64	65+
1970	45.79	21.95	19.93	12.32
1975	44.26	23.78	19.38	12.57
1980	41.85	26.31	18.73	13.12
1985	39.60	29.20	17.68	13.51
2000	37.60	28.85	21.30	12.25
2020	34.06	27.13	24.04	14.77

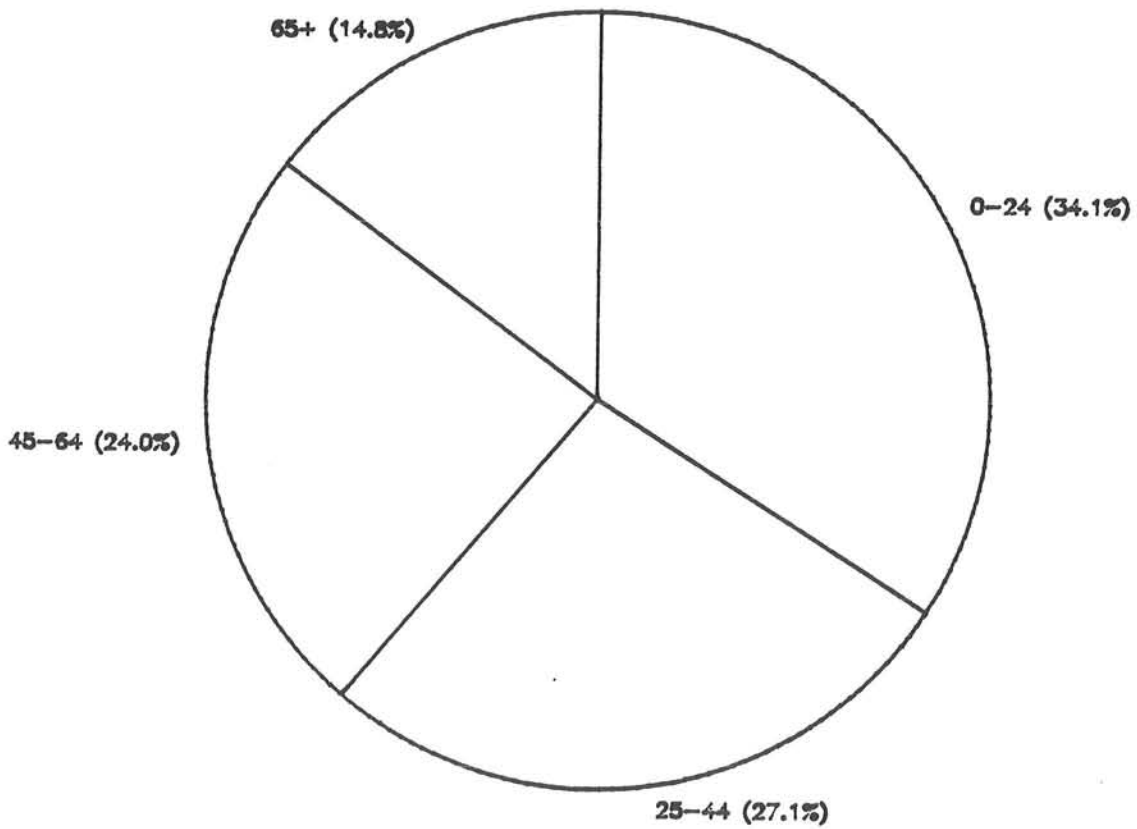
-----  
 Source: 1970-1985: Current Population Reports,  
 Bureau of the Census, "State Population  
 and Household Estimates to 1985, with  
 Age and Components of Change".

2000-2020: Bureau of Business Research,  
 University of Nebraska, Lincoln,  
 "Nebraska Population Projections 1985-2020".

Distribution of Population: 1985



Distribution of Population: 2020





APPENDIX C

FILE: INCOME APPEND A S.U. COMPUTING AND NETWORK SERVICES VM/SP

## APPENDIX C

OBS	INCOME	GSP	DEFLATE	REALINC	REALGSP
1	5603587	6719.8	42.0	13341874	15999.5
2	6133471	7416.4	44.4	13814124	16703.6
3	6798943	8168.9	46.5	14621383	17567.5
4	8006847	9660.1	49.5	16175448	19515.4
5	8300401	10092.4	54.0	15371113	18689.6
6	9345003	11468.0	59.3	15758858	19339.0
7	9847831	12229.2	63.1	15606705	19380.7
8	10786439	13372.7	67.3	16027398	19870.3
9	12372901	15047.2	72.2	17136982	20841.0
10	13784959	17010.4	78.6	17538116	21641.7
11	14519986	17709.7	85.7	16942807	20664.8
12	16787320	20094.2	94.0	17858851	21376.8
13	17430037	20386.0	100.0	17430037	20386.0
14	17991512	21667.5	103.9	17316181	20854.2
15	19916025	23560.3	107.7	18492131	21875.9
16	21323173	23914.3	111.2	19175515	21505.7
17	22012000	25559.3	114.1	19291849	22400.8

OBS	PERGSP	UNEMPLOY	UNEMPLAG	EMPLOY	POP	TIME
1	0.1716	3.1	2.1	41.2601	1484	1
2	4.4006	3.6	3.1	41.1472	1508	2
3	5.1721	3.4	3.6	42.1335	1528	3
4	11.0877	3.3	3.4	43.4573	1533	4
5	-4.2312	4.3	3.3	44.8016	1537	5
6	3.4743	6.1	4.3	42.9534	1544	6
7	0.2157	5.0	6.1	43.8724	1552	7
8	2.5263	3.7	5.0	46.4309	1555	8
9	4.8853	2.9	3.7	47.8594	1565	9
10	3.8421	3.2	2.9	47.4587	1574	10
11	-4.5143	4.1	3.2	46.6242	1570	11
12	3.4457	4.1	4.1	46.9880	1577	12
13	-4.6350	6.1	4.1	46.5952	1586	13
14	2.2966	5.7	6.1	46.5247	1597	14
15	4.8991	4.4	5.7	47.4143	1605	15
16	-1.6922	5.5	4.4	47.8829	1606	16
17	4.1623	5.0	5.5	48.8736	1598	17

SOURCES: Population-Nebraska Comprehensive Annual Financial Report, 1986.  
 Unemployment-Nebraska CAFR 1986; Bureau of Labor Statistics, "Employment and Earnings", May 1986.  
 Employment-Nebraska Department of Economic Development, "Nebraska Statistical Handbook 1984-1985"; Bureau of Labor Statistics, "Employment and Earnings", May 1986.  
 GNP Implicit Price Deflators-Bureau of Economic Analysis, "National Income and Product Accounts"; BEA, "Survey of Current Business", July 1987.  
 Nominal Personal Income-BEA Regional Economic Measurement Division, unpublished computer printout, August 1986.  
 Nominal Gross State Product-Nebraska Department of Economic Development, "Nebraska Statistical Handbook 1984-1985"; Bureau of Business Research, "Economic Projections 1984-

1995".

## METHODOLOGY APPENDIX

NOTE: Calculations for 1983-1986 nominal gross state product are computed by inflating reported real GSP using deflators lagged by one year. "Economic Projections" reports real GSP in 1972 dollars and the choice of deflators is unknown. To replicate 1982 nominal GSP as reported in "Handbook", it was necessary to inflate "Projections" 1982 real GSP by the 1981 deflator. The specific calculation method follows:

Implicit Price Deflators 1972=100		Implicit Price Deflators 1982=100	
1981	195.6	1984	107.7
1982	207.38	1985	111.2
1983	215.34	1986	114.1

1983 nominal GSP = 1983 real \* 207.38 / 100.

1984 nominal GSP = 1984 projected real \* 215.34 / 100.

1985 nominal GSP = 1985 " " \* 107.7 (1982 dollars) \* 195.6 / 10000.

1986 nominal GSP = 1986 " " \* 111.2 \* 195.6 / 10000.

DEP VARIABLE: REAL  
INCOME

## ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	4	4.57559E+13	1.14390E+13	77.348	0.0001
ERROR	12	1.77468E+12	147890352864		
C TOTAL	16	4.75305E+13			
ROOT MSE		384565.1	R-SQUARE	0.9627	
DEP MEAN		16582316	ADJ R-SQ	0.9502	
C.V.		2.319128			

## PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB >  T
INTERCEP	1	6484353.99	4095062.08	1.583	0.1393
PERGSP	1	75084.04396	24683.94410	3.042	0.0102
TIME	1	282308.93	54760.04874	5.155	0.0002
EMPLOY	1	178465.52	95949.37225	1.860	0.0876
UNEMPLAG	1	-170237.71	112404.42	-1.515	0.1558

DURBIN-WATSON D 1.278  
(FOR NUMBER OF OBS.) 17  
1ST ORDER AUTOCORRELATION 0.303

PEARSON CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0 / N = 17

	REALINC	PERGSP	UNEMPLAG	EMPLOY	TIME
REALINC	1.00000 0.0000	-0.03146 0.9046	0.50083 0.0406	0.92539 0.0001	0.95346 0.0001
PERGSP	-0.03146 0.9046	1.00000 0.0000	0.06502 0.8042	-0.15539 0.5515	-0.19819 0.4457
UNEMPLAG	0.50083 0.0406	0.06502 0.8042	1.00000 0.0000	0.42485 0.0891	0.59994 0.0109
EMPLOY	0.92539 0.0001	-0.15539 0.5515	0.42485 0.0891	1.00000 0.0000	0.90148 0.0001
TIME	0.95346 0.0001	-0.19819 0.4457	0.59994 0.0109	0.90148 0.0001	1.00000 0.0000

APPENDIX D

FILE: RETAIL APPND A S.U. COMPUTING AND NETWORK SERVICES VM/SP

## APPENDIX D

OBS	RETAIL	FOOD	WHOLSALE	OTHER	DISPOSE	DEFLAT	UNEMPLOY	INT
1	4974146	894120	2405297	8413303	8153283	59.3	6.1	5.84
2	5624079	1107746	2524733	10560844	8541888	63.1	5.0	4.99
3	5898226	981460	2945106	9130633	9201285	67.3	3.7	5.27
4	7699311	1356642	3308036	10514173	10633922	72.2	2.9	7.22
5	7584543	1329543	4225932	16608123	11723663	78.6	3.2	10.04
6	7903722	1347174	4050225	17637022	12302568	85.7	4.1	11.51
7	8793632	1608898	4108144	20789869	14356941	94.0	4.1	14.03
8	7870174	1464165	3963082	13331784	14555779	100.0	6.1	10.69
9	7901695	1419511	4067766	18159603	15445180	103.9	5.7	8.63
10	8561242	1422468	4377749	15289864	17392167	107.7	4.4	9.58
11	8260423	1447026	4848357	15146889	18643408	111.2	5.5	7.48
12	8125683	1436211	4506047	14587591	18930320	114.1	5.0	6.00

OBS	TIME	TOTAL	REALRET	REALFOOD	REALWHOL	REALOTH	REALDIS	UNEMPLAG
1	2	16686866	8388105	1507791	4056150	14187695	13749212	4.3
2	3	19817402	8912962	1755540	4001162	16736678	13537065	6.1
3	4	18955425	8764080	1458336	4376086	13567062	13672043	5.0
4	5	22878162	10663866	1879006	4581767	14562566	14728424	3.7
5	6	29748141	9649546	1691531	5376504	21129927	14915602	2.9
6	7	30938143	9222546	1571965	4726050	20579956	14355389	3.2
7	8	35300543	9354928	1711594	4370366	22116882	15273341	4.1
8	9	26629205	7870174	1464165	3963082	13331784	14555779	4.1
9	10	31548575	7605096	1366228	3915078	17477962	14865428	6.1
10	11	29651323	7949157	1320769	4064762	14196717	16148716	5.7
11	12	29702695	7428438	1301282	4360033	13621303	16765655	4.4
12	13	28655532	7121545	1258730	3949209	12784918	16590990	5.5

SOURCES: Calendar Year Gross Sales-Mike Gomez, Nebraska Department of Revenue, Research Division.  
Nominal Disposable Income-Bureau of Economic Analysis, Regional Economic Measurement Division, unpublished computer printout, August 1986.  
Implicit GNP Price Deflator-BEA, "National Income and Product Accounts"; BEA, "Survey of Current Business", July 1987.  
Unemployment-Nebraska Annual Financial Report, 1986.  
Interest Rate-"Economic Report of the President", January 1987, 3-month Treasury Bill Rate annual, Table B-68.

DEP VARIABLE: RETAIL

ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	3	7.59453E+12	2.53151E+12	4.611	0.0373
ERROR	8	4.39221E+12	549026414543		
C TOTAL	11	1.19867E+13			
ROOT MSE		740963.2	R-SQUARE	0.6336	
DEP MEAN		8577537	ADJ R-SQ	0.4962	
C.V.		8.638414			

PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB >  T
INTERCEP	1	7855122.32	6606636.49	1.189	0.2685
REALDIS	1	0.29363395	0.48840523	0.601	0.5643
UNEMPLAG	1	-405481.28	219110.82	-1.851	0.1014
TIME	1	-239953.04	151452.29	-1.584	0.1518

DURBIN-WATSON D 1.947  
(FOR NUMBER OF OBS.) 12  
1ST ORDER AUTOCORRELATION -0.168

PEARSON CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0 / N = 12

	REALRET	REALDIS	UNEMPLAG	TIME
REALRET	1.00000	-0.47637	-0.58019	-0.64607
	0.0000	0.1174	0.0480	0.0232
REALDIS	-0.47637	1.00000	0.08870	0.90093
	0.1174	0.0000	0.7840	0.0001
UNEMPLAG	-0.58019	0.08870	1.00000	0.22408
	0.0480	0.7840	0.0000	0.4838
TIME	-0.64607	0.90093	0.22408	1.00000
	0.0232	0.0001	0.4838	0.0000

DEP VARIABLE: WHOLESALE

## ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	3	1.32938E+12	443126622603	5.123	0.0288
ERROR	8	691934729546	86491841193		
C TOTAL	11	2.02131E+12			
ROOT MSE		294095	R-SQUARE	0.6577	
DEP MEAN		4311687	ADJ R-SQ	0.5293	
C.V.		6.820878			

## PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB >  T
INTERCEP	1	3720096.64	2622233.51	1.419	0.1938
REALDIS	1	0.15387609	0.19385243	0.794	0.4502
UNEMPLAG	1	-288590.64	86967.05838	-3.318	0.0106
TIME	1	-50751.60779	60112.77794	-0.844	0.4230

DURBIN-WATSON D 1.907  
 (FOR NUMBER OF OBS.) 12  
 1ST ORDER AUTOCORRELATION -0.096

PEARSON CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0 / N = 12

	REALWHOL	REALDIS	UNEMPLAG	TIME
REALWHOL	1.00000	-0.05673	-0.79183	-0.23690
	0.0000	0.8610	0.0021	0.4585
REALDIS	-0.05673	1.00000	0.08870	0.90093
	0.8610	0.0000	0.7840	0.0001
UNEMPLAG	-0.79183	0.08870	1.00000	0.22408
	0.0021	0.7840	0.0000	0.4838
TIME	-0.23690	0.90093	0.22408	1.00000
	0.4585	0.0001	0.4838	0.0000



DEP VARIABLE: FOOD

## ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	3	249969456245	83323152082	3.517	0.0688
ERROR	8	189549751544	23693718943		
C TOTAL	11	439519207788			
ROOT MSE		153927.6	R-SQUARE	0.5687	
DEP MEAN		1523911	ADJ R-SQ	0.4070	
C.V.		10.10083			

## PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB >  T
INTERCEP	1	1556443.59	1372462.25	1.134	0.2896
REALDIS	1	0.03620997	0.10146127	0.357	0.7304
UNEMPLAG	1	-52168.58867	45518.06856	-1.146	0.2849
TIME	1	-44479.90173	31462.68942	-1.414	0.1952

DURBIN-WATSON D 2.673  
 (FOR NUMBER OF OBS.) 12  
 1ST ORDER AUTOCORRELATION -0.483

PEARSON CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0 / N = 12

	REALFOOD	REALDIS	UNEMPLAG	TIME
REALFOOD	1.00000	-0.54979	-0.44559	-0.68728
	0.0000	0.0640	0.1466	0.0135
REALDIS	-0.54979	1.00000	0.08870	0.90093
	0.0640	0.0000	0.7840	0.0001
UNEMPLAG	-0.44559	0.08870	1.00000	0.22408
	0.1466	0.7840	0.0000	0.4838
TIME	-0.68728	0.90093	0.22408	1.00000
	0.0135	0.0001	0.4838	0.0000

DEP VARIABLE: OTHER

## ANALYSIS OF VARIANCE

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PROB>F
MODEL	3	7.68808E+13	2.56269E+13	4.293	0.0441
ERROR	8	4.77524E+13	5.96905E+12		
C TOTAL	11	1.24633E+14			
ROOT MSE		2443163	R-SQUARE	0.6169	
DEP MEAN		16191121	ADJ R-SQ	0.4732	
C.V.		15.08952			

## PARAMETER ESTIMATES

VARIABLE	DF	PARAMETER ESTIMATE	STANDARD ERROR	T FOR H0: PARAMETER=0	PROB >  T
INTERCEP	1	4816503.07	20623822.76	0.234	0.8212
REALDIS	1	0.47195134	1.56839310	0.301	0.7712
INT	1	969965.35	277623.51	3.494	0.0082
TIMF	1	-514404.07	487450.92	-1.055	0.3221

DURBIN-WATSON D 2.785  
 (FOR NUMBER OF OBS.) 12  
 1ST ORDER AUTOCORRELATION -0.435

PEARSON CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0 / N = 12

	REALOTH	REALDIS	INT	TIME
REALOTH	1.00000	-0.17633	0.67769	-0.17356
	0.0000	0.5836	0.0155	0.5896
REALDIS	-0.17633	1.00000	0.20606	0.90093
	0.5836	0.0000	0.5205	0.0001
INT	0.67769	0.20606	1.00000	0.29573
	0.0155	0.5205	0.0000	0.3507
TIME	-0.17356	0.90093	0.29573	1.00000
	0.5896	0.0001	0.3507	0.0000

APPENDIX E

## APPENDIX E

miscdata.wk1

	Nominal				Exhibit:
	Corporate Income	Motor Vehicle Taxes	Other Taxes	Other Revenues	GNP Implicit Deflator 1982 dollars
1977	41,946	69,142	47,373	151,889	65.1
1978	47,067	77,683	51,450	171,353	69.5
1979	49,985	82,860	53,330	200,041	75.3
1980	57,579	84,001	53,871	242,253	79.4
1981	54,128	112,586	57,277	278,191	89.9
1982	48,498	122,682	81,796	308,902	97.3
1983	51,635	116,557	94,457	321,390	102.1
1984	66,904	126,575	102,707	354,242	105.9
1985	48,959	124,036	107,860	376,029	109.5
1986	54,559	142,810	118,817	408,001	112.7
1987	n.a.	n.a.	n.a.	n.a.	115.7

## Real

	Corporate Income	Motor Vehicle Taxes	Other Taxes	Other Revenues
1977	64,433	106,209	72,770	233,316
1978	67,722	111,774	74,029	246,551
1979	66,381	110,040	70,823	265,659
1980	72,518	105,795	67,848	305,105
1981	60,209	125,235	63,712	309,445
1982	49,844	126,086	84,066	317,474
1983	50,573	114,160	92,514	314,780
1984	63,177	119,523	96,985	334,506
1985	44,711	113,275	98,502	343,405
1986	48,411	126,717	105,426	362,024
1987	n.a.	n.a.	n.a.	n.a.

## Real Growth Rates

	Corporate Income	Motor Vehicle Taxes	Other Taxes	Other Revenues
1977				
1978	5.10	5.24	1.73	5.67
1979	-1.98	-1.55	-4.33	7.75
1980	9.24	-3.86	-4.20	14.85
1981	-16.97	18.38	-6.10	1.42
1982	-17.22	0.68	31.95	2.59
1983	1.46	-9.46	10.05	-0.85
1984	24.92	4.70	4.83	6.27
1985	-29.23	-5.23	1.56	2.66

1986	8.27	11.87	7.03	5.42
1987	n.a.	n.a.	n.a.	n.a.

## Real Average Growth Rates

	Corporate Income	Motor Vehicle Taxes	Other Taxes	Other Revenues
1977-86	-1.82	2.31	4.73	5.09
standard deviation	15.69	8.26	10.92	4.28
1981-86	-2.36	0.51	11.08	3.22
standard deviation	19.05	7.47	10.79	2.51

## Real Compound Growth Rates

	Corporate Income	Motor Vehicle Taxes	Other Taxes	Other Revenues
1977-86	-3.13	1.98	4.21	5.00
1981-86	-4.27	0.24	10.60	3.19

- 
- Sources: Nebraska Comprehensive Annual Financial Report, 1986.  
Bureau of Economic Analysis, "National Income and Product  
Accounts", and "Survey of Current Business", July 1987
- Notes: The GNP Implicit Deflators are calculated for fiscal year  
based upon quarterly data. Therefore, 1982 does not  
equal 100.
- Motor Vehicle Taxes consists of motor vehicle taxes and  
special fuels.
- Other Taxes consists of severance, petroleum products,  
alcohol, tobacco, parimutual, misc excise, insurance  
premiums, miscellaneous business and franchise, estate  
property, common carrier, and miscellaneous income.
- Other Revenues consists of services, sale of goods, other  
sales and charges, investments, land use, rents, fines  
forfeits, penalties, private sources, other revenues.



## CHAPTER 3

### THE NEBRASKA STATE AND LOCAL SALES AND USE TAXES<sup>1</sup>

by John F. Due and Loretta Fairchild

#### Introduction

The sales tax structure in Nebraska consists of three distinct elements: the retail sales tax, applying to retail sales in the state; the retailer's use tax, applying to out-of-state retailers that make taxable sales in the state; and the consumer's use tax, which applies to purchases of taxable goods upon which the sales tax has not been paid. The tax is administered by the Department of Revenue, except the portion on motor vehicles, which is paid directly to the county treasurer. The portion on motor vehicles constituted 10.7 percent of total sales-use tax collections in 1986; the consumer use tax constituted 1.7 percent.

The tax was established by the Nebraska State Legislature, effective June 1, 1967, and one of the last three state sales taxes to be enacted (the last was that of Vermont 1968). From 1968 through 1983, the sales tax rate was determined annually by the State Board of Equalization and Assessment, on the basis of revenue requirements; since 1984 the Legislature has set the rate. The most significant change made in the tax in the 20 years of its operation was the exemption of food and elimination of the credit against income tax for sales tax paid on food, effective October 1, 1983. The Local Option Revenue Act, enacted in 1969, authorized cities to impose sales taxes under prescribed conditions.

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<sup>1</sup>The authors would like to thank the Department of Revenue in Nebraska and staff members of the Revenue Committee of the Nebraska State Legislature. In particular, State Commissioner Donald S. Leuenberger generously gave his time and made his staff available for consultation. Deborah Thomas and Eric Will also were very generous with their help. This chapter is based on John F. Due and Loretta Fairchild, "The Nebraska State and Local Sales and Use Taxes," Nebraska Comprehensive Tax Study Staff Paper No. 2, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, October 1987).

The tax applies to sales of tangible personal property, and thus real property and intangibles are free of tax, as well as services, except public utilities, transient accommodations and admissions, cable TV, computer software, laundry service and fabrication labor.

This chapter is concerned with structural features of the tax. Operational aspects are covered in a later chapter by Loretta Fairchild and John F. Due.<sup>2</sup>

### Characteristics

Various major characteristics of the tax are comparable to those of most other state sales taxes and can be summarized briefly:

1. The tax is technically imposed upon the sales transaction, that is, upon gross receipts from sales, leases or rentals of tangible personal property at retail.
2. All firms making sales at retail must obtain a registration permit, for which a \$10 nonrecurrent charge is made for each place of business. The Department of Revenue may revoke or suspend a permit for violation of the Act.
3. Retail sales are defined as sales for use or consumption and not for resale.
4. Taxable gross receipts do not include charges for installing or servicing, if separately billed; cash discounts taken; trade-in allowances, when the articles traded in are sold by the vendor in the regular course of business; the value of returned merchandise for which credit is given the customer; finance and carrying charges; transportation charges beyond the point of sale when the carrier is paid by the customer. Delivery charges paid by the customer to the retailer are taxable even if separately billed.
5. Either cash or accrual methods of accounting for tax purposes may be used; with the accrual method, firms may elect to delay payment of tax on installment and related sales under certain conditions.
6. Bad debts are deductible if a firm is reporting on an accrual basis.

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<sup>2</sup>L. Fairchild and J. F. Due, "The Operation of the Nebraska State and Local Sales and Use Tax," Chapter 14 in this volume.



7. A bracket system is provided for collection, but the amount of tax payable by the vendor is determined by applying the tax rate to the figure of taxable sales.
8. On nonretail sales, vendors must obtain resale certificates as evidence that the sale is made for resale; if such a certificate is taken in good faith, the vendor is not liable for tax if the goods purchased are used for taxable purposes.
9. Rental of tangible personal property is subject to tax. A firm purchasing items for the exclusive purpose of renting may purchase tax free. Incidental rentals of goods purchased on a taxable basis are subject to tax.
10. Occasional sales, those by persons not engaged in the business of selling such property, are not subject to tax. These include "garage" sales, if held not more than three days during a calendar year.
11. Vendors are required to pass on to the customer the full amount of the tax; they may not advertise that they are absorbing tax; and they must quote the tax as a separate item unless authorized by the Commissioner to do otherwise.
12. Credit is allowed for sales tax due and paid another state.

Questions relating to exemptions are considered in a subsequent section.

## **Revenues**

Table 3-1 shows the revenues from the sales and use taxes (including the portion on motor vehicles) over the years from the time of introduction. The revenue has been relatively constant as a percent of total tax revenue as shown by U.S. Bureau of the Census publications, ranging between 28.7 and 36.1 percent, with no noticeable trend in the years 1968-1985. The constancy resulted in part because under the original sales tax legislation, the State Board of Equalization and Assessment was required to adjust sales and income tax rates annually to maintain the same revenue from each tax. These figures are also very similar to the national average of relative dependence on the sales tax as a source of tax revenue, which has ranged between 29 and 33 percent of state tax revenue. In 16 of the 19 years, Nebraska's relative reliance was greater than the national average--but only slightly so.

TABLE 3-1

## SALES TAX REVENUE, NEBRASKA, 1968-1986

Fiscal Year	Sales Tax Revenue (millions of dollars)	Total Tax Revenue (millions of dollars)	Sales Tax Revenue as Percent of Total Tax Revenue	
			Nebraska	All States Average
1968	\$ 65.3	\$ 194.0	33.7	28.7
1969	70.4	217.3	32.4	29.7
1970	74.9	261.3	28.7	29.6
1971	89.0	294.4	30.2	30.0
1972	100.0	319.5	31.3	29.4
1973	108.8	375.1	29.0	29.1
1974	128.0	465.6	31.6	30.5
1975	142.0	424.8	33.4	30.9
1976	165.7	489.4	33.8	30.6
1977	198.8	612.9	32.4	31.8
1978	240.5	680.2	35.4	33.8
1979	252.6	742.6	34.0	31.3
1980	277.6	816.8	33.9	31.5
1981	281.2	802.3	35.0	31.0
1982	288.6	860.5	33.5	30.9
1983	356.6	987.4	36.1	31.3
1984	374.5	1,068.7	35.0	31.8
1985	341.4	1,040.0	32.8	32.3
1986	350.0	1,119.4	31.3	32.8
1987	345.2	na-c	na-c	na
1988 (projected)	370.0	na-c	na-c	na

na = not available

na-c = not available on a comparable basis to the other years

Note: Total tax revenues, as defined by the U.S. Department of Commerce, are comprised of amounts received from all taxes imposed and collected by a state, excluding all refunded amounts, but including taxes collected and transmitted to the state by local governments. Thus both general and special fund tax revenues are included.

SOURCE: U.S. Bureau of the Census, State Government Tax Collections, respective years; Tax Foundation, Facts and Figures on Government Finance (New York: respective years).

In 1986, Nebraska ranked 40th among the 45 sales tax states in per capita sales tax collections, with a figure of \$219 compared to a national average of \$311 and highs of over \$500 in four states: Hawaii, Washington, Nevada and Connecticut. Nebraska ranked 41st of the 45 sales tax states in state and local sales tax collections expressed as a percentage of personal income. The Nebraska percentage was 1.99 compared to a national average of 2.79.<sup>3</sup>

### **The Sales Tax Rate**

Between the introduction of the tax in 1967 and 1984, the rate of the tax was set each year by the State Board of Equalization and Assessment, within the range specified by law and on the basis of revenue needs, so the rate changes were more frequent than in most states. In 1984 the Legislature took back the power to set rates. The pattern of rates is shown in Table 3-2.

### **The Pattern of Rates in Other States**

The general level of state and local sales tax rates has been rising slowly and steadily, from the initial 2 percent rates to state rates that are typically 4 or 5 percent, and combined state and local rates between 5 and 7 percent in most states. The highest combined state and local rates (percentages) currently are in Louisiana and Oklahoma (9 in some cities); New York City and parts of Tennessee (8.25 state and local); parts of Arizona and Illinois (8). The highest state rate is in Connecticut (7.5). The range of rates is shown in Table 3-3 (July 1, 1987), and the details of rates in Table 3-4.

The Nebraska rate is slightly lower than the typical figure. Of the neighboring states, Iowa has a 4 percent figure, with 1 percent local taxes in some areas, including Sioux City, but not Council Bluffs or Des Moines; Kansas has a 4 percent state and a 5 to 6.5 percent combined state and local rate; in Colorado the state rate is 3 percent with a 7.1 percent maximum combined

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<sup>3</sup>Advisory Commission on Intergovernmental Relations, *Significant Feature of Fiscal Federalism*, 1987 edition (Washington: ACIR, June 1987).

**TABLE 3-2**  
**STATE AND LOCAL SALES TAX RATES, NEBRASKA,**  
**1967-1987**

Year	State Rate	Combined State-Local Rate, Omaha <sup>a</sup>	Combined State-Local Rate, Other Cities Using the Tax
1967 (6/1)-1968	2.5	2.5	none using
1969 (1/1)	2.0	2.0; 2.5 from 11/1	none using
1970-1976	2.5	3.0; 3.5 from 10/1/70	3; 3.5 from 10/1/72
1976 from 9/1	3.0	4.0	4.0
1977 from 7/1	3.5	4.5 from 7/1	4.5 from 7/1
1978 from 1/1	3.0	4.0; 4.5 from 6/1	4.0
1979-1982	3.0	4.5	4.0
1982 from 5/1	3.5	5.0	4.5
1983 from 7/1	4.0	5.5	5.0
1984 from 4/1	3.5	5.0	4.5
1985-1986	3.5	5.0	4.5
1987 from 1/1	4.0	5.5	5.0 <sup>b</sup>
		<u>Local Rate</u>	
11/1/1969 to 10/1/70		.5	
10/1/1970 to 6/1/78		1.0	
since 6/1/70 Omaha		1.5	
since 1985, Lincoln		1.5	
others		1.0	
since 4/1/87, Gothenberg		.5	

<sup>a</sup>And Lincoln since 6/1/85, and Bellevue since 4/1/87.

<sup>b</sup>Except Gothenberg, 4.5 since 4/1/87.

SOURCE: Nebraska Department of Revenue.

TABLE 3-3

RANGE OF STATE SALES TAX RATES,  
JULY 1, 1987

Rate	Number of States State Rate	Number of Jurisdictions Combined State-Local Rate, Maximum <sup>a</sup>
3.0 - 3.25	4	0
3.5 - 4.4	14	3
4.5 - 5.25	17	13
5.5 - 6.25	8	12
6.5 - 7.25	1	11
7.5 - 8.00	1	4
8.25 - 9.00	0	4

<sup>a</sup>Because of the complex local rates in several states and frequent changes, this column may not be entirely accurate. Alaska, which has local sales taxes but no state tax, is included, as well as the District of Columbia.

SOURCE: Commerce Clearing House, State Tax Reporter (Chicago: Commerce Clearing House, 1987).

TABLE 3-4

## STATE AND LOCAL SALES TAX RATES, JULY 1, 1987a

State	Basic State Rate	Typical Local Rate	Actual Maximum Local Rate	State Rate and Typical Local Rate	State Rate and Actual Maximum Local Rate
Alabama	4	2,3	3	6,7	7
Alaska	0	2,3	6	2,3	6
Arizona	5	1,2	3	6,7	8
Arkansas	4	2	3	6	7
California	4.75	1.25	1.75	6	6.5
Colorado	3	2,3	4.1	5,6	7.1
Connecticut	7.5	0	0	7.5	7.5
Florida	5	0	.25	5	5.25
Georgia	3	1	2	4	5
Hawaii	4	0	0	4	4
Idaho	5	0	2	5	7
Illinois	5	1.25	3	6.25	8
Indiana	5	0	0	5	5
Iowa	4	0,1	1	4,5	5
Kansas	4	1.5,2	2	5.5,6	6
Kentucky	5	0	0	5	5
Louisiana	4	2,3	5	6,7	9
Maine	5	0	0	5	5
Maryland	5	0	0	5	5
Massachusetts	5	0	0	5	5
Michigan	4	0	0	4	4
Minnesota	6	0	1	6	7
Mississippi	6	0	0	6	6
Missouri	4.225	1	2.6	5.225	6.825
Nebraska	4	1	1.5	5	5.5
Nevada	5.75	0	.25	5.75	6.0
New Jersey	6	0	0	6	6
New Mexico	4.75	.75-1.375	1.375	5.5-6.125	6.125
New York	4	2	4.25	6	8.25
North Carolina	3	1.5,2	2	4.5,5	5
North Dakota	5.5	1	1	6.5	6.5
Ohio	5	1	1.5	6	6.5
Oklahoma	4	2,3	5	6,7	9
Pennsylvania	6	0	0	6	6
Rhode Island	6	0	0	6	6
South Carolina	5	0	0	5	5

TABLE 3-4 (CONT.)

State	Basic State Rate	Typical Local Rate	Actual	State Rate and		State Rate and
			Maximum Local Rate	Typical	Local	Actual Maximum Local Rate
South Dakota	5	1,2	2	6,7		7
Tennessee	5.5	1.6,2.25	2.75	7.1,7.75		8.25
Texas	5.25 <sup>b</sup>	1	2	6.25		7.25
Utah	5.0938	.91	.91	5.75		5.75
Vermont	4	0	0	4		4
Virginia	3.5	1	1	4.5		4.5
Washington	6.5	1.3,1.4	1.4	7.8		7.9
West Virginia	5	0	0	5		5
Wisconsin	5	0	.5	5		5.5
Wyoming	3	1	2	4		5
District of Columbia	6	0	0	6		6

<sup>a</sup>Because of complexity of local rates in some states and frequent changes, the figures of local and combined rates may not be completely accurate.

<sup>b</sup>To 6 percent October 1, 1987.

SOURCE: Commerce Clearing House, State Tax Reporter (Chicago: Commerce Clearing House, 1987).

state and local; South Dakota has a 5 percent state rate and a 7 percent state and local maximum; Wyoming has a 3 percent state rate and a 4 percent combined maximum. For most of Nebraska, the Wyoming and Colorado rates are not significant because little Nebraska population is located close to these states. The Iowa and Kansas rates, slightly lower than Nebraska's, are the most significant. Table 3-A1 shows the Iowa local sales taxes.

### **The Taxation of Purchases for Business and Farm Use**

Sales taxes in the United States differ substantially in coverage from what may be regarded as optimal in terms of the philosophy of sales tax. In principle, a sales tax is designed to distribute the costs of government in relation to consumption expenditure, rather than income or property. If this principle is to be attained, the tax should apply only to purchases for individual household consumption purposes. But in fact, the Nebraska tax, like that of almost all states, applies to a substantial number of purchases for business rather than consumption use. When the taxes were established, they were applied to sales "for use or consumption and not for resale." The term "sale for resale" was interpreted to include sales of materials and parts becoming physical ingredients of commodities produced (the physical ingredient rule), but not to include other purchases for business use, which were interpreted to be retail sales. Thus a substantial portion of the total sales tax burden rests directly upon purchases by businesses, which is presumably, as with other business expenses, shifted forward to the final consumers.

There were several reasons for the failure to confine the taxes to consumer purchases. The early sales taxes were developed quickly in the desperate search for revenue in the worst days of the depression of the 1930s; they were outgrowths of low rate gross receipts taxes. Little thought was given to either the philosophy of sales taxes or the exact coverage of the taxes being introduced; considerable surprise was expressed in some states when the tax was found to apply to industrial machinery, for example. To the extent that attention was given to the appropriate



coverage of the tax, the difficulties for retailers and state revenue departments of distinguishing between purchases for consumption and business use were recognized and stressed by tax administrators, who found the physical ingredient rule workable if illogical. In the states that did consider removing the tax from at least major classes of business purchases, this change encountered substantial popular opposition; the change appeared to transfer tax burden to individuals from business--and taxing "business" always has political appeal, even though it may be illogical and in this instance may create undesirable consequences.

### **Objections to Taxing Business and Farm Purchases**

There are several major objections to applying the sales tax to purchases for business and farm use. First, taxes resting on business purchases, like other businesses expenses, are likely in time to be passed forward to final consumers (unless prevented by competition from firms in other states) but in a haphazard and unplanned fashion relative to consumer expenditures on various goods, since the ratios of taxable purchases to final sales prices will vary widely. Taxes on farm purchases cannot easily be shifted, given the nature of farm product markets, and are likely to rest on farmers, at least for a period of time. Secondly, and perhaps most seriously, taxing business purchases places Nebraska firms, particularly manufacturers, at a competitive disadvantage compared to those in states or in countries that have made strong efforts to exclude business purchases from tax. The European countries have confined the burden of their sales taxes--which take the value-added tax form--to sales to final consumers. The states east of Nebraska exempt major classes of business purchases, as noted below. Thirdly, taxation of business purchases encourages firms to produce the goods themselves, or, in the case of services, to provide the services with their own employees, rather than acquiring them from other firms and paying tax on their acquisition. By producing the commodities, the firms will pay tax only on the materials, not on the labor costs involved in production. Finally, choice of methods of production will be altered from the most efficient ones, since some are likely to be subject to

more tax per unit of final output than are others.

### **The Present Situation in Nebraska**

As the Nebraska tax operates as of July 1987, the tax includes a considerable range of purchases for business and farm use:

- Industrial and farm machinery and equipment, except industrial machinery and equipment and some other items acquired by firms under the incentives legislation of 1987.
- Supplies used in agriculture, except farm feed, seed, fertilizer, and chemicals. For example, fencing, building materials, hand tools, light bulbs, cleaning supplies, etc., are taxable.
- Commercial equipment and supplies.
- Office supplies and equipment.
- Electricity, except that used in manufacturing, processing, refining, irrigation, or farming.<sup>4</sup>
- Fuel (motor fuel is not subject to the sales tax, but to the motor fuel tax).
- Consumables--goods consumed in the production process but that don't become physical ingredients.
- Building materials. The full contract price on construction is not taxed, but tax applies to the materials purchased by the contractor. There are exceptions for firms subject to the 1987 incentives legislation.
- Motor vehicles acquired by business firms and farmers, except by common or contract carriers.

It is impossible to determine precisely the percentage of taxable sales that consists of sales to business firms, but it is not negligible. Earlier estimates in states in which food was taxable concluded that 20 to 25 percent of taxable sales were made to business firms; a study in

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<sup>4</sup>Exemption applies when more than 50 percent of the charge billed through one meter is used for the purpose noted.

Texas, in which food is exempt, concluded that the figure might be as high as 50 percent.<sup>5</sup> A study by the Advisory Commission on Intergovernmental Relations in 1982 showed a national average of 37 percent, and a figure for Nebraska of 19 percent (with food taxable at the time); now that food is exempt the current figure is likely to be around 25 percent.

### **Industrial Machinery and Equipment**

As noted, when the sales taxes were first introduced in the 1930s, the taxes excluded only sales for resale, including sales of materials and parts becoming physical ingredients of the products; in agriculture this would include livestock, livestock feed, seed, and fertilizer. Prior to 1940, the only exceptions were Michigan, Ohio, and West Virginia, all of which are states with substantial heavy industry and broader exclusions of business purchases. In the post-World War II period, however, as additional states introduced the tax, most excluded industrial machinery and equipment used directly in the production process, and several states exempted industrial machinery from their existing taxes. In the South, the tendency was to apply a lower tax rate to these categories. There has been a definite domino effect in the Midwest; exemption in Indiana and Wisconsin led to exemption in Illinois, which in turn led to exemption in Iowa. In 1985 Iowa provided for refunds of tax paid on industrial machinery; as of July 1, 1987, sales of machinery are exempt.

Nebraska exempted the sales of machinery and equipment for "new and expanded" industry in order to encourage industrial growth. In May 1987, this provision was repealed, and replaced by new legislation designed to provide greater incentive for industrial expansion,

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<sup>5</sup>Richard Fryman estimated for Illinois, before the state exempted food, that 24 percent of the tax was collected on sales to business firms. An Ohio study by the State Revenue Department indicated that 14 percent of the tax was collected on business purchases. Except for West Virginia, Ohio has the broadest exemption of business purchases. The estimate for Texas, prepared by the Office of Planning and Research, Texas Controller of Public Accounts, 1979, shows a 58 percent figure (food is exempt). A 1984 report from the same agency also reported a figure of over 50 percent.

effective for years beginning on or after January 1, 1987. The basic legislation is LB 775, with three key provisions:

1. A firm spending \$20 million or more on depreciable property, for business expansion with its application approved by the State Revenue Department, is entitled to a refund of sales tax on the purchase of taxable property involved. This covers not only manufacturing but most all activities except retailing, warehousing, financial activities, and agriculture. Credit under the exemption can be earned over a 7-year period, and used over a 15-year period.
2. Firms investing \$3 million or more and creating at least 30 new jobs receive a refund of sales tax on purchases, plus a 10 percent tax credit on plant and equipment purchases and 5 percent job credit, which can be used against sales or income tax liability.
3. Firms investing \$10 million or more and creating 100 or more new jobs receive a personal property tax exemption for computers and peripheral components (but not other equipment), corporate jets and agricultural processing equipment, and with the same credits as number 2 above.

A separate law, LB 270, provides for smaller firms other than retailing; if a firm increases investment by \$100,000 or more in one year and creates two or more new jobs, it receives a tax credit of \$1,000 per \$100,000 of investment, which can be used against income tax liability up to one-half of the tax liability, and against sales tax liability.

Thus the incentives legislation has altered the approach to taxation of industrial machinery and equipment, broadening the scope somewhat, but providing no exclusion from tax for firms that are merely replacing equipment and are not expanding. From a sales tax standpoint many Nebraska firms purchasing equipment are still at a disadvantage compared with those in neighboring states, except when they are expanding sufficiently to be able to take advantage of the incentives legislation.

The situation in the surrounding states is, in brief, as follows:

**Iowa:** Exemption of industrial machinery and equipment used directly in manufacturing, plus computers.

**Colorado:** Machinery and equipment used directly in manufacturing, if purchase exceeds \$1,000; exemption not to exceed \$500,000 for a firm in any one year.

**Kansas:** There is no general exemption of industrial machinery and equipment from the state sales and use tax. The local sales taxes, however, do not apply to these items except in ten jurisdictions that imposed the tax prior to 1978. There are three situations in which the state tax does not apply.

1. Industry financed by industrial revenue bonds.
2. New industry in enterprise zones. Once approved by the Department of Commerce, the firms can obtain refund of sales tax paid on purchases for the establishment or expansion of their facilities. Wichita and other cities make extensive use of this provision. This includes building materials as well as machinery and equipment.
3. Incentives legislation. Firms making a minimum expenditure of \$50,000 and creating at least two jobs for each \$50,000 of investment can obtain a refund of sales tax paid on production equipment. Extensive use is also made of this provision.

On both 2 and 3, refund includes state and local tax if the latter has been paid.

**Missouri:** Exemption of industrial machinery is limited to two categories:

1. Machinery and equipment used directly in manufacturing, in new or expanded industries.
2. Machinery and equipment resulting from change in product or design of equipment.

Equipment merely replacing existing equipment, including that replaced because of obsolescence, is not exempt. These provisions cause serious interpretative and audit complications.

**Wyoming and South Dakota:** No exemption of industrial machinery.

An estimate made before the 1987 incentives legislation concluded that the revenue loss in Nebraska from general exemption of industrial machinery and equipment, that is, machinery and equipment used directly in manufacturing, would be about \$14 million, or about 4 percent of

total tax revenue.<sup>6</sup> This figure, however, is far too high in the present situation; it was based on matching rather broadly Iowa's exemption; in addition, the 1987 legislation has already reduced the taxation of the equipment. The loss thus is probably less than half of \$14 million.

The nationwide general treatment of industrial machinery and equipment, as of July 1, 1987, is as follows:

**Fully taxable, Western and Southwestern States:** Hawaii, California, Washington, Nevada, Utah, Wyoming, North Dakota, South Dakota, Texas, Kansas (refund of tax, as noted), Minnesota.

**Taxed at lower rate, all in the South:** Alabama, Mississippi, North Carolina.

**Exemption for new and expanding industry, primarily in the South:** Arkansas, Florida, Georgia, Kentucky, Louisiana, Missouri (including replacement equipment), New Mexico, Nebraska (under incentives legislation).

**Fully exempt, primarily in the East and Midwest:** Connecticut, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, Wisconsin.

**Western states:** Arizona, Colorado, Idaho, Oklahoma.

The issue of possible loss of equipment sales to out-of-state suppliers is considered in a subsequent section.

### **Farm Supplies, Machinery and Equipment**

In Nebraska, following the pattern set by a number of states, farm feed, seed, fertilizer and livestock are exempt from tax. But thus far, other farm purchases, including farm machinery and equipment, are subject to tax. Given the nature of farm product markets and the depressed condition of farm product prices, any burden on farm purchases essentially rests on the farm.

The treatment of farm machinery and equipment in the neighboring states is as follows:

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<sup>6</sup>Nebraska Department of Revenue, *Summer of 1985 Interim Studies*, Appendix F, p. 3.

**Iowa:** Farm machinery and equipment are exempt.

**Kansas:** Local sales taxes do not apply except in the ten local jurisdictions imposing the tax before 1978. All new farm machinery and equipment are subject to the state tax. Used farm equipment and machinery purchased by farmers are exempt.

**Missouri:** Farm machinery and equipment used directly and exclusively in farming are exempt.

**South Dakota:** Farm and irrigation machinery and equipment are taxed at a lower (3 percent) rate than the basic state rate.

**Colorado and Wyoming:** No exemption provided.

Nationwide treatment resembles the treatment of industrial machinery and equipment, but there are differences.

Twelve states exempt machinery and equipment used in agriculture: Indiana, Iowa, Ohio, Vermont, Kentucky, Maryland, Missouri, Oklahoma, Texas, Arkansas, Illinois, Wisconsin; except for Vermont, all are located in the Midwest and Southwest. Two additional states, Georgia and Maine, have similar exemptions.

Ten states, primarily in the East, exempt not only farm machinery and equipment, but a broader scope of tools and other farm items: Connecticut, Massachusetts, Michigan, New Jersey, New York, Pennsylvania, Virginia, West Virginia, plus Utah and Idaho.

Thus about half of the sales tax states exempt at least major categories of farm equipment.

Several southern states--Alabama, Florida, Mississippi, North Carolina, plus Minnesota and the two Dakotas--tax farm machinery and equipment at reduced rates. New Mexico taxes half the sale price, Louisiana only the portion of the price in excess of \$50,000 per item.

The remaining states fully tax agricultural equipment, but exemption has been discussed in a number of them.<sup>7</sup>

The problem facing Nebraska, with Missouri and now Iowa exempting farm machinery, and Kansas exempting used farm machinery, is that there will be increased loss of business to out-of-state dealers, unless exemption is provided. Given the nature of farm product markets, the case for exemption is strengthened by the impossibility for farmers to shift the tax forward to final consumers.

In 1985, the Revenue Department estimated the revenue loss from exemption of farm equipment to be about \$16 million. Estimates made early in 1987 show a revenue loss between \$6.5 million and \$11.5 million.<sup>8</sup> A bill to exempt replacement parts for farm machinery and equipment was passed by the Legislature in May 1987 but was vetoed by the Governor.

#### **Sales to Common and Contract Carriers**

Nebraska provides a broad exemption of purchases of motor vehicles by all common and contract motor carriers, as well as equipment by railroads and airlines. The states have found it impossible to tax railroad rolling stock since the carriers immediately place it in interstate commerce. The State can tax vehicles bought by intrastate motor carriers, and by interstate motor carriers registered in Nebraska, although few states seek to follow this latter rule. The net result now is that common and contract carrier operators pay no tax on their equipment, whereas private carriers (truck operations by firms hauling their own goods including farmers) do pay tax, although reportedly many firms avoid tax by incorporating their truck operations as a separate contract carrier firm. If a serious effort were made to exclude all purchases for business use from the tax, general exclusion of trucks other than pickups widely used for consumption purposes would be justified. Exclusion of only one set of trucks may be difficult to justify, but it appears

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<sup>7</sup>Nebraska Department of Revenue, *Summer of 1985 Interim Studies*.

<sup>8</sup>Information provided by Nebraska Revenue Committee.



to be imperative, since large firms could avoid the tax more easily than small firms, and larger trucking firms might move their headquarters and servicing operations out of the state.

### **General Proposals**

The logical approach to taxation of business purchases under a sales tax is to exclude from tax all purchases for business, as distinguished from consumption, use. This is basically the approach of the value-added taxes in Europe and in some other parts of the world. The only state to follow an approach close to this one is West Virginia, which has done so for most of the history of its sales tax.

While this approach is ideal, it is not typically regarded as feasible with a retail sales tax, as distinguished from the European type of value-added tax. The problem is basically one of control, since many goods are used for both production and consumption purposes. Sometimes, as with a pickup truck, the same item is used for both. There is no way that the vendor can determine ultimate use at the time of sale; in fact the purchaser may not know how many of the light bulbs in a carton he will use in his house or store, pig pen or farmhouse. Furthermore, under the present urgent need for revenue, it is not feasible to propose a change that would cost the state a substantial amount of revenue. The taxation of many purchases for business use, such as stationery, telephone service, or typewriters, though illogical, is not significant in terms of overall business expenses and is not likely to hamper economic activity in Nebraska--partly because the tax treatment in other competing states is similar.

Thus for the immediate future, the following suggestions are made for Nebraska:

1. Exemption be extended to all manufacturing and processing equipment used directly in production, rather than only that affected by the incentives legislation. Two alternative suggestions for wording of the exemption are as follows:

#### **Wisconsin (Sec. 77.54)**

(a) Machines and specific processing equipment and repair parts or replacements thereof, exclusively and directly used by a

manufacturer in manufacturing tangible personal property and safety attachments for those machines and equipment (*as amended by Act 149, Laws 1986*).

**Idaho** (the provision also relates to farm equipment) (Sec. 63-36220)

(1) The sale at retail, storage, use or other consumption in this state of tangible personal property which will enter into and become an ingredient or component part of tangible personal property manufactured, processed, mined, produced or fabricated for ultimate sale at retail within or without this state, and tangible personal property primarily and directly used or consumed in or during such manufacturing, processing, mining, farming, or fabricating operations by a business or segment of a business which is primarily devoted to such operation or operations, provided that the use or consumption of such tangible personal property is necessary or essential to the performance of such operation.

Other examples are given in Table 3-A2.

2. Farm machinery and equipment be exempted, but not farm tools and supplies that are now taxable, because control is difficult. Two examples of wording are provided:

**Iowa**

26. The gross receipts from the sale or rental, on or after July 1, 1987, of farm machinery and equipment, including replacement parts which are depreciable for state and federal income tax purposes, if the following conditions are met:

a. The farm machinery and equipment shall be directly and primarily used in production of agricultural products.

b. The farm machinery and equipment shall constitute self-propelled implements or implements customarily drawn or attached to self-propelled implements or the farm machinery or equipment is a grain dryer.

Vehicles subject to registration, as defined in section 423.1, or replacement parts for such vehicles, shall not be eligible for this exemption.

**Wisconsin** (Sec. 7754)

(3) The gross receipts from the sales of and the storage, use or other consumption of tractors and machines, including accessories, attachments, fuel and parts therefore, used directly in farming, including dairy farming, agriculture, horticulture or floriculture, but excluding automobiles, trucks, and other motor vehicles for highway use, when engaged in by the purchaser or user as a business enterprise,

but the purchaser of property exempt under this subsection shall be liable for the sales tax under s. 77.57 at the time any more than nominal other use, including job contracting other than the performance of farm services by one farmer for another with machinery customarily used by the performing farmer in his own farming operation, is made of such property. (*As amended by Ch. 154 and Ch. 257, Laws 1969; Ch. 240, Laws 1973; Act 405, Laws 1984*).

### **Consumption Commodity Exemptions**

When the Nebraska tax was enacted, exemptions of consumption goods were very limited, and basically this situation remains, except for the added exemption of food. In principle there is great merit in maintaining as broad a base of consumption purchases as possible. Exemptions favor those persons having relatively high preferences for exempt commodities. They inevitably complicate both compliance and administration, since vendors must distinguish taxable and nontaxable sales, and auditors have an additional task to ensure that exempt sales are not overstated. Serious questions of interpretation arise about the dividing line between exempt and taxable goods. Finally, exemptions reduce the yield at a given rate of tax and thus require a higher rate to yield a given sum of revenue. Accordingly, there is merit in avoiding exemption of consumption purchases, except when the case is very compelling.

#### **Food**

When the Nebraska tax was introduced in 1967, food was taxable; all persons were entitled to a credit against income tax designed to reflect sales tax paid on basic food. In 1982, for example, the figure was \$28 per person. Those not having sufficient income tax liability could file a simple return to obtain a refund.

The credit system offered many advantages over food exemption. The compliance tasks of vendors and administrative tasks were simplified since it was not necessary to distinguish food and nonfood expenditures. The endless problem of distinguishing food from meals--because food is exempt and meals are not--was avoided. If the goal is equity, a properly designed system

is much less costly than food exemption; it is only necessary to remove the burden of the tax on food from the lowest income groups, not from all persons. There is no logical reason why all families in the middle and upper income groups should not be required to pay tax on food consumption as well as other consumption items. The credit system as it operated did cause unnecessary loss of revenue in that a uniform credit was provided for all persons; a credit that declined as family incomes rose would have been somewhat more complicated but would have saved substantial revenue.

**Exemption of Food.** While the tax credit system worked well, various legislators seized upon food exemption as a politically popular cause, and a number of elections for the members of the Legislature were fought on the issue of food exemption. One complaint made was that the cities taxed food but gave no refund; any attempt to adjust the refund for the city tax would run into problems since not all municipalities used the tax. The cash flow argument was also used: persons paid tax during the year and received the refund only at the end. This was not a serious problem, merely requiring timing adjustments in the provision of the refunds.

The main arguments used for food exemption, however, centered around the claim that taxing food was immoral--an absurd nonsense argument by usual standards--and that taxing food was regressive--ignoring that this effect was offset by the tax credit. The State Revenue Department and the cities strongly favored continuation of the credit, but in 1983, through various negotiations, the food exemption faction won: effective October 1, 1983, this exemption replaced the credit system.

The resulting annual revenue loss was about \$40 million; part of this was offset by the elimination of the income tax credit (which had applied to all families regardless of income), but the complications in operation of the tax were materially increased.

In other states, the trend also has been toward food exemption. The broad-coverage early sales taxes, taxed food; only Ohio and California exempted food at an early date. But most of

the new sales taxes introduced after World War II provided the exemption and other states followed. As of January 1987, 28 states provided food exemption. Five states, Hawaii, New Mexico, Kansas, North Carolina and South Carolina, provide credit against income tax in lieu of the exemption; if income tax liability is inadequate, a refund is provided; Idaho provides credit but no refund for persons without income tax liability; Wyoming provides credit limited to the elderly; and Massachusetts and Vermont provide credit in addition to food exemption. Thus, 17 states tax food, but only 10 of there do so without some form of offsetting credit. The Kansas and Massachusetts credits are not directly related to food purchases.

In many respects, the elimination of the credit and the exemption of food in Nebraska was a mistake from the standpoint of efficient operation of the sales tax and revenue needs. It will be difficult to reverse the decision made in 1983; once food is exempted, making it taxable is very difficult politically, given the great political appeal of food exemption. Only one state (North Carolina) made food taxable on a continuing basis after it was exempt, though Washington did so temporarily. But there is merit in considering return to taxation of food and restoration of a credit system.

**Food versus Meals.** A difficult problem that arises when food is exempt but meals are taxable is establishing the line of delineation between the two; some states have established absurd and unworkable rules. The basic distinction in Nebraska is that any food sold by an eating establishment is taxable whether eaten on the premises or not; eating establishments are defined as those whose sales of hot food and sandwiches are more than 10 percent of total retail food sales. This rule eliminates the tax from deli counters in supermarkets in most instances, but taxes "snack" foods sold by restaurants and does not tax these items sold by food stores, or sandwiches, etc., sold by convenience stores. Tax applies to all foods sold through vending machines. This delineation rule on meals is a very arbitrary one and discriminatory against various types of business and consumers, though it does appear to work reasonably well. Taxing

all meals is, of course, discriminatory against lower income persons; this problem illustrates again the advantages of the tax credit in lieu of food exemption.

**The Food Stamp Problem.** A new problem for the taxation of food has been created by federal legislation which forbids the states from collecting sales tax on purchases of food made with food stamps. States that now tax all or some food items are in the process of enacting legislation to make such purchases exempt, if they had not previously done so. This rule will create some complications for retailers, since when purchases are made and rung up at the cash register, the clerk will not necessarily know whether the purchases are to be paid for in cash or by stamps (federal regulations prohibit the making of inquiries of the purchasers before the amounts are rung up) and adjustments will have to be made after the amount is totalled. When payment is made partly in cash and partly in stamps there may be some complications. This problem, however, affects only a small percentage of all food sales, and it does not appear to be sufficiently troublesome to warrant exemption of food if a state now taxes it, or avoidance of taxation if it is now exempt.

Several other state revenue departments were queried about the problem. Wisconsin and North Carolina have not taxed food stamp purchases for several years, and Illinois has never done so (by regulation). All three states report that they encounter no particular problems with the food stamp exemption nor serious complaint from retailers, who have developed satisfactory means of dealing with the exemption. In Wisconsin, only candy, soft drinks and a few other items are affected, as other food is exempted; North Carolina taxes all food, and Illinois taxes soft drinks under the state levy and all food under the local state-administered sales tax. Four states which are currently implementing exemption of food stamp sales, two that only tax soft drinks and candy (Iowa and Ohio), and two that tax all foods (Georgia and Kansas), report no serious complaints from retail groups. Retailers do not like the change, as it involves changing

computer programming and complicates operation of noncomputerized checkout, but it is not a source of serious concern.

**Taxation of Soft Drinks and Candy.** If food exemption is retained, consideration should be given to application of the tax to candy and soft drinks; a number of states that exempt food, do tax these items, and Illinois recently restored tax on soft drinks. Taxation of these and similar items yields considerable revenue, but does create some operational problems. While most candy and soft drinks are clearly definable items, there are borderline problems and precise workable delineation lines must be developed in this case.<sup>9</sup> But the problems are certainly not insurmountable; a number of states have taxed these items while exempting other food for a number of years. Inquiries of revenue departments in Wisconsin, Iowa, Ohio and Illinois revealed no serious problems. The food stamp problem also arises with these items, since food stamps may be used to purchase soft drinks and candy, but as noted above, the problems are reported to be manageable. In Table 3-A3, the Ohio statement about food stamp purchases and the rule being promulgated are reproduced.

If the general exemption is retained, another alternative is to exempt only a list of foods defined as basic to the typical household: milk, bread, fresh fruit and vegetables, cereals, flour, fresh meat, and fish and poultry, etc. North Dakota did this for for a period of years.

### **Medicines and Prosthetic Devices**

The most justifiable exemption is that of medicines and related items. Expenditures on these, necessitated by misfortune, hit various families very unevenly and constitute a serious burden on the lowest income groups. Confining the exemption to prescription medicines makes control of the exemption relatively simple. Under no circumstances should the exemption be

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<sup>9</sup>The problem with soft drinks is distinguishing soft drinks from fruit juices. The usual rule is to exempt commodities with more than 50 percent fruit juice, but Wisconsin establishes the delineation on the basis of whether or not "extenders" are added.

extended to nonprescription medicines, since such an exemption would be very difficult to control and entirely unnecessary to promote equity. It is difficult to draw a workable line between these nonprescription medicines and related supplies (sunburn remedies versus suntan lotions, for example), and the compliance tasks for the vendors would be made much more difficult. With the recent change in Georgia, now only two states, Hawaii and New Mexico (both with very broad tax bases), do not exempt prescription medicines.

### **Motor Fuel**

Nebraska, like most states, does not apply the sales tax to sales of motor fuel, already subject to the motor fuels tax. This is a major mistake in policy, and costs the state a very substantial sum of revenue. The motor fuels tax is, as of 1987, allocated entirely to highways and roads. There is no possible justification for exempting consumer expenditures on gasoline from the sales tax, since these purchases can appropriately make a contribution toward general governmental costs, as distinct from the basic user charge for highway construction and maintenance. There is no inherent objection to applying two taxes of substantially different nature and purpose to the same commodities. Seven states, Illinois, Indiana, Michigan, New York, California, Mississippi, Hawaii, and in effect Georgia (in which the sales tax per se does not apply but an equivalent special levy at the same rate distinct from the motor fuel tax does apply), tax motor fuel under the sales tax. The revenues are allocated to the general funds, not the highway funds. Motor fuel exempt from the motor fuel tax for farm and industrial use could also be excluded from the sales tax as an important business purchase. While the Nebraska motor fuel tax is one of the four highest in the country, this is not a conclusive argument against foregoing general fund revenue from a tax on motor fuel.

It is impossible to provide a precise figure of the additional revenue from taxing motor fuel. However a rough estimate is possible based upon sales of motor fuel in 1986, and the



average price of motor fuel during the first three quarters of 1987.<sup>10</sup> Taxing gasoline sales, except for those for nonhighway use and sales to the federal government, and adjusting for the shrinkage allowance, would yield about \$26 million in additional state sales tax revenue on an annual basis. On diesel fuel, the additional tax, limited to sales for highway use, would be about \$6 million. Aviation gasoline would yield about \$225,000, and other aviation fuel about \$2 million. Thus the overall total of these categories would be approximately \$35 million a year. If the tax were confined to gasoline (to take into account interstate trucking and air transport aspects of fuel), the gain would be about \$26 million. This revenue should of course be allocated to the general fund.

The rule of applying sales tax to commodities also subject to excises is already followed in Nebraska with regard to cigarettes and liquor, and should equally well be applied to motor fuel.

### **Other Exemptions**

Nebraska provides relatively few other commodity exemptions. Seeds and plants which are used to produce food are exempt whether bought by individuals or farmers, but fertilizer is exempt only when sold to commercial farmers.

Magazines are exempt only when sold on subscription (there is no way the tax could be applied to interstate subscriptions) and to newspapers issued once a week or more frequently.

Sales to the federal government are of necessity exempt. The law also exempts sales to the State of Nebraska and certain enumerated subordinate units of government, and to nonprofit organizations of the following types: religious; services to the blind; educational institutions;

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<sup>10</sup>Based upon information provided by the Nebraska Department of Revenue. The net sales of gasoline that would be taxable (highway use) would be (1986 figures) 709 million gallons, at an average price (1987) of 92.3 cents per gallon. Sales of diesel fuel would be about 165 million gallons; the same price per gallon was used as for gasoline. The figures on aviation fuel were much lower, about 3.1 million gallons of aviation gasoline, 31 million of jet fuel, with average prices of \$1.82 and \$1.69 per gallon respectively.

hospitals, skilled nursing facilities, home health care; child care and child placement agencies. This is a relatively broad exemption, but is typically justified on the grounds that these activities (other than churches) perform semi-government functions. These institutions are required to register and obtain exemption numbers and issue exemption certificates.

### **Real Property Contractors**

The Nebraska treatment of real property contractors is the same as that of most states. General (prime) contractors are not registered and pay tax on all purchases. Thus the labor costs of construction are not taxed. Many subcontractors are registered because they are also retailers; if so, they make all purchases tax free if the retail business is equal to 80 percent or more of total sales, and then pay the use tax on those goods used in contract work. If all goods are purchased tax paid and some are sold at retail, the firm must remit sales tax on the difference between purchase and sales price.

The net effect of this contract rule is that the labor costs of building construction are not subject to sales tax; thus housing is favored over other forms of consumer spending. Only Hawaii, New Mexico and Washington tax the full contract price of general contractors (not of the subcontractors) without adjustments for the labor element, and Iowa did so from 1967 to 1969. Arizona, Mississippi and South Dakota tax the contract price but with a percentage reduction representing labor cost. The same rules apply to residential and business building construction.

While taxing the full contract price is not without merit, much of the burden would rest on business construction, and objections are frequently raised about increasing the costs of housing. However, the present treatment is extremely lenient, and reduces tax revenue unnecessarily, as tax applies to the contractors' purchase prices, and not to the amounts they are essentially charging customers. The problem is serious when one considers so-called fixtures (water heaters, dishwashers, built-in ovens, etc.) which become attached to real property, since

the contractor pays tax on a figure much lower than would the customers if they purchased the fixtures and installed them themselves. There is also a major operational problem; contractors frequently bill the customer with tax on the entire charge, including that for installation, leading to a number of refund requests.

The problem was most acute with landscape work in Nebraska; often the bushes and trees, grown by the firm, cost the landscape contractor virtually nothing. The rule for landscape activity was changed in 1987 to apply tax to the price charged the customer for the tangible personal property transferred.

The best solution, similar to that in South Dakota, would apply the tax to all real property contracts, but only to 50 percent of the amount, in order to eliminate, roughly, the large labor element. General contractors would be subjected to special registration; they would file returns and pay tax; when calculating tax liability for the period they would deduct the amount of tax paid to subcontractors. Subcontractors, who are often retailers as well, would be registered in the usual way; they would also be subject to tax on half the contract figure. Iowa had no particular difficulties in taxing the full contract price; the rule was repealed in part because of the effect of raising the cost of new houses. Tax should apply to the charge for installation in real property of "fixtures"--items becoming permanently attached to real property.

### **Extension of the Sales Tax to Services<sup>11</sup>**

One way to gain additional revenue from the sales tax (or to allow a lower rate) is to extend the tax to services. This has been considered in Nebraska and legislation to do so has been introduced in the last five years. Extension of the sales tax to additional services was

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<sup>11</sup>This issue is discussed at length in Nebraska Department of Revenue, *Summer of 1985 Interim Series, "Sales Tax on Services,"* and *Final Report of Sales Tax on Services Task Force*, submitted to the Nebraska State Legislature Revenue Committee, April 1987.

recommended in governors' budget messages in 1987 in at least four states (Indiana, Illinois, Oklahoma, and Washington) and the issue has been considered this year in Minnesota, Texas, and others. As the Nebraska law now stands, few services, per se, are taxed; these include transient accommodations, admissions, rental of tangible personal property, local telephone, gas, electricity, and water utilities, fabrication labor, computer software, cable TV, laundry service and installation of telephone and cable TV service.

### **Past Policy on the Part of the States**

When the state sales tax was first introduced in the early 1930s (Mississippi was the first, in 1932), it was applied, with the exception of two states, only to sales of tangible personal property, and thus all services were free of tax. There was no particular logic to the sharp distinction between physical commodities and services. To many legislators, however, it appeared feasible to tax all commodities, but not to tax all services; thus for simplicity, none of the latter were included. Many services, such as medical, appeared to be unsuitable for taxation. Another argument that is illogical but that influenced legislators is that a tax on services is essentially a tax on the labor involved in rendering the services.

Only two states (Hawaii and New Mexico) departed from this pattern and initially taxed all or virtually all services rendered to customers, as distinct from those provided by employees to employers, and these states continue to do so. South Dakota in 1979 broadened the base of its tax to cover virtually all services except medical. In 1987, Florida extended its tax to almost all services. Gradually as the states sought additional revenue, they brought in a few categories, either under the sales tax or by a separate levy.

Thus, as the situation stands in July 1987:

1. Restaurant meals are interpreted to be sales of commodities, and thus taxable. All states and/or local governments tax hotel and motel services; the majority tax rental of tangible personal property, and most tax utility services and admissions. Table 3-A4 shows the situation in 1987 with respect to services other than these.

2. Twenty-two states tax no other services, and two have added only laundry and dry cleaning, thirteen have added a small number of additional services, and three (Iowa, Washington and West Virginia, plus, as a result of 1987 legislation, Minnesota and Texas) have added a broader range.
3. Only Florida, Hawaii, New Mexico, and South Dakota apply tax to virtually all services.

These four states apply the tax by a general provision, making all services, commercial and professional, rendered to customers taxable except ones specifically exempted. New Mexico defines taxable gross receipts to include the amounts received "from performing services in New Mexico." Hawaii applies the tax "upon every person engaged or continuing within the state any service business." South Dakota applies the sales tax "upon the gross receipts of any person from engaging or continuing in the practice of any business in which a service is rendered." Under the Florida law, "A tax is hereby imposed on the sale at retail of any service in this state...."

The states that tax a broad but not general category of services do so by enumeration of taxable services; for example the Iowa law specifies 71 categories similar to those suggested for Nebraska in the concluding section but also including some business services. The Iowa and Florida approaches warrant more detailed attention.

### **The Iowa Experience<sup>12</sup>**

The Iowa economy is similar in many respects to that of Nebraska, and therefore the Iowa experience is particularly significant. Iowa, which began to tax services in 1967, has followed the approach of listing particular services subject to tax rather than taxing all services other than those exempt. It has not had serious difficulty with this approach, though it has been necessary to extend the tax coverage from time to time

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<sup>12</sup>The authors are indebted to officials of the Iowa Department of Revenue for assistance.

to attain the desired objectives in light of changing conditions. The list of services subject to tax as of July 1, 1987, is shown in Table 3-5. Several services were added in 1985, and a few additional ones in 1986 and 1987. Over the years some have been freed of tax, including advertising; lobbying activities were exempted in 1987. The 1987 changes made trust departments of financial institutions subject to tax, as well as charges of all financial institutions--not merely banks.

The taxable list does not include professional services. There is a specific exemption of medical and related services, and legal and accounting services are not covered. Services involved in the processing of tangible personal property are exempt, as are sales of services for resale, and casual rendering of services. New building construction is exempt; prime contractors are not registered (unless they do other work as well), and tax applies on their purchase of materials. Repair of real property is taxable. Services rendered on property delivered into interstate commerce are free of tax, as are custom farming, spraying for agricultural purposes, veterinary fees for commercial agriculture, and day care services. A use tax applies to services as well as commodities.

The overall experience in Iowa with taxation of services has been satisfactory, but there have been various problems and controversy, and some continuing difficulties.

**Advertising.** The most controversial aspect of the tax was application to advertising. The original legislation of 1967 applied the tax to all forms of advertising, including printed material, radio, TV, direct mail, outdoor, etc. There were a number of problems in the operation of the tax. Much of the material originated outside Iowa but was printed in Iowa or transmitted by radio or TV in Iowa. In general radio and TV advertising originating outside the state but broadcast in Iowa was not taxed, and there would have been serious collection problems in doing so, but printed material brought into Iowa and advertising originating outside the state but printed in Iowa were taxable. Advertising in Iowa for out-of-state firms could be subject to tax

TABLE 3-5

## IOWA SALES AND USE TAX CURRENTLY TAXABLE SERVICES

## A. Utility Services

1. Gas
2. Electricity
3. Water
4. Communication services

## B. Personal and Business Services

1. Alteration and garment repair
2. Armored car
3. Automobile repair
4. Bank service charges
5. Barber and beauty
6. Battery, tire and allied
7. Boat repair
- \*8. Cable television
- \*9. Campgrounds
10. Carpentry
- \*11. Carpet and upholstery cleaning
12. Car wash and wax
13. Dance schools and dance studios
14. Dry cleaning, pressing, dyeing, and laundering
15. Electrical and electronic repair and installation
16. Excavating and grading
17. Farm implement repair of all kinds
18. Flying service
19. Furniture, rug, upholstery and repair and cleaning
20. Fur storage and repair
21. Golf and country clubs and all commercial recreation
- \*22. Gun and camera repair
23. House and building moving
24. Household appliance, television, and radio repair
25. Investment counseling
- \*26. Janitorial and building maintenance or cleaning
27. Jewelry and watch repair
- \*28. Lawn care, landscaping and tree trimming and removal
29. Licensed executive search agencies
- (\*30. Lobbying, exempted 1987)
31. Machine operator
32. Machine repair of all kinds
33. Motor repair
34. Motorcycle, scooter, and bicycle repair
35. Oilers and lubricators
36. Office and business machine repair
37. Painting, papering, and interior decorating
38. Parking facilities

TABLE 3-5 (CONT.)

## B. Personal and Business Services (cont.)

- \*39. Pet grooming
- 40. Pipe fitting and plumbing
- 41. Private employment agencies
- \*42. Reflexology
- 43. Rental of tangible personal property
- 44. Roof, shingle, and glass repair
- \*45. Security and detective services
- 46. Sewing and stitching
- 47. Shoe repair and shoeshine
- 48. Storage warehousing of raw agricultural products
- \*49. Tanning beds or salons
- 50. Telephone answering services
- 51. Termite, bug, roach, and pest eradicators
- 52. Test laboratories
- 53. Tin and sheet metal repair
- 54. Turkish baths, massage, and reducing salons
- \*55. Water conditioning and softening
- 56. Weighing
- 57. Welding
- 58. Well drilling
- 59. Wood preparation
- 60. Wrapping, packing, and packaging of merchandise
- 61. Wrecking service
- 62. Wrecker and towing

## C. Rentals

- 1. Renting of rooms, apartments, sleeping quarters
- \*\*\*2. Rental of motor vehicles - 13 tons or less, if the rental period is for 60 days or less

## D. Amusement Activities

- 1. Tickets or admission to places of amusement, fairs and athletic events
- 2. Part of private club memberships paid for participating in any athletic sports provided by the club
- 3. Operation of amusement devices and games of skill, games of chance, raffles and bingo games
- \*4. Iowa lottery tickets or shares
- \*5. Fees paid to Iowa cities and counties to participate in athletic sports
- \*6. Recreational vehicle and boat rental

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\* denotes change made in 1985

\*\* denotes change made in 1986

\*\*\* denotes changes made in both 1985 and 1986

SOURCE: Iowa Department of Revenue.



but collection was difficult. One of the most serious problems was that Iowa firms could place advertising in border city newspapers or radio or TV stations reaching Iowa customers and not be subject to tax at all. No attempt was made to tax national advertising coming into the state, as Florida is attempting to do. There were other problems relating to the relative responsibility of advertising agencies, the advertisers, and the advertising media.

Various firms challenged the tax in court. The primary issues raised involved charges that the tax discriminated against interstate commerce and violated the 14th Amendment and the Iowa Constitution for not being uniform in operation. The Iowa Supreme Court, in *Lee Enterprises, Inc. et al. vs. Department of Revenue et al.* (162 NW 2nd 730, 1968), rejected these claims and upheld the legislation. Nevertheless, substantial controversy and uncertainty about the provisions remained, and in 1969 the tax was repealed. Much of the uncertainty centered around the phrase "originating in Iowa" and the differential treatment of various forms of advertising.

**Other Problems.** Other problems encountered in the operation of the tax on enumerated services can be noted briefly:

1. There have been a number of definitional problems. For example, there is no clear-cut definition of investment counseling. The tax on parking lots was interpreted to exclude parking structures; the latter were added by change in the law. There are constant questions about the exemptions of services used in processing.
2. The changing nature of the economy results in a constant need for review of the coverage.
3. There are problems about the question of delivery of a service in Iowa. When, for example, an article is tested or repaired in Iowa and sent out-of-state by means other than the customer's own trucks, the transaction is exempt. But if only the results of a test (for example, of a medical nature) are sent out, then tax applies.
4. As in other states there are controversies relating to the sale of tangible personal property in conjunction with the rendering of services and the ability of the service firm to acquire these tax free as sales for resale. For example, a car wash provides soap and wax for use in washing; is the purchase of this by the car wash a sale for resale? The general rule is that if a separate charge is made for a separately identifiable article, the service firm can purchase this tax free, but otherwise it cannot.

5. There are serious problems in distinguishing new construction from repair of real property. Patching of a roof is repair and taxable; presumably construction of an entirely new roof is exempt new construction.

Some of these problems can be solved by minor changes in the law, and others could be solved by readjustment of the coverage, but new ones constantly arise. Application of the tax to all services except those exempted would lessen some of the questions but would by no means eliminate them; the issues would then be over whether particular activities were covered by exemptions or should be exempt.

### **The New Florida Tax on Services<sup>13</sup>**

The State of Florida is the first state to move to general taxation of services in recent years, although other states are considering doing so. The approach is to tax all services except those specifically exempted; this approach was preferred because of the tendency of the courts to interpret rather narrowly any specific taxing provisions. Initial action was taken in 1986; the Legislature, hard pressed to find additional revenue to meet the needs of rapid growth of the State and constitutionally barred from imposing an income tax, enacted bill 86-166, a general measure providing for taxation of all services, to be effective July 1, 1987. Various studies were commissioned by the State with regard to details, legal implications, revenue potential and the like. As anticipated, in 1987, the legislation was made much more specific and was altered substantially, primarily by providing a number of exemptions (bill 87-6), effective July 1, 1987.

The 1986 legislation repealed all service exemptions in the sales tax legislation, thus making all services taxable unless changes were made in 1987. As a result of studies made, legal

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<sup>13</sup>The volume by the Florida Department of Revenue, *Report to the Florida Legislature*, March 1987, contains very extensive information on the development of the tax. The authors are indebted to the Florida Department of Revenue for its assistance. Note also Florida Department of Revenue, *Emergency Rules, Sales and Use Tax on Services and Other Transactions* (Tallahassee: Florida Department of Revenue, June 1987).

advice sought, and pressure brought by various groups, several basic changes were made in 1987. A use tax provision was added, services rendered by employees to employers were excluded, a sale for resale exemption was added, interest and insurance premiums were excluded, casual sales were exempted, and definitions of taxable transactions were made more specific. Other exemptions were added; the major ones follow (although the exact meaning of some of these is not entirely clear):

- Agricultural and forestry services
- Most but not all transportation services, including urban transport, transport of agricultural products and basic extractive industry projects; most if not all rail transport
- Medical, educational (with exceptions) and various social services
- Beauty parlors, barber shops
- Coin operated laundries
- Certain legal services, including legal services in criminal prosecution, if the defendant is acquitted
- Repair of industrial machinery
- Certain data processing activities

While many of these exemptions can be justified on the basis of commonly accepted objectives (e.g., educational, medical, etc.), others are questionable. The coverage is by no means entirely general. Some services frequently taxed in other states which list taxed services are exempted (e.g., barber and beauty parlor service, coin operated laundries). The tax, however, is broader than that of many states in the coverage of most professional and business services and the broad taxation of advertising. The other major difference is the strong effort to tax services benefiting persons in the State but provided by out-of-state firms. Under the sales tax portion, services rendered wholly or predominately (based on cost) in the State are taxed. Under use tax provisions, when the service is rendered outside Florida but benefits accrue to persons within

Florida, the service is subject to use tax. This rule applies to advertising (including national advertising) as well as other forms of taxable services and tax liability depends upon the proportion of the total services provided in Florida.

The two most serious questions that may be raised about the Florida measure are the extensive taxation of services rendered to business firms, and the constitutional and enforcement problems of attempting to tax services provided outside the State. Many of the exemptions (e.g., medical service) have strong justification, but others reflect the influence of lobbies. The strange rule on legal services is questionable, to say the least. On the whole, except for extra-territorial aspects, the tax is less broad than that of other states using the general approach. As of October 1987, there is strong indication that the Florida tax will be materially reduced in scope or repealed.

### **The Arguments for the Taxation of Services**

Under the usual standards of taxation there is no basic reason why sales tax should be confined to commodities; the tendency to do so, with minor exceptions, is more the product of historical accident than logic. The objective of a sales tax is to distribute the costs of governmental services in relation to consumer spending, with the usual and reasonable assumption that the taxes are shifted forward by the firms from which the tax is collected to the consumers of the products. Acquisition of services by households constitutes consumption expenditure in the same fashion as the purchase of commodities; there is no basic difference between the two that warrants different tax treatment. Consumers gain satisfaction from services just as they do from commodities.

Application of sales tax to consumer services offers several specific advantages. A given sum of revenue can be raised by a lower tax rate, thus lessening pressure to evade and to make purchases outside the state. Discrimination in favor of persons who spend greater than average percentages of their incomes on services will be eliminated, as will be the incentive to spend

more on tax free services and less on taxable commodities. Application of the tax to the services provided by firms already registered because of their sale of commodities would simplify both compliance and enforcement tasks, since the firm's entire charges would be taxable, instead of only portions.

A major argument in favor to taxing services is that consumption of services is rising much more rapidly than consumption of tangibles. As the economy becomes more service oriented, the tax base will grow more rapidly if services are taxed.

It is also commonly argued that the taxation of services would make the tax less regressive or more progressive, since the proportion of income spent on services rises as incomes rise. This argument would be valid if in fact all services could be taxed, but some of the most progressive services, relative to income, cannot be reached: foreign travel, expensive out-of-state education, personal services, and the like. Various studies suggest that on the whole taxation of services does not significantly alter the distributional pattern, and taxation of some types will make the tax more regressive.<sup>14</sup> But the other arguments for taxing services are significant.

Some objections raised against taxing services make no sense whatever. For example, it is sometimes argued that since persons pay tax on the purchase of a commodity it is unfair to require them to pay for cleaning or repairing it. There is no logic to such an argument; expenditures for cleaning and repair are consumption expenditures, just as those on the original purchases. Service establishments complain about potential compliance costs, but at present purely service establishments are favored over sellers of commodities.

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<sup>14</sup>D. G. Davies, "The Significance of Taxation of Services for the Pattern of Distribution of Tax Burden by Income Group," *Proceedings of the National Tax Association* (1969): 138-46. Note also the discussion in the *Nebraska Final Report of the Sales Tax on Services Task Force*, April 1987.

### **The Primary Problem with General Taxation of Services: Those Acquired for Business Use**

Despite the valid arguments for taxation of services, in actually implementing the tax, one encounters a very basic problem--that of distinguishing between services rendered to household consumers and those supplied to business firms. As stressed previously, the rationale of sales taxation is that of distribution of tax burden in relation to consumer spending, through taxation of sales to household consumers. To tax purchases for business use is contrary to this basic rationale and is objectionable in several respects, as noted.

In two respects, taxation of services provided to business firms is more serious than equivalent taxation of commodities sold for business use. First, it is much easier for firms to provide services by their own employees (as opposed to acquiring them from independent firms) than it is to produce commodities. It is not too difficult for firms--at least larger ones--to undertake their own bookkeeping, accounting, or legal work; it is not nearly as easy for a firm to commence to produce commodities it normally would purchase--furniture, for example. Accordingly there is greater danger of economic distortions, escape of tax, and competitive inequity.

The second difference relates to interstate transactions. The chief source of leakage of revenue with the present sales tax is that from interstate purchases. With commodities, at least a physical object crosses the state line, although it may be difficult to enforce payment of tax on the purchase. But with services performed outside the state, nothing tangible crosses the border. Inability to tax services obtained outside the state is not likely to encourage individuals to get haircuts or do household laundry outside the state, but it is likely to encourage businesses to acquire services out of state. Suppose, for example, that truck repair is taxable. A trucking firm, not wishing to do its own repair work, will have this performed out of state--and there is no way that Nebraska could possibly tax it. Out-of-state firms coming into the state to do repair or cleaning in theory could be forced to register and collect Nebraska tax, but many would escape.

If an attempt were made to tax advertising service, including amounts paid for radio and TV advertising, then in areas near state borders, the advertising could be done on stations outside the borders. Nebraska service firms would have incentive to relocate outside the state. Furthermore, the attempt by Florida to tax national advertising is of very doubtful constitutionality. States that have taxed advertising, as for example Iowa, have found serious difficulties and strong political opposition.

The opposite problem is the potential adverse effect of taxing services rendered in Nebraska for out-of-state firms; aircraft repair is a major example. A special rule, such as that in Iowa, would be necessary to exempt from tax services provided for out-of-state firms when the commodity is sent into Nebraska solely for service work and will not remain in Nebraska.

In conclusion, if the sales tax is applied to services, it should not be applied to those services rendered primarily to business firms. For a simple summary example, suppose that bookkeeping firms are subject to tax. This added cost gives their customers a strong incentive to hire additional staff to perform the bookkeeping in-house. But, the customers most capable of doing so efficiently are the larger firms; smaller ones won't be able to hire additional staff and so will be penalized by the law because they will have to pay the tax charged by the bookkeeping firm for the services. Similar considerations apply to legal services, computer systems analysis, and numerous others. Yet some of the proposals for taxing services make no distinction between these services rendered primarily to business and those rendered for primary consumption use.

Even if this route is followed, the problem remains, however, that some services rendered primarily to households (for example, repair) are provided in part to business firms. Nevertheless, it can be argued that taxation of some services rendered to business firms is tolerable since not all commodities purchased for business use are excluded from tax. But it must be recognized that this is only a second best approach, made necessary by the difficulty of

excluding purchases for business use of goods and services of types also purchased for consumption.

### **Objections to Taxation of Certain Services on Social Policy Grounds**

The second major objection to general taxation of services is that a number of services, primarily professional ones, do not appear to be appropriate bases of taxation even though rendered to individuals. The most important of these are related to health care: medical, dental, hospital, and related activities. These constitute an important element in the budgets of lower income persons despite Medicare and Medicaid, and the distribution of expenditures is very uneven on families in given income ranges. These are in a sense expenditures necessitated by misfortune, and taxation of them appears particularly inappropriate. While more and more families are covered by Health Maintenance Organizations (HMOs) and various forms of health insurance, taxation of these services will increase the premium costs for these programs, and the premiums are borne by the individuals and/or their employers.

Taxation of legal services likewise appears inappropriate; much legal service is rendered to business firms, and in general is related to obtaining justice (though in fact not all of it is). Similarly, taxation of educational services appears inappropriate in part because of the relationship of public education, provided with little charge, and private education which is paid for by those gaining the education or by their parents. It would be particularly difficult for Nebraska to attempt to tax private education, as much of the expensive private education is obtained outside the state--and this would be compounded if the tax applied to education provided within the state. There is no reason, however, not to tax essentially "luxury" education, such as dance classes.

Finally, significant objection can be raised against the taxation of public passenger transportation (freight transport is acquired for business use and should not be taxed in any event). Urban transportation is subsidized, and there is little justification for then applying tax to



it. Intercity passenger transport is directly competitive with private car use, which cannot be taxed on an equivalent basis. There is no way that Nebraska can tax interstate passenger transport, including expensive trips overseas, such as vacations in Hawaii or winters spent in the Caribbean.

### **Services Recommended for Taxation**

There is merit, then, in extending the sales tax to a selected group of services--in general, those rendered primarily to households and not to business firms--and excluding professional, medical, education, and public transportation services. Business firms will still bear some of the burden of the tax, but there is no way that all such tax can be removed unless all purchases for business use are exempted from tax by some new technique--and this is unlikely in the immediate future.

Thus, the potential list of services recommended for taxation is as follows:

1. Continued taxation of: electricity, gas, water, and local telephone service; admissions; rental of tangible personal property; transient accommodations: hotel, motel service.
2. All activity relating to tangible personal property: all repair, cleaning, including dry cleaning, laundry, painting, rebuilding; all work on motor vehicles, parking; storage (except of business inventories and farm products). The only exception to the repair charge would relate to industrial and farm machinery if the purchases of these goods are freed of tax, and to railway rolling stock and track.
3. Repair and maintenance of real property, including: carpentry, roofing, plumbing, electrical, cleaning, painting, interior decoration, pest control, security systems, lawn, garden, and related care, including landscaping contracts, well drilling, water softening, excavation, house moving, and the like. Real property construction, including extensions to present structures, would be taxed on a revised basis, as noted above. All installation of fixtures in real property would be taxed.
4. Personal services of all types rendered by commercial establishments, including: barber and beauty parlor service, massage, tanning, reducing salons; escort services; various types of commercial schools such as dancing, driving, flying schools, golf and other athletic instruction; pet grooming, training, and boarding; non-farm animal veterinary service; detective services, telephone answering; funeral

services; employment services, bank charges to customers (not interest).

5. Charges for all commercial recreation, in addition to those already taxed (golf course membership fees and charges, membership in other recreational groups, charges for cable TV); and charges for bowling alleys and pool halls; dance halls; carnivals; musical devices; shooting galleries; plus usual admission charges to movie theatres, public events, etc.; and all photographic work.

This is by no means an ideal listing, since a portion will directly impact business firms. But a coverage as broad as this is almost imperative if any significant amount of revenue is to be obtained. The estimated additional revenue is shown in Table 3-6, and derives from the data in a study by the State Legislative's Revenue Committee Staff, adjusted to a 4 percent rate, and from the above proposed coverage, including the taxation of 50 percent of the contract price on building construction.

The revenue increase is estimated to be about \$37.5 million, including \$12.250 million from real property contracts. The total would equal 9 percent of current sales tax revenue. Adding a wide range of professional and business services would raise the additional revenue to an estimated \$111 million or 29 percent of present revenue (at a 4 percent rate). Limited extension would add perhaps 5 percent to the number of registered firms (many are already registered because they sell commodities). Some of these service establishments are more difficult to control than sellers of commodities since their purchases are small relative to their sales, and thus audit based upon data of purchases is less feasible. But the experience of states that have taxed services has been satisfactory, with relatively few problems--except when they try to tax advertising.

### **Revenue from Taxation of Services in Iowa and Other States**

Table 3-A5 shows the yield in Iowa from the taxation of firms in the service category, for the fiscal year ending March 31, 1986. The total equals about 12 percent of total sales tax revenue, but about one-fourth of the revenue shown comes from services that are already taxed

TABLE 3-6

**ESTIMATED ADDITIONAL REVENUE, FROM APPLYING  
SALES TAX TO SERVICES, 4 PERCENT TAX RATE  
(in thousands of dollars)**

Veterinary services, nonfarm	\$ 340
Animal services, nonfarm	620
Landscaping, etc.	270
Automotive services	5,900
Personal services (barber, beauty parlor, etc.)	5,000
Exterminating services	250
Cleaning and maintenance, real property, etc.	970
Employment agencies	210
Detective agencies	225
Automobile repair, etc.	4,360
Other repair services	2,420
Amusement and recreation	975
For profit education	345
Charges of financial institutions (not interest)	<u>3,400</u>
<b>TOTAL services</b>	<b>\$25,285</b>
Real property construction, 50 percent of contract price	<u>12,250</u>
<b>TOTAL services and real property</b>	<b>\$37,535</b>

**SOURCE:** Derived from computations by Nebraska Revenue Committee Staff, 1987.

in Nebraska, so that would reduce the relative yield figure to about 9 percent of total sales-use tax revenue. However, many taxable services are rendered by firms classified under other categories (e.g., department stores), while firms classified in the service category sell taxable commodities; the yield from the tax on services is probably somewhat greater than the figure indicated.

Estimates of revenue from taxation of services in other states with relatively broad coverage include South Dakota, 12.3 percent; New Mexico, 21.0 percent; and Washington, 10.0 percent.<sup>15</sup>

### **The Problem of Interstate Purchases<sup>16</sup>**

The most serious problem the State faces in enforcement of the sales and use tax and the chief source of leakage of revenue and competitive disturbances is the inability to collect tax on most purchases made outside the State, including mail orders; particularly difficult are those purchases that are then delivered in the State, since these typically escape the taxes of both states involved.

#### **Mail Orders**

The mail order problem has clearly been growing in severity. Since mail order sales are not only conducted by strictly mail order firms but also by other businesses, it is impossible to develop a precise figure of the magnitude of sales. But estimates of mail orders indicate an annual growth rate of 8 to 12 percent in recent years, much greater than the increase in total retail sales. Several new developments facilitate this rapid growth: a sharp increase number of firms utilizing toll-free, widely advertised telephone numbers; home computer marketing; computer

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<sup>15</sup>*Final Report of the Sales Tax on Services Task Force*, p. 33.

<sup>16</sup>This issue was reviewed carefully in the Nebraska Department of Revenue, *Summer of 1985 Interim Studies*.

linkups, still in their infancy, and computer terminal catalogs placed in factories, supermarkets, and other locations. These computer trends suggest that direct ordering from out-of-state may increase at a still more rapid rate. It is impossible to calculate the direct loss in revenue to Nebraska, but estimates by the Advisory Commission on Intergovernmental Relations (ACIR) indicate that the loss by Nebraska on mail order sales is between \$6 and \$12 million a year (1985), or 1.5 to 3 percent of total sales tax revenue.<sup>17</sup> This does not include loss on cross-border purchases.

### **Cross-Border Purchasing**

Distinct from the mail order problem is the purchasing by Nebraska residents of taxable goods in other states. There are two situations. First, the person may purchase over the counter in the other state, thus paying tax to the other state. The only possible tax saving to the purchaser arises from a difference in the rates. All of Nebraska's neighbors have a sales tax (Montana is the closest state that does not) and the rates are comparable or higher in the other states. The main exception is in Council Bluffs, Iowa or other Iowa localities not employing a local tax, so that there is a 1 or 1.5 percent tax differential.<sup>18</sup> But, this revenue loss is likely reduced somewhat by the fact that Omaha is the principal shopping center in the area; experience elsewhere suggests that the state with the major shopping center near the border is likely to gain rather than lose by cross-border shopping, even if the tax rate is higher.

The other aspect of cross-border purchasing is the purchase of goods outside the state for delivery in Nebraska. In this instance, the tax of the other state does not apply; while the purchaser is legally liable to pay use tax to Nebraska, often this does not occur. Nebraska is able to collect use tax in three instances: motor vehicles bought out-of-state, which cannot be

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<sup>17</sup>Advisory Commission on Intergovernmental Relations, *State and Local Taxation of Out-of-State Mail Order Sales* (Washington: ACIR, April 1986), p. 31.

<sup>18</sup>The typical state-local rate in Wyoming is 4 percent, but there is little Nebraska population near the border.

registered in the State until tax is paid; purchases from the large mail order firms, such as Sears, Montgomery Ward, and J.C. Penney, which also have stores in Nebraska and thus are registered in the state and collect use tax; and business firms subject to audit by Nebraska. But audit coverage is in fact limited, and so many purchases by these firms are not caught.

How great the net loss in revenue is from cross-border purchasing cannot be determined at all accurately. Even a detailed survey, which is beyond the scope of this study, would not give entirely satisfactory answers because data of retail sales in various jurisdictions are influenced by many variables besides taxes, and inquiries of shoppers produce biased results. But a summary of the results of studies made in other areas at least throws some light on the possible effects. These can be summarized briefly.

H.E. McAllister, in a study of the effects of the sales tax differential at the time between Washington State and Oregon and Idaho, which did not have sales taxes, showed significant effects on retail sales in three border cities of Washington.<sup>19</sup>

Two studies involved New York City, at the time when there was a large differential in sales tax rates between the City and adjacent areas. One by William Hamovitch showed that a 1 percent differential would result in a 6 percent loss in sales.<sup>20</sup> A study by Henry Levin concluded that sales of apparel and furnishings were reduced by 6 percent for every 1 percent sales tax rate differential.<sup>21</sup>

John L. Mikesell, in an extensive study in 1970 of the effects of differentials in sales tax rates between the central city and suburbs in metropolitan areas showed a substantial loss of

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<sup>19</sup>H.E. McAllister, "The Border Tax Problem in Washington," *National Tax Journal* Vol. 14 (December 1961): 361-374.

<sup>20</sup>W. Hamovitch, "Sales Taxation: An Analysis of the Effects of Rate Increases in Two Contrasting Cases," *National Tax Journal*, Vol. 19 (December 1966): 411-20.

<sup>21</sup>H. Levin, "An Analysis of the Economic Effects of the New York City Sales Tax," in *Financing Government in New York City* (New York: New York University, Graduate School of Public Administration, 1966).

sales in the higher tax areas--typically 6 to 7 percent for every 1 percent rate differential.<sup>22</sup> In a 1971 study of the effects of differentials on Illinois border counties, he found lower sales in these counties, except of motor vehicles (subject to effective use tax) and convenience stores.<sup>23</sup>

Ronald C. Fisher, in a 1980 study of the effects of sales tax differentials in the Washington, D.C., area, found a substantial effect of differential rates in the taxation of food, a 7 percent loss in sales for every 1 percentage rate difference.<sup>24</sup> But he found little effect on sales of consumer durables and apparel, in part because many of the stores in the adjacent areas also had stores in the District and therefore collected D.C. use tax.

A study by Mikesell and C. Kurt Zorn of the effects of a temporary differential between one city in Mississippi (Bay St. Louis) and surrounding areas concluded that a 1 percent rate differential would result in a 3 percent loss in sales.<sup>25</sup>

A study by Mikesell for the Minnesota Tax Study Commission showed somewhat lower retail sales relative to total county personal income in the border counties than in the nonborder counties (the Minnesota 6 percent tax rate is higher than that of its neighbors), but higher sales in the border counties of apparel, which is exempt in Minnesota but taxed in the neighbor states.<sup>26</sup>

The most recent study, by William Fox, of tax differentials on the borders of Tennessee found that a 1 percent rate differential produced roughly a 3 percent loss in sales in one of the

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<sup>22</sup>J.L. Mikesell, "Central Cities and Sales Tax Differentials," *National Tax Journal*, Vol. 23 (June 1970): 206-13.

<sup>23</sup>J.L. Mikesell, "Sales Taxation and the Border County Problem," *Quarterly Review of Economics and Business*, Vol. 11 (Spring 1971): 23-29.

<sup>24</sup>R. Fisher, "Local Sales Taxes: Tax Rate Differentials, Sales Loss, and Revenue Estimation," *Public Finance Quarterly*, Vol. 8 (April 1980): 171-188.

<sup>25</sup>J.L. Mikesell and C.K. Zorn, "Impact of the Sales Tax Rate on Its Base: Evidence from a Small Town," *Public Finance Quarterly*, Vol. 14 (July 1986): 329-338.

<sup>26</sup>J.L. Mikesell, "Retail Sales and Use Taxation in Minnesota," in *Final Report of the Minnesota Tax Study Commission* (St. Paul: Butterworths, 1986), pp. 179-87.

three sets of city areas, a 1 percent change in a second, and no noticeable measurable change in the third, the one in which the differential was less.<sup>27</sup>

These studies, in general, show that sales tax differentials do have some effect on across the border purchasing, but that the effect is typically not of great magnitude. But it is possible that Nebraska is losing as much as 3 percent of the potential revenue from general retail sales in the border areas with Iowa.

Purchases of farm and industrial machinery may involve greater loss of revenue, as the tax differential is much greater. Nebraska taxes purchases of farm machinery and equipment, replacement parts and the like. Iowa now exempts them, as does Missouri, and Kansas exempts used items. But even if the state of purchase taxes them, this tax can be avoided by taking delivery across the state line. The Nebraska Department of Revenue is convinced that there is substantial loss in revenue, primarily to Kansas, but Kansas believes there is considerable loss to Nebraska. While the purchase is subject to Nebraska use tax, relatively few persons pay it, and it is not easy (and perhaps politically difficult) for enforcement personnel to try to track down such purchases. Out-of-state dealers are unlikely to cooperate in reporting deliveries into Nebraska, and neighboring states that do not tax the equipment are not likely to cooperate with Nebraska on the matter, even though they may on purchases taxable in both states.

Industrial machinery and equipment is likewise exempt, in part or entirely, in Iowa, Missouri and Colorado, and tax is refunded in Kansas. The chance of escape from tax is somewhat less than with farm equipment because the firms are subject to audit, and auditors will almost certainly check purchases to uncover taxable ones from out of state on which use tax has not been paid. The limitation, however, is that the audit coverage in Nebraska is so limited that relatively few firms are actually reached by it.

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<sup>27</sup>W. F. Fox, "Tax Structure and the Location of Economic Activity Along State Borders," *National Tax Journal*, Vol. 39 (December 1986): 387-403.



## Supreme Court Decisions Affecting the Power of the States to Enforce Use Tax

As noted, any purchase of taxable goods made by Nebraska residents from out of state, whether by mail or phone or in-store purchase over the counter for delivery in Nebraska, are legally subject to Nebraska use tax. The ability of the states to impose use taxes on out-of-state purchases was long ago upheld by the U.S. Supreme Court in the *Silas Mason* decision.<sup>28</sup> But the legal power to collect tax and the practical ability to do so are very different, except in the situations noted above. Most individuals do not pay use tax, and many businesses overlook the tax.

The states can attain effective collection of use taxes on most transactions only if they can require the out-of-state vendors to collect the tax from their customers and remit it to the state. The general constitutional rule has been that the state can require a firm to register and collect and remit use tax only if it has some minimum connection or definite link--called nexus--with the state, and thus benefits from state activities. Otherwise, the application of the tax violates both the interstate commerce clause and the due process clause. Over the years, the following situations have been held by the courts to constitute adequate nexus:

1. If the firm has retail outlets in the state, it must collect and remit on its mail order sales.<sup>29</sup>
2. Solicitation by salesmen and agents in the state,<sup>30</sup> including, following the *Scripto* decision in 1960,<sup>31</sup> situations in which the out-of-state seller contracts with a local in-state firm to serve as its representative.
3. Following the *National Geographic* decision, if the out-of-state firm maintains offices in the state, even if only for a different portion of its

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<sup>28</sup>*Henneford vs. Silas Mason*, 300 US 57 (1937).

<sup>29</sup>*Nelson vs. Sears Roebuck & Co.*, 312 US 359 (1941) and *Nelson vs. Montgomery Ward*, 312 US 373 (1941).

<sup>30</sup>*General Trading Co. vs. State Tax Commissioner*, 322 US 335 (1944).

<sup>31</sup>*Scripto, Inc. vs. Carson*, 362 US 207 (1960).

activity.<sup>32</sup> In the *Standard Pressed Steel* case, involving the business occupation tax of the state of Washington, the fact that the out-of-state firm had an employee in the state, though not involved in order taking, provided nexus.<sup>33</sup>

However, in three instances (two of paramount importance), the states were rebuffed in their efforts to widen their jurisdiction:

1. The State of Maryland sought to require a Delaware firm soliciting business in Maryland and delivering to Maryland customers in its own trucks to register and collect and remit use tax. In the *Miller Bros.* case in 1954,<sup>34</sup> however, the Supreme Court ruled that this activity did not give adequate nexus to enable Maryland to force collection of use tax.
2. The most devastating case from the standpoint of the states was *National Bellas Hess*, 1967. The State of Illinois has sought to require National Bellas Hess, a large mail order firm located in North Kansas City, Missouri, to collect and remit Illinois use tax, on the grounds that its solicitation of business in the state via catalogs and other advertising material established adequate nexus. By a 6 to 3 decision the Supreme Court held that solicitation of this type did not provide nexus.<sup>35</sup> This has to date prevented states from significantly broadening their enforcement activities against out-of-state firms.
3. In a case of less importance, the Supreme Court ruled in 1969 that California could not require Nevada and Oregon retail firms selling on credit to customers with California addresses to collect and remit use tax, even though the retail firms also had stores in California.<sup>36</sup>

### The Webber and Good Decisions

In two cases state supreme courts have upheld the power of the states to require collection of use taxes by out-of-state vendors regularly delivering in the state, in contrast to the

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<sup>32</sup>*National Geographic Society vs. California Board of Equalization*, 430 US 551 (1977).

<sup>33</sup>*Standard Pressed Steel Co. vs. Department of Revenue of Washington*, 419 US 560 (1975).

<sup>34</sup>*Miller Bros. vs. Maryland*, 347 US 340 (1954).

<sup>35</sup>*National Bellas Hess, Inc. vs. Department of Revenue of the State of Illinois*, 386 US 753 (1967).

<sup>36</sup>*Montgomery Ward & Co. vs. State Board of Equalization*, 272 ACA 823 (1969).

*Miller Bros.* decision. These cases were not carried to the U.S. Supreme Court. The first, in 1980, involved application of the South Dakota use tax to a Nebraska furniture store regularly delivering furniture in its own trucks into South Dakota. The South Dakota Supreme Court held that regular delivery by its own employees made Webber Bros. liable for collection of use tax, *In re State Sales or Use Tax Liability of Webber Furniture*, 290 NW 2nd 865 (S.D., 1980).

The *Good* case (*Good's Furniture House, Inc., vs. Iowa State Board of Tax Review*, 382 NW 2nd 145d, 1986) was basically similar. Good's Furniture is located in Kewaunee, Illinois. About 10 percent of its sales in the period in question were made in Iowa; the firm solicited customers by regular intensive TV advertising on stations broadcasting into Iowa, and regularly delivered in its own trucks to customers in Davenport, Bettendorf, and other cities in Iowa, 10 to 12 locations weekly. The truck drivers assembled some items and repaired minor defects. The Iowa law gave the power to the Director of Revenue to designate truck drivers, as well as others, as agents of the vendor. The store argued that since the truck drivers were not salesmen, their presence did not make them agents of the vendor. The vendor also claimed that there was not sufficient nexus to satisfy the due process clause, relying on the U.S. Supreme Court decision in **Miller Bros.** The Iowa court in rejecting these arguments noted the difference between regular solicitation and delivery by Good versus the lack of regular solicitation and delivery by Miller. The court concluded

that the *Miller Bros.* nexus test, as refined by these later Supreme Court cases, was satisfied by the Department's showing that Good's Furniture directly solicited a large volume of Iowa sales by intensive television advertising, then regularly serviced its Iowa customers by delivering merchandise in its own trucks with its own employees.

Similar decisions have been made by state supreme courts in Vermont [*Rowe-Genereux, Inc. vs. Vermont Department of Taxes* 138 Vt. 130, 137, 411, A 2nd 1345, 1349 (1980)], and in Ohio [*Cooley-Bentz Co. vs. Lindley*, 66 Ohio St. 2nd 54, 419 N.E. 2nd 1087, 1088 (1981)].

### **Congressional Consideration**

The *Scripto* decision worried mail order firms about possible further enlargement of the state's net to catch out-of-state firms, while *Miller Bros.* and *National Bellas Hess* disturbed the states because they restricted their ability to broaden the use tax net. As a consequence, for 25 years, Congress has considered possible legislation affecting the field. Four series of hearings have been held; the ACIR has studied the issue and offered recommendations, and state groups have likewise given it substantial attention. But no legislation has been enacted.

The basic situation today is most certainly unsatisfactory. The states are losing substantial revenue. In-state retailers are subject to competition from out-of-state firms not remitting tax. Many residents of the state break the law--often unknowingly--when they buy out of state and do not remit use tax. Out-of-state retailers who are caught because they are interpreted to have nexus in the state compete with firms that do not have nexus.

The long discussions in Congress have been fruitless because of the inability of the various groups to compromise. The mail order firms, with a strongly organized lobby, have fought any effort to increase the power of the states, and the business community generally has been unsympathetic to federal action, even though some segments are injured by the present treatment. On the other side, the state governments, particularly the revenue officials and the state organizations, have fought hard to prevent any curtailment of their present powers and to obtain wider scope.

The earlier proposals in Congress (the Willis and Mathias bills) would have codified the existing situation, broadened the powers of the states in some respects but narrowed them in others. Thus, while supported by the business community, they were opposed by the states, largely because they omitted from tax collection liability firms whose only activity in the state was direct advertising. Other bills in the 1970s were somewhat comparable. While the failure of Congress to act was in part a product of the inability of the states and business groups to agree,

partly it resulted from linkage of the sales-use tax issue with legislation relating to state corporate income taxation. Beyond this was the difficulty of finding an entirely satisfactory solution, as outlined below.

There is widespread agreement--except by the direct mail order firms--that the present situation is intolerable, and will grow worse if action is not taken. There is also substantial agreement that firms directly soliciting business in the state or delivering into the state other than by common carrier should be required to register and collect use tax. But there are several other issues.

1. The problems and cost of compliance for small firms selling only limited amounts into a state would be intolerably high. This leads to suggestions for a *de minimis* (small business exemption) rule, but how high should the figure be? What figure constitutes a reasonable balance between revenue and concerns of in-state retailers and the compliance costs of out-of-state vendors? Furthermore, should the rule be based on the firm's overall total sales or on total taxable sales, upon the sales into a particular state?
2. Appropriate treatment has been greatly complicated by the spread of local sales taxes, of which there are nearly 7,000 nationwide. To require the mail order firms selling into a number of states to collect local taxes as well as state tax would encounter severe opposition, especially when the local taxes are locally collected and differ from the state tax in coverage. Confining collection to the state tax would be acceptable in most cases--but there are instances such as New York City in which the local tax exceeds that of the state.
3. Should the present firms now required to register and collect tax be forced to continue on the present basis, or be entitled to the *de minimis* rule provided for firms not now registered?
4. Should out-of-state vendors be provided compensation for their work in collecting and remitting tax? States already compensating in-state retailers, such as Nebraska, would have no problem, but those states not doing so would be placed in a difficult situation: to provide compensation for all vendors could easily result in a net revenue loss, yet compensating out-of-state vendors but not in-state vendors would be politically difficult.
5. Finally, there is the problem of failure of customers to remit sales tax to the vendor on mail order and related purchases. Will the vendor owe the appropriate amount to the state? The tasks for the vendor of

collecting the additional amount on small transactions would be very substantial relative to the money involved--yet failure to insist on payment would be unfair to in-state retailers, who would not have the equivalent privilege.

### Recent Proposals

The Advisory Commission on Intergovernmental Relations, following its extensive review of the issues,<sup>37</sup> recommended that federal legislation be enacted that would in effect offset *National Bellas Hess*. In summary, the provisions would be as follows:

1. Mail order vendors would be required to collect and remit use tax on sales delivered in the state, "if the mail order vendor engages in regular or systematic solicitation of sales in that state through a catalog, advertising or other means."
2. Under a *de minimis* rule, firms with total annual sales under perhaps \$12.5 million, would be free of the requirement.
3. In states with local sales taxes, the state would determine whether out-of-state vendors should collect the state rate only, or the state rate plus a single local rate.

The National Association of Tax Administrators (NATA) developed a similar proposal. It differed in its definition of *de minimis*, to be based upon annual sales into each state of less than \$100,000 or taxable sales under \$25,000. It likewise differed with regard to local taxes: out-of-state vendors would be required to collect local taxes only if (1) the local rate and coverage were uniform throughout the state; (2) they were state collected; and (3) the out-of-state firms need not account for the local taxes by local jurisdiction. The state would allocate the total to local units. Only quarterly returns would be required.

In the spring of 1986, Rep. Jack Brooks of Texas introduced the "Equity in Interstate Competition Act," which basically was similar to the NATA proposal, except that it proposed a

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<sup>37</sup>Advisory Commission on Intergovernmental Relations, *State and Local Taxation of Out-of-State Mail Order Sales* (Washington: April 1, 1986).

\$12 million *de minimis* rule, coupled with a rule of sales under \$500,000 into a particular state. With regard to local taxes, the provisions are the same as those of the NATA bill proposal. Somewhat similar bills have been introduced by Rep. Byron Dorgan of North Dakota and Senator Thad Stevens of Mississippi. Hearings were held in May 1987.

There is no assurance, of course, that a measure will be enacted; if it is, the *de minimis* figure in the Brooks bill is so high that the effectiveness will be reduced. One serious problem with *de minimis* rules is that firms seeking to avoid the requirement may split (on paper) into several firms to escape the rule--as has happened with state cigarette taxes.

There is also a constitutional issue about the power of Congress to offset *National Bellas Hess*. If the unconstitutionality of the state action is based on the interstate commerce clause, which Congress has power over, there is no question that Congress can remedy the situation. But if it is based on the due process clause, established by the 14th Amendment, there is question whether, constitutionally, Congress may act. Both clauses are mentioned in the decisions. Two principal constitutional authorities on the issue, Jerome Hellerstein and Paul J. Hartman, argue that there probably is no constitutional barrier to congressional action, that *National Bellas Hess* is based primarily on the commerce clause, and that Congress can broaden the powers of the states under the due process clause.<sup>38</sup>

### **Partial Solutions**

Meanwhile, what can Nebraska do to improve the situation? One step taken has been to amend the tax law to require firms soliciting business in the State to collect and remit tax, as

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<sup>38</sup>J. Hellerstein, "Significant Sales and Use Tax Developments During the Past Half Century," and P. J. Hartman, "Collection of the Use Tax on Out-of-State Mail Order Sales," *Vanderbilt Law Review*, Vol. 39 (May 1986): 961-92 and 993-1031.

California and other states have done.<sup>39</sup> A bill to require out-of-state firms delivering into Nebraska to either collect and remit tax or provide the State with a list of purchasers was passed in 1986, but vetoed by Governor Kerrey.

But in 1987, with the enactment of LB 304 introduced by Senator Hefner, and signed by Governor Orr, effective October 1, 1987, firms regularly soliciting business in the state are required to register and collect and remit tax. Some of the provisions are as follows:

(d) Soliciting retail sales of tangible personal property from residents of this state on a continuous, regular, or systematic basis by means of advertising which is broadcast from or relayed from a transmitter within this state or distributed from a location within this state;

(e) Soliciting orders from residents of this state for tangible personal property by mail, if the solicitations are continuous, regular, seasonal, or systematic and if the retailer benefits from any banking, financing, debt collection, or marketing activities occurring in this state or benefits from the location in this state of authorized installation, servicing, or repair facilities;

(f) Being owned or controlled by the same interests which own or control any retailer engaged in business in the same or similar line of business in this state; or

(g) Maintaining or having a franchisee or licensee operating under the retailer's trade name in this state if the franchisee or licensee is required to collect the tax under the Nebraska Revenue Act of 1967.

One purpose of the legislation was to join with other states in an effort to pressure out-of-state sellers to register and the federal government to take action and to have the Act ready if such action is taken. For the change to be effective revenue-wise, it will be necessary for the U.S. Supreme Court to reverse the *National Bellas Hess* decision, and although it is a definite

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<sup>39</sup>Action of 10 states in 1987 (Arkansas, California, Florida, Louisiana, Nebraska, North Dakota, Ohio, Oklahoma, South Carolina and South Dakota) is provided in Federation of Tax Administrators, Research Report 120, *State Practices in the Enforcement of Use Taxes* (Washington: Federation of Tax Administrators, 1987), summarized in *Tax Administrators News*, Vol. 51 (Sept. 1987): 101-03.



possibility, there is no assurance that it will.<sup>40</sup> Since other larger states are pressing the issue of constitutionality in the courts, Nebraska might just as well await the outcome of these suits and let the larger states bear the litigation costs that are involved. Moreover, the Nebraska legislation is now in order. Some business concerns in Nebraska engaged in interstate mail order selling are reluctant to see the State push this type of legislation for fear that it will backfire, causing other states to take similar action, but this action is imperative.

There are other partial alternatives:

1. Make further use of informal and formal cooperative agreements with neighboring states, particularly Iowa, Kansas, and Missouri, for joint audit and reciprocal arrangements whereby each state will report findings from audits indicating sales into the other state. This would encourage out-of-state firms to register so that their customers would not be bothered by Nebraska, but it leaves the costly task for Nebraska of seeking to track down the purchasers in the state--feasible at best only on very large purchases.

Formal agreements among states have not proven highly effective in the past, but new ones have recently been established. The most significant of these in the Midwest is the Great Lakes Interstate Sales Compact, formed by Ohio, Indiana, Illinois, Michigan, Minnesota, and Wisconsin as of July 16, 1986. In January 1987, each of the states sent letters to all registered vendors requesting that they register and collect use tax in any Compact state into which they make sales. The *Tax Administration News*<sup>41</sup> reports that as of June 1987, 8,000 new use tax registrations were processed by the member states. Other efforts to obtain use tax registrations have been undertaken. Nebraska is now involved in discussions with the Compact members for increased cooperation.

2. Following the patterns of other states, Nebraska can take other steps to get out-of-state (mostly border area) firms to register, and to pursue purchasers of large, more expensive items--but implementing these policies requires personnel. Iowa reports substantial success in getting Omaha firms to register and collect tax. Possible measures include:
  - a. Pressuring out-of-state firms that regularly deliver into Nebraska to register and collect tax, in line with the *Webber* and *Good* decisions, without drastic change in legislation.

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<sup>40</sup>Hartman, "Collection of Use Tax."

<sup>41</sup>*Tax Administration News*, Vol. 51 (August 1987): 90.

- b. Notation in audit of out-of-state firms that make frequent taxable sales into the state, and attempt to get these firms to register. The in-state customer firms may encourage their out-of-state suppliers to register.
  - c. Increasing coverage for goods that must be registered in the state, with payment of use tax mandatory before registration. This rule is standard with motor vehicles; it can be extended to pleasure boats, private planes, snowmobiles and other items.
  - d. Checking waybills at truck weigh scales near the state boundaries to discover large-item goods bound for Nebraska destinations. Wyoming has used such a program in the past.
3. Add a line on the income tax return form. Indiana and several other states have added a line to the state income tax return for reporting use tax due. This approach costs very little and does yield some additional money, although it does add one more complication to the return.

Up to now, Nebraska apparently has lost considerable revenue, reportedly mostly to Kansas, but likely some to Iowa and Missouri, on out-of-state purchases of farm equipment. If this equipment is exempted, the evasion will disappear, though of course the revenue will not be recovered. If it is not, further attention, particularly by compliance officers, is warranted, by checking liens and perhaps even by requiring registry without charge of the more expensive items of farm machinery.

Most of these steps require expenditure of money and use of scarce personnel, and should not be undertaken unless it is clear that the gains will exceed the costs. The other approaches suggested should at least be considered. But there can be no significant solution without federal action--and even the proposed measures will not solve the problem completely because of the necessary *de minimis* rule.

### **Local Sales Taxes**

The Local Option Revenue Act, enacted in 1969, only two years after the state tax was enacted, enables any city to impose a local sales and use tax, which will be collected by the

Nebraska Department of Revenue. Originally the authorized rates were 0.5 and 1 percent; as of July 1, 1978, Omaha was allowed to raise its rate to 1.5 percent; as of July 1, 1985, Lincoln was allowed to do the same; and Bellevue was added April 1, 1987. For the first year of the levies, the rates were 0.5 percent; since 1970 they have all been 1 percent, except for the three 1.5 percent figures, and 0.5 percent in Gothenburg. Since April 6, 1978, cities can impose the tax only if approved in an election by a majority of voters. The expansion of use of the tax has been slow, but as of July 1, 1987, 21 cities have imposed the tax, as shown in Table 3-7. Apart from the two major cities, most of the larger ones have not imposed the tax--of those over 15,000, for example, Columbus (18,900), Fremont (24,100), Grand Island (40,100), Hastings (22,400), and Kearney (23,600). Several of those that use the tax are very small (Lewellen, pop. 368, for example). There is a surprising concentration in use of the tax by small towns in the far west in addition to the Omaha-Lincoln area, as shown in Figure 3-1.

### **Features of the Taxes**

When Nebraska introduced the local taxes, it took advantage of the experience of other states in designing the system and avoided the problems that some states have had. There are several important merits of the present system. First, the local governments are not permitted to collect their own sales taxes; state collection is mandatory. States that permit local collection have created serious duplication of administration and increased compliance costs. Secondly, the local governments have been given only limited choice of rates; in fact, except for the two largest cities, and two others, all employ the 1 percent figure. Thirdly, the base of the local tax must be identical to that of the state tax. Deviation from this rule, as is permitted in New York State, is a source of great increase in compliance difficulties.

The one mistake ultimately made, as a result of a court decision and subsequent legislation, was to establish liability on the basis of place of delivery, a rule that has plagued jurisdictions that have permitted it, although there is less complaint in Nebraska than has

TABLE 3-7

## NEBRASKA LOCAL SALES TAXES, JULY 1987

City	Population	Established	Tax
			Rate (percent)
Omaha	343,400	Nov. 1, 1969	1/2%, to 1% Oct. 1, 1970 to 1-1/2% July 1, 1978
Lincoln	183,300	Jan. 1, 1970	1/2%, to 1% Oct. 1, 1972; to 1-1/2% July 1, 1985
Bellevue	32,900	Jan. 1, 1975	1% to 1-1/2% April 1, 1987
North Platte	23,406	Jan. 1, 1976 <sup>a</sup>	1%
Ogallala	5,638	Oct. 1, 1980	1%
Sidney	6,010	Oct. 1, 1980	1%
Lewellen	368	Oct. 1, 1980	1%
Gordon	2,243	Oct. 1, 1982	1%
Kimball	3,120	Oct. 1, 1982	1%
Oshkosh	1,057	Oct. 1, 1982	1%
Rushville	1,217	Oct. 1, 1982	1%
Chappell	1,095	April 1, 1983	1%
Chadron	5,993	Oct. 1, 1984	1%
La Vista	9,586	April 1, 1985	1%
Norfolk	21,200	April 1, 1985	1%
Nebraska City	7,127	Oct. 1, 1986	1%
Beatrice	12,600	April 1, 1987	1%
Crawford	1,315	April 1, 1987	1%
Crete	4,872	April 1, 1987	1%
Waterloo	450	April 1, 1987	1%
Gothenburg	3,479	April 1, 1987	1/2%

<sup>a</sup>Discontinued Aug. 1, 1978, reestablished April 1, 1979.

SOURCE: Nebraska Department of Revenue



appeared elsewhere. Firms must keep records of the place of delivery on all delivery sales and when delivery occurs in jurisdictions with no local tax, no local tax applies. This is less difficult for large firms with computerized accounting than for smaller firms. The delivery rule encourages persons to ask for delivery if they live outside the taxing jurisdiction, and this adds to delivery costs; in some instances, on larger items, people give addresses other than their own. Furthermore, many stores reportedly do not apply the local tax on over-the-counter sales when persons indicate that they live outside the city, although this is in violation of the law. Vendors must also keep separate records of taxes on delivery into other tax imposing jurisdictions.

One other problem with the local sales tax relates to possible encouragement given to new stores and shopping centers to locate outside the municipal boundaries, a consequence experienced in other states. While under present Nebraska law these vendors are liable for collection of tax on sales made for delivery into taxing jurisdictions they are not liable for local tax on over-the-counter sales. The result is to distort location decisions of places of business.

One peculiar rule relates to contractors; if a contractor takes delivery outside a jurisdiction of materials for construction work, local tax does not apply even though the construction is within a taxing jurisdiction.

### **Desirability of Local Sales Taxes**

The question of whether local sales taxes should be authorized is a debatable one. One alternative is for the state to increase its sales tax rate and distribute this money to the cities and other local governments, either on the basis of the jurisdiction in which it is collected, or a formula relating to expenditure needs. This approach simplifies the operation of the sales tax and avoids the almost inevitable distortion of location decisions. But the present approach has the merit of placing the responsibility for imposing the additional taxes upon the local jurisdictions and allows variation in use; only in those jurisdictions in which additional expenditures and revenues are regarded as justifiable is the additional tax imposed.

Alternatively, if the local sales tax becomes universal throughout the state, as it is in California and almost is in Illinois, distortion of location decisions is avoided. Whether Nebraska with only limited use of the levy (though covering a high percentage of the population) should go to a uniform additional state rate and abandon the local taxes must be decided on the basis of weighing the gains from uniformity against the varying revenue needs and a retention of local financial responsibility. This is a decision that can be made only on a political basis.

### **Recommendations**

Two recommendations, however, can be offered. First, the original rule that liability depends on the location of the vendor, not place of delivery, should be restored. The second is to authorize counties to impose sales taxes in the unincorporated areas, if a city in the county has a sales tax. This will assist in lessening potential distortion of location of stores and other places of business. This consideration was a major reason Illinois gave the power to counties to levy the tax, for example, and the studies summarized in the section above on loss of sales across intergovernmental borders suggests that the effect of tax free areas in a county may be more than negligible.

### **Summary and Recommendations**

The Nebraska state-local sales and use tax system, as it currently stands, is a relatively satisfactory tax in many respects. Nebraska, as one of the last states to introduce a sales tax, benefited from the experience of other states and avoided some of the major complications and other undesirable features found in some states. Two major changes subsequently made--exemption of food, and placing the local sales taxes on the basis of place of delivery rather than location of the vendor--were in many respects unfortunate. The level of the rate, state and state-local, is on the low side of the national pattern, but comparable to those of neighboring states. The tax has consistently yielded close to one-third of state tax revenue--again a typical figure for

the states as a whole.

The most serious defects in the structure as it now stands include the following:

1. The taxation of industrial machinery and equipment except for firms subject to the new incentives legislation, and the taxation of farm machinery and equipment.
2. Exemption of sales of equipment to common and contract motor carriers while equipment sold to private carriers is taxed.
3. The failure to apply the sales tax to motor fuel.
4. Exemption of food.
5. Failure to tax real property contract work, including installation, adequately with substantial misapplication of tax.
6. The rule with regard to local sales taxes, that the tax is due to the jurisdiction of delivery, as opposed to the location of the vendor.

### **Major Issues to be Resolved**

There are several major issues to be resolved, since the level of revenue from the tax must at least be maintained and justifiably could be increased.

**Extension of Tax to Services.** One approach to increasing revenue is to extend the tax to a wider range of services. There is clearly merit in extending the tax to a group of services primarily rendered to individual households, but the potential revenue from these is not likely to exceed 5 to 6 percent of existing revenue. It is strongly recommended that the tax not be extended to a wide range of services rendered primarily to business firms, for a number of reasons, but primarily because doing so would weaken the competitive position of Nebraska firms relative to those in other states, and secondly, because of the almost certain strenuous opposition that would be generated as evidenced currently by the reaction to similar broadening of the tax in Florida. Florida can stand the adverse effect of such action on the ability to maintain and expand economic activity; Nebraska cannot. The taxation of services should be designed carefully, along the pattern of Iowa.



**The Food Exemption.** The exemption of food causes a large loss in revenue that is in no sense necessary for the tax to meet usual equity standards. There is no justification for exemption of food expenditures for the great majority of households; the objective of removing the burden of the tax on food and other basic necessities on lower income groups can be attained with much less loss of revenue by restoration of a credit system against income tax, the amount of the credit phasing out at higher income levels.

If politically it is impossible to restore the taxation of food, the coverage of the exemption can justifiably be narrowed by applying the tax to soft drinks and candy, as a number of states do. While some interpretive problems will arise, experience of other states has shown that the change is workable.

#### **The Exemption of Industrial and Farm Machinery and Equipment**

With neighboring states exempting these categories, there is increased need for Nebraska to do so. General exemption of industrial machinery and equipment is essential for the preservation of Nebraska manufacturing, while the farm equipment exemption, desirable on several grounds, is of particular importance in view of leakage of business to other states, to the detriment of Nebraska dealers, and the difficulty for farmers to shift the tax toward final consumers.

These two exemptions will cost perhaps 3 to 4 percent of the revenues from the tax, but the case for them is so overwhelming that they are essential. The revenue can be made up from the extension of tax to consumer services and a narrowing of the scope of the food exemption, if more drastic changes are not made in the food exemption.

#### **The Rate of the Tax**

The question of whether the tax rate should be raised is a general policy issue that the State must resolve in terms of expenditure considerations and use of other revenue sources. The rate is somewhat on the low side in comparison with other jurisdictions, and an increase by one

percentage point should not have drastic consequences for the State, although it might increase somewhat the loss of business to neighboring states.

### **The Interstate Problem**

Without question the State is losing considerable revenue on out-of-state mail order purchases, and some by out-of-state shopping and purchases for delivery in Nebraska. Some improvement can be made in enforcement, but no significant improvement can occur unless the Supreme Court reverses or Congress offsets the *National Bellas Hess* and *Miller* decisions. LB 304 is a useful step in the right direction, in that it strengthens the position of the states generally in encouraging federal court or legislative action.

### **Recommendations**

The following changes are recommended, in terms of revenue, equity, economic effects, and compliance and administration.

1. Extension of the tax to a range of consumer and personal services, along the pattern followed in Iowa and this year in Minnesota and Texas, but not including services rendered primarily to business firms, or professional services.
2. Reconsideration of the food exemption. The preferable change would be to eliminate the exemption and restore an income tax credit. Short of this, the food exemption could be narrowed to make soft drinks and candy taxable.
3. Exemption of industrial equipment and machinery, and farm machinery but not tools and other minor items, since exemption of them is too difficult to control.
4. Application of the sales tax to motor fuel, except that fuel exempted in the motor fuels tax, and allocation of the revenue to the general fund.
5. Redefinition of the taxable status of installation work on real property, with charges for installation, including fixtures, becoming taxable; and, in contract work, application of the tax to 50 percent of the total contract price. General contractors would thus be registered.
6. Determination of local sales taxes by the place of location of the vendor, not the jurisdiction of the place to which delivery is made, for ease in compliance and prevention of evasion. Consideration should be

given to granting authorization to the counties to levy sales taxes in unincorporated areas.

TABLE 3-A1

## IOWA LOCAL OPTION SALES TAX

<u>Jurisdiction</u>	<u>County</u>	<u>Date Imposed</u>	<u>Date Repealed</u>
Bertram	Linn	1-1-86	
Polk City	Polk	1-1-86	
Ames	Story	1-1-87	
Huxley	Story	1-1-87	
Bronson	Woodbury	1-1-87	
Cushing	Woodbury	1-1-87	
Moville	Woodbury	1-1-87	
Oto	Woodbury	1-1-87	
Salix	Woodbury	1-1-87	
Sergeant Bluff	Woodbury	1-1-87	
Sioux City	Woodbury	1-1-87	
Sloan	Woodbury	1-1-87	
Balltown	Dubuque	1-1-87	4-1-87
Centralia	Dubuque	1-1-87	4-1-87
Holy Cross	Dubuque	1-1-87	4-1-87
Sherill	Dubuque	1-1-87	4-1-87
Coggon	Linn	1-1-86	7-1-86
Fairfax	Linn	1-1-86	7-1-86
Prairieburg	Linn	1-1-86	7-1-86
Springville	Linn	1-1-86	7-1-86
Walker	Linn	1-1-86	7-1-86
Bondurant	Polk	1-1-86	7-1-86
Mitchellville	Polk	1-1-86	7-1-86
Runnells	Polk	1-1-86	7-1-86
Alleman <sup>a</sup>	Polk	7-1-87	
Elkhart	Polk	7-1-87	
Mitchellville	Polk	7-1-87	
Sheldahl	Polk	7-1-87	
Unincorporated Story County	Story	7-1-87	
Cambridge	Story	7-1-87	
Collins	Story	7-1-87	
Colo	Story	7-1-87	
Gilbert	Story	7-1-87	
Kelley	Story	7-1-87	
McCallsburg	Story	7-1-87	
Roland	Story	7-1-87	
Slater	Story	7-1-87	
Sheldahl	Story	7-1-87	

<sup>a</sup>Likely will not impose.

TABLE 3-A2

## EXEMPTION OF INDUSTRIAL MACHINERY IN OTHER STATES

Wording of the exemption of industrial machinery and equipment in several other states is listed below.

Missouri (Sec. 144.030): There are two separate sections in the law, one for replacement machinery and equipment, one for new and expanded industry:

- (4) Machinery and equipment, and the materials and supplies solely required for the installation or construction of such machinery and equipment, replacing and used for the same purposes as the machinery and equipment replaced by reason of design or product changes, which is purchased for and used directly for manufacturing or fabricating a product which is intended to be sold ultimately for final use or consumption;
- (5) Machinery and equipment, and the materials and supplies solely required for the installation or construction of such machinery and equipment, purchased and used to establish new or to expand existing manufacturing, mining or fabricating plants in the state if such machinery and equipment is used directly in manufacturing, mining or fabricating a product which is intended to be sold ultimately for final use or consumption.

Virginia (Sec. 58.1-608): The Virginia exemption is somewhat broader and spelled out in greater detail:

1. (a) Industrial materials for future processing, manufacturing, refining, or conversion into articles of tangible personal property for resale where such industrial materials either enter into the production of or become a component part of the finished product; (b) industrial materials that are coated upon or impregnated into the product at any stage of its processing, manufacture, refining, or conversion for resale; (c) machinery or tools or repair parts therefor or replacements thereof, fuel, power, energy, or supplies, used directly in processing, manufacturing, refining, mining or conversion of products for sale or resale; (d) materials, containers, labels, sacks, cans, boxes, drums or bags for future use for packaging tangible personal property for shipment or sale; or (e) equipment, printing or supplies used directly to produce a publication described in paragraph 13 whether it is ultimately sold at retail or for resale or distribution at no cost. Machinery, tools and equipment, or repair parts therefor or replacements thereof, shall be exempt if the preponderance of their use is used directly in processing, manufacturing, refining, mining or conversion of products for sale or resale.

TABLE 3-A2 (CONT.)

Iowa (Sec. 422.24): The machinery and equipment exemption is typical, but unlike many states, computers are exempt. The wording is as follows:

27. The gross receipts from the sale or rental, on or after July 1, 1987 or on or after July 1, 1985, in the case of an industry which has entered into an agreement under chapter 280B prior to the sale or lease, of industrial machinery, equipment and computers, including replacement parts which are depreciable for state and federal income tax purposes, if the following conditions are met:
- a. The industrial machinery, equipment and computers shall be directly and primarily used in the manner described in section 428.20 in processing tangible personal property or in research and development of new products or processes of manufacturing, refining, purifying, combining of different materials or packing of meats to be used for the purpose of adding value to products, or in processing or storage of data or information by an insurance company, financial institution or commercial enterprise.
  - b. The industrial machinery, equipment and computers must be real property within the scope of section 427A.1, subsection 1, paragraphs "e" or "j," and must be subject to taxation as real property.

Instructions:<sup>1</sup>

Industrial equipment must be:

- Used by manufacturing establishment,
- Used directly and primarily to process tangible personal property or for certain research and development activities,
- Must be subject to property tax as real property.

Ohio (Sec. 5739.02): Ohio has one of the broadest exemption of goods used for business purposes; the relevant section on industrial machinery is similar to other direct use wordings:

- (26) Sales to persons engaged in manufacturing, processing, assembling, or refining, of tangible personal property for use or consumption directly in the production by manufacturing, processing, assembling, or refining of other tangible personal property for use or consumption directly in the production of tangible personal property for sale by manufacturing, processing, assembling, or refining; and of material and parts for incorporation into any such tangible personal property for use or consumption in production. (As added by H.B. 635, Laws 1978.)

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<sup>1</sup>Quoted from Iowa Department of Revenue and Finance, Review of 1986 Machinery and Equipment Sales/Use Tax Refund Program (Des Moines, February 1987). The exemption has the same coverage as the refund program had.

## TABLE 3-A2 (CONT.)

Michigan: The wording is relatively simple, most of the section stressing what is not exempt.

- (g) To persons for use or consumption in industrial processing. "Industrial processing" shall not include tangible personal property permanently affixed and becoming a structural part of real estate; services performed upon property owned by others if the services do not transform, alter, or modify the property so as to place it in a different form, composition, or character; office furniture, office supplies, and administrative office equipment; receiving and storage of raw materials purchased or extracted by the user or consumer; vehicles licensed and titled for use on public highways; or the preparation of food and beverages by a retailer for retail sale. (As amended by Act 218, Laws 1982, effective January 1, 1984.)

Kansas (Sec. 79-3642): Refund of sales tax paid upon sale of certain machinery and equipment; limitations; procedure for claims.

- (a) The retailers' sales tax paid pursuant to the Kansas retailers' sales tax act on the sale of machinery and equipment purchased and used directly for the purposes of (1) manufacturing, fabricating, assembling, processing or finishing articles of commerce in this state by a manufacturing or processing plant or facility and (2) establishing or expanding such plant or facility physically or for the purpose of increasing the production capacity thereof shall be refunded as provided in this section.

TABLE 3-A3

OHIO: PROPOSED RULE ON PURCHASES WITH  
FOOD STAMPS

5703-9-48 Sales Tax: Purchases Made with Food Stamp Coupons

The sales tax does not apply to sales of food to persons using food stamp coupons to purchase the food. As used in this rule, "food" has the same meaning as in the "Food Stamp Act of 1977," 91 Stat. 95B, 7 U.S.C. 2012, as amended, and federal regulations adopted pursuant to that act.

When a person using food stamp coupons has insufficient coupons to pay the full amount of a transaction, the vendor shall apply the value of the coupons first to any food that would otherwise be subject to sales tax if not purchased with food coupons.

Effective:  
Certification:

\_\_\_\_\_  
  
\_\_\_\_\_  
date

Promulgated under: 5703.14  
Authorized by: 5703.05  
Amplifies: 5739.02



## TABLE 3-A3 (CONT.)

Sales Tax Exemption for Food Stamp Program

To comply with federal law, the Ohio legislature passed S.B. 92 making all food stamp purchases tax exempt. The Department of Taxation is in the process of promulgating a rule clarifying how the sales tax exemption will work.

S.B. 92 requires that vendors no longer charge sales tax on those items not considered food under Ohio law but eligible for purchase with food stamps. Simply put, if an item is purchased with food stamps, that item is exempt from taxation.

The situation becomes more complex when an individual pays for an order with both food stamps and cash. In such instances the Ohio administrative rule will require that vendors first apply food stamps toward those items which if purchased with cash would be taxable. The main categories of items which will no longer be taxable if purchased with food stamps are fruit drinks, soft drinks, bottled water, gum, and seeds and plants used to grow food.

Of the above categories, fruit drinks cause the most confusion. Under Ohio law pure fruit juices are tax exempt but fruit drinks are taxable, except when purchased with food stamps. Attached is a list of taxable, unless purchased with food stamps, fruit drinks and nontaxable fruit juices by brand name. This list is not all-inclusive but can serve as a guide in determining what items food stamps should be applied toward first in those instances when both food stamps and cash are used.

TABLE 3-A4

GENERAL TAX TREATMENT OF SERVICES OTHER THAN UTILITIES,  
ADMISSION, AND TRANSIENT ACCOMMODATIONS,  
JANUARY 1, 1987

No Taxation of Additional Services	Limited Taxation of Services			General Taxation of Services
	Narrow	Substantial	Broad	
Alabama	Arizona <sup>a</sup>	Arkansas <sup>b</sup>	Iowa <sup>c</sup>	Hawaii
California	Connecticut <sup>d</sup>	Florida <sup>e</sup>	Washington <sup>f</sup>	New Mexico <sup>g</sup>
Colorado	North Carolina <sup>h</sup>	Kansas <sup>i</sup>	West Virginia <sup>j</sup>	South Dakota <sup>k</sup>
Georgia	South Carolina <sup>h</sup>	Louisiana <sup>e</sup>		
Idaho		Mississippi <sup>k</sup>		
Illinois <sup>l</sup>		New Jersey <sup>m</sup>	Minnesota <sup>n</sup>	
Indiana <sup>n</sup>		New York <sup>o</sup>		
Kentucky		Ohio <sup>p</sup>		
Maine		Pennsylvania <sup>e</sup>		
Maryland <sup>q</sup>		Tennessee <sup>r</sup>		
Massachusetts		Utah <sup>s</sup>		
Michigan		Wisconsin <sup>t</sup>		
Minnesota <sup>n</sup>		Wyoming <sup>t</sup>		
Missouri <sup>u</sup>		District of		
Nebraska <sup>n</sup>		Columbia <sup>v</sup>		
Nevada				
North Dakota				
Oklahoma <sup>w</sup>				
Rhode Island <sup>n</sup>				
Texas <sup>x</sup>				
Vermont <sup>n</sup>				
Virginia				

TABLE 3-A4 (CONT.)

<sup>a</sup>Local advertising services taxed until January 1, 1986. Tax on materials/service combinations if value of material predominates.

<sup>b</sup>Alteration, repair, etc., of motor vehicles, aircraft, farm machinery and implements, motors, tires and batteries, boats, electrical appliances, furniture, televisions, watches, engineering instruments, medical and surgical instruments, machines, bicycles, office equipment, shoes, tin and sheet metal, computer equipment and hardware, and mechanical tools and ship equipment; printing.

<sup>c</sup>Repair of motor vehicles, garments, farm equipment and appliances, investment counseling, bank service charges, barber and beauty shops, carpentry, laundry and drycleaning, photography, equipment rentals, flying service, interior decorating, warehousing of agricultural products, printing, wrapping, packing, and packaging of merchandise other than meat and vegetables, optional service on warranty contracts. Employment agency services exempt.

<sup>d</sup>Selected business services taxed 7.5 percent: computer and data processing, credit information, collection and employment agencies, marketing, private investigation, armored car, sign construction, interior design, photo finishing, telephone answering, stenographic, photocopying, certain services to realty, business analysis, and piped-in music. Also cable television.

<sup>e</sup>Repair of tangible personal property. Except wearing apparel and shoes in Pennsylvania. Florida taxes cable television.

<sup>f</sup>Repair and installation of real and tangible property; laundry and dry cleaning; credit bureaus; abstractors; parking. Virtually all services covered by the business and occupation tax.

<sup>g</sup>Excludes agricultural harvesting and warehousing, nonprofit hospital services, retirement accommodations, insurance premiums.

<sup>h</sup>Laundry and dry cleaning.

<sup>i</sup>Repair of tangible personal property, laundry and dry cleaning. Cable television, washing and waxing vehicles, and installation of tangible personal property in Kansas. Cable television in Mississippi.

<sup>j</sup>All services except personal (including barber shop and beauty shop parlors) and professional (licensed by the state). Included in the tax, for example, are bookkeeping, collection services; private detectives.

TABLE 3-A4 (CONT.)

<sup>k</sup>Exempts health and education services; engineering, architectural, and surveying services on projects outside of South Dakota.

<sup>l</sup>Service Occupation Tax applies only to tangible personal property transferred by servicemen; services are exempt.

<sup>m</sup>Repair of real and tangible personal property.

<sup>n</sup>Cable television taxed. Indiana also taxes water softening and conditioning service. In 1987, Minnesota added a broad range of services.

<sup>o</sup>Maintenance, servicing, and repair of real and tangible personal property (except laundry, dry cleaning, tailoring, services contracted by private homeowner), information services, installation, printing.

<sup>p</sup>Repair and installation of tangible personal property; washing, waxing, polishing, and painting of motor vehicles; and industrial laundry and linen services; exempts repair and remodeling of real property and coin-operated car washes.

<sup>q</sup>Laundry services rendered to commercial establishments are taxed.

<sup>r</sup>Repair and installation of tangible personal property, laundry and dry cleaning, parking.

<sup>s</sup>Laundry and dry cleaning; repairs, renovations, cleaning, washing, or installing tangible personal property.

<sup>t</sup>Repair of tangible personal property, laundry and dry cleaning, photocopying, parking, cable television, landscaping and lawn maintenance.

<sup>u</sup>Repair, alteration, or improvement of tangible personal property; geological services.

<sup>v</sup>Repair, reproduction, addressing, mailing, textile renting, parking.

<sup>w</sup>Printing, parking, and advertising are taxed.

<sup>x</sup>Substantial number added Oct. 1, 1987.

TABLE 3-A5

IOWA RETAIL SALES AND SALES TAX BY BUSINESS CLASSIFICATION  
SERVICES GROUP: FISCAL YEAR 1986

Major Business Class	Number of Businesses	Taxable Sales	Computed Tax	Percent of Tax Revenue
Finance, Insurance and Real Estate	3,705	\$ 68,607,138	\$ 2,744,017	0.46
Hotels and Other Lodging Places	3,134	227,557,882	9,100,529	1.54
Laundry and Cleaning	4,290	82,585,360	3,280,964	0.55
Photographic Studios	2,814	32,066,079	1,282,124	0.22
Beauty Shops	20,038	108,270,450	4,328,770	0.73
Barber Shops	4,556	21,594,100	863,132	0.15
Shoe Repair Shops	556	3,457,759	138,313	0.02
Funeral Homes	1,739	45,889,371	1,835,441	0.31
Other Personal Services	2,730	17,120,451	684,266	0.12
Building Maintenance	1,605	14,523,944	580,830	0.10
Employment Agencies	280	8,432,934	337,315	0.06
Other Business Services	7,385	206,466,109	8,257,970	1.40
Automobile Rental and Storage	618	30,269,564	1,210,768	0.20
Automobile Repair and Services	18,631	277,256,131	11,085,312	1.87
Electrical Repair	4,302	59,527,836	2,380,457	0.40
Watch, Jewelry Repair	223	1,283,834	51,348	0.01
Furniture Repair	3,466	9,154,945	366,163	0.06
Miscellaneous Repair	13,590	158,016,349	6,319,839	1.07
Motion Picture Theatres	807	37,152,067	1,486,006	0.25
Amusement Parks and Services	8,316	176,400,250	7,052,239	1.19
Educational Institutions	1,030	30,818,280	1,232,591	0.21
Other Services	4,898	178,325,837	7,132,363	1.21
 Group Totals	 108,713	 \$1,794,778,670	 \$71,750,757	 12.13

SOURCE: Iowa Department of Revenue and Finance, Retail Sales and Use Tax Report, Sales of Fiscal Year Ending March 31, 1986.



## CHAPTER 4

### WHO PAYS THE NEBRASKA STATE PERSONAL INCOME TAX BEFORE AND AFTER STATE REFORM?<sup>1</sup>

by Sally Wallace-Moore and Bruce L. Riddle

#### Introduction

As a result of 1986 federal income tax reform, the State of Nebraska would have lost about 12 percent of its personal income tax revenue if it retained the 19 percent state tax rate on federal income tax liability in 1987.<sup>2</sup> To maintain constant revenue, the state tax rate would have had to increase to 21.6 percent. Instead, the State Legislature passed a bill to eliminate coupling and increase revenue. The reformed tax system raises as much revenue as would a coupled system with a state tax rate of 22.4 percent.

Using a large sample of individual income tax returns, this chapter examines the implications for tax burdens by income class of both federal reform with the coupled system, and of the new income tax system passed by the State Legislature. State personal income tax burdens are estimated for Nebraska taxpayers under three different tax regimes: the federal reform with no change in the 19 percent state tax rate, a scheme that raises the state tax rate to obtain the same revenue as before federal reform, and the new state income tax reform. The changes in state personal income tax revenue under each tax regime are also reported.

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<sup>1</sup>The authors of this chapter would like to thank the Department of Revenue in Nebraska and staff members of the Revenue Committee of the Nebraska State Legislature. In particular, State Revenue Commissioner Donald S. Leuenberger generously gave his time and made his staff available for consultation. Deborah Thomas and Eric Will also were very generous with their help. This chapter was based on Sally Wallace-Moore and Bruce L. Riddle, "Who Pays the Nebraska State Personal Income Tax Before and After State Reform?," Nebraska Comprehensive Tax Study Staff Paper No. 4, Metropolitan Studies Program (Syracuse, NY: Syracuse University, November 1987).

<sup>2</sup>The Nebraska Comprehensive Tax Study.

We find that tax burdens are less progressive under the state tax reform than under the coupled system, because the state reform lowers both personal exemptions and the top marginal tax rate. However, we also find that the state reform implies more equitable tax burdens within each income decile due to lower standard deductions and personal exemptions and to fewer marginal tax rates.

Section one describes Nebraska's state personal income tax structure. It also contains a summary of the federal tax reform and the state's tax reform.

Section two discusses the data that we use to perform the tax burden analysis. It also describes the data sources and the sampling techniques that are used to derive a representative sample.

The third section reports the calculation of tax burdens. It provides a description of the methods used to measure tax burdens, a comparison of the tax burden estimates for the pre-federal reform, a revenue neutral system coupled to the federal tax liability and the state tax reform. An estimate of the tax revenues under each scheme is also reported. This section concludes with an analysis of horizontal equity.

Section four contains revenue and burden estimates for alternative standard deductions and personal exemptions under the state reform. The results provide a benchmark for analyzing the effects of changes in portions of the state tax reform scheme.

The conclusion reiterates the major findings of the study and includes recommendations for further tax reform. The appendices contain technical information regarding data, sampling, and programming of the simulations.

## **Background of the State Personal Income Tax**

### **History**

Since the adoption of its state income tax in 1968, Nebraska has been among the states most closely coupled to the federal personal income tax scheme. Nebraska tax liability is a flat



percentage of a taxpayer's federal liability. The coupling rate (percentage of federal liability) had been set by the State Board of Equalization and Assessment until 1984. Since then the rate-setting responsibility has fallen on the State Legislature. The coupling rate has ranged from 10 to 20 percent. It can be set annually to prevent a budget deficit. The rate just prior to state tax reform was 19 percent.

Due to the close coupling of the State's personal income tax to the federal system, any change in the federal system that affects the calculation of federal liability may be countered by a change in the state tax rate. The Economic Recovery Act of 1981 presents the first large effect on Nebraska's income tax revenues. The decrease in the tax base resulted in an increase in the coupling rate from 15 percent to 18 percent between 1981 and 1982. A change in the coupling rate does not necessarily imply a large increase in tax liability, and in this case it illustrates that Nebraska's coupling necessitates a response to federal changes.

The Federal Tax Reform Act of 1986 again has a large potential effect on the State's income tax revenues. Table 4-1 outlines the major changes of the federal reform. The change in the federal tax liability would have led to income tax revenue losses for Nebraska of between 8 to 16 percent. From the aggregate revenue losses, it is apparent that the sources of the revenue losses are due to lower marginal tax rates and increased personal exemptions and standard deductions. These losses outweigh the revenue gains from reduction in itemized deductions and preference items.

In 1986, the State Legislature decided to decouple. The State Personal Income Tax Reform Bill (LB773), which was signed into law in May 1987 and takes effect on January 1, 1988, represents a compromise among a number of different decoupling schemes that were under consideration.

### **State Tax Reform**

Table 4-2 outlines the calculation of the Nebraska state personal income tax for 1987. LB773 begins with federal adjusted gross income and calculates Nebraska taxable income as

TABLE 4-1

## MAJOR PROVISIONS OF THE FEDERAL TAX REFORM IN 1987

Group 1: These changes affect the calculation of Nebraska liability under the federal and state reforms.

Unemployment Compensation: fully taxable

Income Averaging: repealed beginning in 1987

Capital Gains: fully taxable up to a marginal rate of 28 percent

Earned Income Credit: 14 percent of the first \$5,714, reduced at \$9,000, eliminated at \$14,500 for 1987, thereafter indexed for inflation

Scholarships, prizes, etc.: all scholarships, fellowships, etc. are taxable except for the amount needed to pay for tuition, books, course-related fees, etc.

Dependents and sheltered income: a person claimed as a dependent on another's return may not claim a personal exemption on their own. Unearned income in excess of \$500 for children under 14 years of age will be taxed at the parents rate

Two income earner deduction: repealed

Deductions: charitable contributions remain deductible for itemizers only, medical expenses are allowed if expenses are at least 7.5 percent of AGI, moving expenses are allowed for itemizers only, state and local sales taxes are no longer deductible, job related expenses and most miscellaneous expenses are allowed if they are at least 2 percent of AGI, the self-employed are allowed a 2 percent health insurance deduction, business and entertainment expenses are 80 percent deductible with no deductions allowed for skyboxes and a few other expenses, interest deductions are limited to 65 percent in 1987 (with a phase-out in the next five years) for all but loans secured by a residence which remain fully deductible.

IRAs: If a taxpayer is not covered by a pension plan \$2000 each may be deducted for a two-earner family, \$2250 for a one earner family. For those covered by a pension plan with AGI less than \$40,000 for joint returns, \$25,000 for single returns, the full deduction can still be taken. For those covered by a pension plan with AGI between \$40,000 and \$50,000 joint or \$25,000 and \$35,000 single, a partial deduction is allowed.

Dividend Exclusion: repealed

Alternative Minimum Tax: the number of preference items that are taxed is increased including certain charitable contributions and bonds. The alternative minimum tax rate is raised from 20 percent to 21 percent and the standard deduction is phased out for upper income earners.

Cash or deferred arrangements: limit of \$7,000 on employee contributions

TABLE 4-1 (CONT.)

Group 1 (cont.)

Tax Sheltered Annuities: limit of \$9,500 on employee contributions

Pension withdrawals before age 59 1/2: 10 percent penalty tax, with various exceptions

Tax on Lump Sum Payments: 5-year income averaging and a phase out of capital gains tax

Passive Losses: 65 percent deductible in 1987 being phased out over the next five years to 0 percent for partnerships, royalties, S-corps

Group 2: These changes do not affect Nebraska liability under the state reform but do affect Nebraska liability under a coupled system.

Tax Rates (1987):

Rate (1987) (in percent)	Taxable Income			
	Married Jointly	Married Separate	Head-of-Household	Single
11	Less than \$3,000	Less than \$1,500	Less than \$2,500	Less than \$1,800
15	3,000 - 28,000	1,500 - 14,000	2,500 - 23,000	1,800 - 16,800
28	28,001 - 45,000	14,001 - 22,500	23,001 - 38,000	16,801 - 27,000
35	45,001 - 90,000	22,501 - 45,000	38,001 - 80,000	27,001 - 54,000
38.5	More than \$90,000	More than \$45,000	More than \$80,000	More than \$54,000

Standard Deduction

1987:	\$3,670	\$1,835	\$2,480	\$2,480
1988:	\$5,000	\$2,500	\$4,400	\$3,000

Thereafter the standard deduction is adjusted for inflation

Personal Exemptions

1987: \$1,080  
1989: \$2,000 thereafter adjusted for inflation

SOURCE: Gary L. Klott, Complete Guide to the New Tax Law (New York: Times Books, 1986), and Prentice-Hall Information Services, A Complete Guide to the Tax Reform Act of 1986, (Paramus, NJ: Prentice-Hall Information Services, 1986).

TABLE 4-2

MAJOR PROVISIONS FOR CALCULATION OF NEBRASKA  
STATE PERSONAL INCOME TAX

Federal Adjusted Gross Income

## Plus:

- interest or dividends received that are excluded from federal return but are state taxable,
- dividends or other income from a regulated investment company unless state exempt,
- net operating loss (-).

## Minus:

- interest or dividends received and included in a federal return which are state exempt,
- expenses incurred in the production of interest or dividends which are included in federal AGI,
- state income tax refund,
- income or loss of an s-corp that is not derived from Nebraska sources.

Equals: NEBRASKA ADJUSTED GROSS INCOME

Nebraska AGI

## Minus:

- personal exemptions:
  - 1987: (total exemptions \* \$1100)
  - 1988: (total exemptions \* \$1130)
- federal itemized deductions (with state and local income taxes added back)
  - OR
  - standard deduction (SD):

	<u>Married Joint</u>	<u>Married Separate</u>	<u>Single or HH</u>
1987:	\$3,740	\$1,870	\$2,530
1988:	\$3,780	\$1,890	\$2,550

Equals: NEBRASKA TAXABLE INCOME

TABLE 4-2 (CONT.)

Tax Rates (1987):

Rate	Taxable Income		
	Married Joint	Married Separate	Single or Head of Household
2.0	0 - \$ 3,000	0 - \$ 1,500	0 - \$ 1,800
3.15	3,000 - 28,000	1,500 - 14,000	1,800 - 16,800
5.0	28,000 - 45,000	14,000 - 22,500	16,800 - 27,000
5.9	> 45,000	> 22,500	> 27,000

Tax Liability

## Minus:

- credit for taxes paid to another state,
- carryover credit for renewable energy source system,
- community betterment credit.

## Plus:

- percentage of the federal alternative minimum tax,
- tax on lump sum disbursements of retirement funds.

Equals: NEBRASKA TAX LIABILITY AFTER CREDITS

SOURCE: Nebraska Comprehensive Tax Study.

follows (in 1987).<sup>3</sup> From federal adjusted gross income deduct: interest and dividends received that are included in federal AGI but are state exempt, expenses incurred in the production of interest or dividends that are included in the federal AGI, state income tax refund, and income or loss of a sub-chapter S-corporation (S-corp) that is not derived from Nebraska sources. To federal AGI add: interest or dividends that are excluded from federal AGI but are taxable by the state, income from a regulated investment company that is not state exempt, and net operating loss. These calculations yield Nebraska's adjusted gross income.

Nebraska's taxable income is derived by deducting the state's personal exemptions, and federal itemized deductions (excluding state and local income taxes paid) or a state standard deduction from Nebraska's adjusted gross income. The Nebraska tax rate is applied to Nebraska's adjusted gross income. Table 4-2 lists the derivation of Nebraska AGI and taxable income, and specifies Nebraska's exemptions, deductions, and rates.

Finally, Nebraska's tax liability is diminished by a state credit for income taxes paid to another state, a carryover credit for renewable energy source systems, and a community betterment credit. Tax liability is increased by a percentage of the federal alternative minimum tax and a tax on lump-sum disbursements of retirement funds. Nonresidents are taxed on income from Nebraska's sources only. Table 4-2 also provides a summary of the Nebraska state personal income tax calculation.

### **Data**

This section contains information regarding the data and problems associated with the data. The policy-oriented reader may skip this section without loss of continuity. Appendix 4-A provides much greater detail regarding the data.

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<sup>3</sup>As many of these provisions as possible are included in the simulations of the state reform.

The state individual income tax data is subject to strict confidentiality requirements so we could not receive the data for individual returns. We received only summary information from the Department of Revenue. Since this information was grouped by adjusted gross income and filing status it did not provide adequate information to simulate the tax reform. Also, we could not receive the summary information for groups with less than ten observations due to confidentiality requirements. In summary, the state-owned data is not entirely adequate for this type of policy research.

We chose a sample from the IRS Individual Tax Model File that consists of sample returns from Nebraska, Iowa and Kansas. We used the state summary information as a guide for sampling. Our sample and the state information show very similar patterns of distribution of income and taxes paid. This sample from the IRS is used in the simulations for this chapter.

### **State Income Tax Burdens**

#### **Measurement**

There are many studies of tax burden or incidence.<sup>4</sup> Calculating tax burdens involves determining who ultimately pays a tax. Following accepted practice, our estimates are based on the assumption that the entire personal income tax burden is borne by the taxpayer thus precluding any shifting of the tax to other economic agents.

The effective tax rate measures tax burden.<sup>5</sup> The effective rate is calculated as the tax liability before state tax credits as a percentage of comprehensive income. The effective rate

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<sup>4</sup>In the most comprehensive of these studies the investigator measures the effective rate of many different taxes: consumption, sales, excise, property, payroll, and income. Tax burden is itself defined in many ways. In general, it is a measure of who actually pays the taxes imposed on a constituency. In this sense it is equivalent to measuring the incidence of a tax and so the terms are used interchangeably.

<sup>5</sup>For a discussion on measurement of effective tax rates see D. Fullerton, "Which Effective Tax Rate?" *National Tax Journal*, Vol. 37, No. 1 (March 1984): 23-42.

therefore captures tax payments as a portion of the ability of taxpayers to pay.<sup>6</sup>

We calculate effective tax rates for income deciles of residents under 1987 and 1991 provisions of the federal and state tax reforms using the 1984 data. We also report the effective tax rate for taxpayers in the top 5 percent and top 1 percent of the income distribution. (See Appendix 4-B for assumptions used in these simulations.)

There are two complications that should be mentioned. The first is that we would like to measure tax burdens including tax credits but cannot due to the lack of data. Secondly, the federal and state tax reforms treat passive and active losses from royalties, S-corps, partnerships, estates and trusts differently. The variation in treatment of passive and active losses leads to different revenue estimates but similar tax burden distributions. We simulate the tax regimes under two separate assumptions, passive losses and active losses.

The pre-reform tax liability before credits was calculated by multiplying federal tax liability before credits by 19 percent. The federal and state reforms were simulated on the observations in the "Three State Sample" as described above. Appendix 4-B contains a list of the assumptions used in the programs and the reform provisions that could not be accommodated.

### **Comprehensive Income**

"Comprehensive income" represents ability to pay. As pointed out by Phares (1980) there has been much debate regarding the measurement of this type of income. Ideally, income should include money income, imputed income (from such items as rent earned on owner-occupied housing), and both realized and unrealized appreciation of assets.<sup>7</sup> Due to a lack of

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<sup>6</sup>The liability before credits and reported revenues does not include additional taxes such as the alternative minimum tax due to lack of information.

<sup>7</sup>For a discussion of comprehensive income see R. Musgrave and P. Musgrave, *Public Finance in Theory and Practice* (New York: McGraw-Hill, 1984), p. 233; or D. Phares, *Who Pays State and Local Taxes?* (Cambridge, MA: Oelgeschlager, Gunn, and Hann, 1980).



data, our income measure leaves out imputed income, unreported money income, and unrealized appreciation of assets but it includes the items widely employed in previous studies.

For purposes of this analysis, comprehensive income is calculated as follows:

wages and salaries plus:

- social security payments
- unemployment compensation
- capital gains (reported)
- supplemental income from rents, royalties,  
estates, trusts, and S-corps
- supplemental income from business and farm  
(or loss)
- interest and dividends
- alimony received
- pensions, IRA distributions, and annuities

minus:

- alimony paid

The data from the Tax Model File were used to calculate comprehensive income for each sample return.

### **Comparison of Tax Revenues under Alternative Schemes**

In this section, the burden results for the "Three State Sample" under the 1987 and 1991 provisions assuming active losses are presented. Appendix 4-C contains the burden results under the 1987 and 1991 provisions given passive losses for the sample. This appendix also contains revenue estimates for nonresidents under the same schemes. In all cases the revenue estimates are made using data from 1984. Therefore the revenue estimates are not equivalent to those using 1986 data. The 1984 data, however, yield accurate estimates regarding the percentage changes in revenue and the distribution of the tax burden under various tax reforms.

The burden is compared under three different tax schemes: the 1984 structure in the absence of federal reform, the federal reform with coupling at a rate that maintains pre-reform

revenue, and the federal reform plus the state proposed reform with its higher revenue yield. We then simulate a coupled system that yields the same revenue as the state reform.

Table 4-3 shows the change in revenue using the 1987 and 1991 provisions of the law (assuming active losses) under the various tax schemes using the 1984 data.<sup>8</sup> Under the federal reform, a 19 percent coupling rate would lead to a total revenue loss of 12.2 percent under the 1987 tax provision and 13.3 percent loss under the 1991 tax provisions. The larger loss under the 1991 tax provisions is due to the relative magnitude of the increases in the standard deduction and personal exemptions that outweigh the elimination interest deductions. The loss in revenue under the 1987 and 1991 tax provisions necessitates a corresponding revenue neutral coupling rate of 21.6 percent and 21.8 percent respectively.

Revenues are higher under the state reform than they are under the pre-reform system. For purposes of comparing tax burdens before and after the Nebraska state reform, we calculated the state tax rate that would yield the same revenue under a coupled system as is raised with the state reform.

### **Comparison of the Distribution of Tax Burdens under Alternative Schemes**

Tables 4 and 5 contain the tax burden estimates for the 1987 and 1991 tax provisions under the active loss assumption, respectively. Concentrating on the results for the 1987 provisions, Table 4-4 shows that each of the four tax schemes is progressive, that is, the percent of taxes paid as a proportion of income increases as income increases. Comparisons of tax burdens will be made between systems that yield the same revenue.<sup>9</sup> To maintain revenue after federal tax reform under a coupled system, the state tax rate must increase from 19 percent to 21.6 percent of federal tax liability. The system that is coupled to the federal reform at a 21.6

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<sup>8</sup>Similar tables are included in Appendix 4-C for residents and nonresidents under active and passive loss assumptions.

<sup>9</sup>This is the use of the differential incidence approach.

TABLE 4-3

**STATE PERSONAL INCOME TAX REVENUES, RESIDENTS AND  
NONRESIDENTS, 1987, 1991 FEDERAL AND STATE  
PROVISIONS, ACTIVE LOSS ASSUMPTION**

	Three State Sample	
	1987	1991
Pre-Reform	\$321,411,475	\$321,411,475
Federal Reform with 19 Percent Coupling	\$282,281,947	\$278,794,659
Percent Change in Revenue under Federal Reform with 19 Percent Coupling	-12.2	-13.3
State Reform	\$332,814,808	\$339,246,442

SOURCE: Nebraska Comprehensive Tax Study.

percent state tax rate (column 4 of Table 4-4) leads to an increased tax burden for the highest income earners when compared to the pre-reform system (column 3 of Table 4-4). This demonstrates that although the highest marginal tax rates have decreased under federal reform, the decrease in itemized deductions and other preference items implies that effective tax burdens would have increased for the upper-income taxpayers and decreased for lower-income taxpayers, if the State had remained coupled to federal tax liability.

The state reform increases revenues from the income tax. To maintain revenue neutrality between the state reform and the coupled tax systems, a 22.4 percent coupling rate is necessary for federal tax provisions in 1987 and a 23.1 percent coupling rate for 1991 provisions. From columns 5 and 6 of Table 4-4 we see that the state reform is less progressive than the coupled system. In this case, taxpayers in the first through ninth decile see mild increases in their tax burdens, while relative tax burdens decrease for taxpayers in the top decile as well as for those among the top 5 percent and top 1 percent of income taxpayers.

The same general results are obtained for 1991 provisions, reported in Table 4-5. The system which is coupled at a revenue neutral rate (21.8 percent) to the pre-federal reform system shows an increase in progressivity compared to the pre-federal reform system (column 3 of Table 4-5.) The taxpayers in the first through ninth deciles have a lower effective tax rate under the system coupled to the federal reform at a 21.8 percent state tax rate than in the pre-federal reform case.

Comparing the state reform and the revenue neutral coupled system with the same revenue (23.1 percent state tax rate) we again witness a less progressive system under the state reform (columns 5 and 6 of Table 4-5). The effective tax rates are higher under the state reform than the coupled system for taxpayers with comprehensive income of \$41,710 or less.

### **Horizontal Equity**

When studying tax burdens it is useful to examine horizontal as well as vertical equity. Horizontal equity may be described as the equal treatment of persons with equal ability to pay

TABLE 4-4

AVERAGE EFFECTIVE STATE PERSONAL INCOME TAX RATE BY POPULATION  
 DECILE FOR RESIDENTS, THREE STATE SAMPLE, 1987 FEDERAL  
 AND STATE REFORM PROVISIONS, ACTIVE LOSS ASSUMPTION  
 (in percentages)

Decile	Comprehensive Income Group	Number of Taxpayers	Average Effective Tax Rates			
			Pre- <sup>a</sup> Reform	Federal Reform State Coupled <sup>b</sup> 21.6 Percent	Federal Reform State Coupled <sup>c</sup> 22.4 Percent	State <sup>d</sup> Reform
1	Less than \$ 2,456	63,132	0.91	0.00	0.00	0.00
2	\$ 2,457 - 5,608	63,949	0.26	0.04	0.04	0.14
3	5,609 - 8,783	63,370	0.87	0.63	0.65	0.91
4	8,784 - 11,999	65,036	1.30	1.15	1.19	1.41
5	12,000 - 15,968	63,534	1.37	1.28	1.33	1.59
6	15,969 - 20,169	63,964	1.63	1.47	1.53	1.79
7	20,170 - 25,527	63,561	1.79	1.72	1.78	1.95
8	25,528 - 31,519	64,054	1.96	1.89	1.96	2.10
9	31,520 - 41,710	63,886	2.22	2.12	2.20	2.26
10	More than \$41,710	63,993	2.93	3.01	3.12	2.93
Top 5 Percent	More than \$52,236	31,941	3.16	3.33	3.45	3.12
Top 1 Percent	More than \$97,226	6,423	3.89	4.23	4.38	3.67

N = 638,479

<sup>a</sup>Revenue = \$302,839,800.

<sup>b</sup>Revenue = \$302,580,500.

<sup>c</sup>Revenue = \$313,787,100.

<sup>d</sup>Revenue = \$313,757,300.

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 4-5

AVERAGE EFFECTIVE STATE PERSONAL INCOME TAX RATE BY POPULATION  
 DECILE FOR RESIDENTS, THREE STATE SAMPLE, 1991 FEDERAL  
 AND STATE REFORM PROVISIONS, ACTIVE LOSS ASSUMPTION  
 (in percentages)

Decile	Comprehensive Income Group	Number of Taxpayers	Pre- Reform <sup>a</sup>	Average Effective Tax Rates		
				Federal Reform State Coupled <sup>b</sup> 21.8 Percent	Federal Reform State Coupled <sup>c</sup> 23.1 Percent	State Reform <sup>d</sup>
1	Less than \$ 2,456	63,132	0.92	0.00	0.00	0.00
2	\$ 2,457 - 5,608	63,949	0.26	0.02	0.02	0.13
3	5,609 - 8,783	63,370	0.87	0.59	0.63	0.89
4	8,784 - 11,999	65,036	1.30	1.12	1.18	1.39
5	12,000 - 15,968	63,534	1.37	1.28	1.35	1.62
6	15,969 - 20,169	63,964	1.63	1.43	1.52	1.78
7	20,170 - 25,527	63,561	1.79	1.70	1.80	1.96
8	25,528 - 31,519	64,054	1.96	1.89	2.00	2.12
9	31,520 - 41,710	63,886	2.22	2.15	2.28	2.30
10	More than \$41,710	63,993	2.93	2.98	3.14	3.01
Top 5 Percent	More than \$52,236	31,941	3.16	3.30	3.50	3.21
Top 1 Percent	More than \$97,226	6,423	3.89	4.21	4.46	3.84

N = 638,479

<sup>a</sup>Revenue = \$302,839,800.

<sup>b</sup>Revenue = \$301,639,900.

<sup>c</sup>Revenue = \$319,627,400.

<sup>d</sup>Revenue = \$319,854,100.

SOURCE: Nebraska Comprehensive Tax Study.

taxes. The concept of "equal" is by no means a universal one. It can mean people with the same total income or the same taxable income. But even if this issue is resolved, income ranges (such as deciles) alone do not accurately describe equal ability to pay, which will certainly depend on family size, age of household members and consumption patterns.

For example, the following list is an outline of the provisions of the state and federal tax reform which lead to different treatment of taxpayers with the same income.

**Federal and State Tax Provisions That Affect Tax Liabilities for Taxpayers with Similar Comprehensive Income:**

- *Personal exemptions*: the number of family members significantly alters tax payments due to the amount of personal exemption they are allowed.
- *Capital gains loss cap*: losses that are above the \$3,000 allowed against income create inequities because these losses decrease the ability to pay but are not taken out of taxable income.
- *Specification of active vs. passive losses as it applies to supplemental income*: in 1991 passive losses are allowed a 0 percent deduction although they represent a decrease in the ability to pay.
- *Allowances for IRA's and Keogh payments*: some taxpayers are able to shelter income from tax by investing in certain retirement plans. Such action can significantly reduce tax liability.
- *The "marriage penalty"*: a married couple suffers a lower standard deduction and higher average tax rates than single people with similar income.
- *Minimum allowances for medical and business expenses*: at the margin this provision is extremely biased because it allows people with expenses over 7.5 percent of AGI to deduct; however, those with less than 7.5 percent cannot deduct such expenses. The difference of (at the extreme) \$1 of medical expenses decreases tax liability by an amount equal to the taxpayer's marginal tax rate.
- *Tax schedule*: within a particular income group taxpayers may face different marginal tax rates which drastically affect the burden borne by "similar" taxpayers.

Although the federal tax reform has decreased the number of special exemptions and the incentive to shelter income and has moved toward the equal treatment of different types of income it has not totally solved the problem of unequal treatment of persons with the same ability to pay. These differences exist under the 1987 and 1991 federal provisions as well as under the state reform.

A common way to measure horizontal equity is to compare coefficients of variation (CV) in the effective tax rate for a particular income group among alternative tax schemes. In this case we measure CV as the standard deviation of the effective tax rate divided by the average effective tax rate for a particular income group. A comparison of the CV across tax systems describes relative differences in horizontal equity.

Table 4-6 presents the coefficients of variation by income decile for the state reform and the state coupled system under the 1987 and 1991 provisions for assuming active losses. In all cases horizontal equity is increased under state tax reform compared to the coupled system. Moreover, CV are smaller as income increases under all of the schemes. This is due to a more homogeneity among taxpayers as income increases.

For example, the treatment of losses has a large impact on the horizontal equity of each system. Large capital losses place otherwise high income taxpayers in lower income brackets when total income is calculated, but without full deductibility of losses these taxpayers may have higher taxable income and suffer higher effective tax rates.

The difference in the amount of losses deductible in 1987 (65 percent for certain supplemental income losses) and 1991 (0 percent for certain supplemental income losses) widens the gap between comprehensive and taxable income. This change in the treatment of losses is the reason for the increased CV between 1987 and 1991 for both the coupled and state reforms at the lower end of the income scale.

The increase in personal exemptions also adds to this increase in CV between 1987 and 1991, more so for the coupled system than the state system. The difference between



**TABLE 4-6**  
**COEFFICIENTS OF VARIATION BY INCOME GROUP,**  
**ACTIVE LOSS ASSUMPTION**

Decile	Comprehensive Income	1987		1991	
		State Reform <sup>a</sup>	Federal Reform State Coupled <sup>b</sup> 22.4 Percent	State Reform <sup>c</sup>	Federal Reform State Coupled <sup>d</sup> 23.1 Percent
1	Less than \$2,456	1210.0	1227.0	1219.0	1219.0
2	2,457 - 5,608	42.4	71.4	43.5	105.8
3	5,609 - 8,783	18.7	27.1	19.2	28.6
4	8,784 - 11,999	38.3	55.3	38.8	52.2
5	12,000 - 15,968	11.2	16.6	11.4	17.5
6	15,969 - 20,169	8.6	12.2	8.6	12.8
7	20,170 - 25,527	6.8	9.3	6.7	9.0
8	25,528 - 31,519	5.2	7.2	5.1	6.8
9	31,520 - 41,710	5.7	7.27	5.6	6.6
10	More than \$41,710	1.7	2.18	1.6	2.0
Top 5 Percent	More than \$52,236	1.39	1.67	1.3	1.5
Top 1 Percent	More than \$97,226	.69	.75	.62	.67

<sup>a</sup>Revenue = \$313,757,300.

<sup>b</sup>Revenue = \$313,787,100.

<sup>c</sup>Revenue = \$319,874,100.

<sup>d</sup>Revenue = \$319,627,400.

SOURCE: Nebraska Comprehensive Tax Study.

comprehensive and taxable income increases more for a larger family than for a small family due to the increase in personal exemptions. The increase in standard deductions for the coupled system also increases the divergence more for married couples and unmarried heads of household.

The changes in the tax rates also affect the changes in equity between 1987 and 1991 for the coupled system. (The state system maintains the same marginal tax rates.) The decrease in the number of rates decreases the marginal impact of an increase in income. This lowers the differential treatment of income levels which are very close in magnitude. In 1987 capital gains are taxed at a maximum of 28 percent while they are taxed at the full rates in 1991. This change leads to more equitable treatment within income groups and is most likely to affect upper income earners. Indeed, the CV for upper income taxpayers declines between 1987 and 1991.

In general the changes in the federal tax provisions between 1987 and 1991 lead to an increase in the CV of the effective tax rates for the state reform and the coupled system. The magnitude of the difference is affected by the amount of change in the tax rates, standard deductions, and personal exemptions. The differences in tax rates, standard deductions, and personal exemptions between the state reform system and the coupled system leads to higher CV under the coupled system.<sup>10</sup>

#### **Tax Burdens under Alternative Personal Exemptions and Standard Deductions**

The final simulations were done using various levels of personal exemptions and standard deductions under the provisions of the state reform for 1987 and 1991. These simulations give insight into the effects of changing the exemptions and deductions.

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<sup>10</sup>The lower state exemptions and standard deductions relative to the coupled system decrease the difference in treatment of people with similar income. The few number of marginal rates in the state system also reduces the differential treatment of taxpayers at the margin.

For the 1987 and 1991 provisions we calculated revenues before credits under the state reform (assuming active losses) under the following schemes (using our "Three State Sample"):

- standard deductions equal to the federal standard deductions;
- personal exemptions equal to the federal personal exemptions;
- standard deductions equal to the State's standard deductions with a double deduction for elderly and/or blind.

Table 4-7 presents the revenue implications of these various exemptions and deductions. The table contains the state reform revenue calculated under the state's personal exemptions and standard deduction provisions for comparison purposes. The table shows that the increase in personal exemptions has the largest impact on revenues leading to a decrease in revenues of 11.3 percent in 1987 and 12.0 percent in 1991. In 1987 there is very little difference between the state and federal standard deductions. We therefore see little difference in revenues when federal standard deductions are substituted for the State's standard deductions under the 1987 provisions. Doubling the standard deduction for the elderly and blind decreases revenues slightly. The relatively small number of taxpayers taking these deductions to the total taxpaying population is reflected in the small decrease in revenues before credits.

Tables 4-8 and 4-9 present the effective tax rates under these alternatives for residents by population decile with revenue-neutral tax rates.<sup>11</sup> They demonstrate that tax burdens under all of the alternative exemptions and deductions are reduced for taxpayers in the lowest eight income deciles, as the highest income earners benefit relatively less from the increased

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<sup>11</sup>Revenue-neutral rates were calculated by raising marginal tax rates proportionally by the percent change in revenue under the alternative standard deductions and exemptions. For example, under 1987 provisions and federal personal exemptions, there is a decrease of 12.6 percent in state personal income tax revenues, measured as a percentage of the new tax base. Marginal rates were then increased by 12.6 percent to yield revenue equal to that under the state reform. This calculation allows us to compare tax burdens under these alternatives directly to the tax burden under the state reform with government expenditures held constant.

TABLE 4-7

STATE PERSONAL INCOME TAX REVENUES BEFORE CREDITS,  
ALTERNATIVE EXEMPTIONS AND DEDUCTIONS,  
RESIDENTS AND NONRESIDENTS,  
ACTIVE LOSS ASSUMPTION  
(percent change in revenue from base case)

	<u>1987</u>	<u>1991</u>
Base Case: State Reform	\$331,649,451	\$338,048,492
State Reform with Federal Standard Deduction <sup>a</sup>	331,486,906 (-0.05%)	327,529,878 (-3.1%)
State Reform with Federal Personal Exemptions <sup>b</sup>	294,336,165 (-11.3%)	297,441,399 (-12.0%)
State Reform with Doubled State Deductions for Elderly and/or Blind	326,162,110 (-1.65%)	332,472,060 (-1.65%)

<sup>a</sup>Federal Standard Deductions used:

	<u>1987</u>	<u>1991</u>
Single	\$2,540	\$3,000
HH	2,540	4,400
Married, Joint	3,760	5,000
Married, Separate	1,880	2,500

<sup>b</sup>Federal Personal Exemptions used: \$1,900 (1987), \$2,000 (1991)

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 4-8

STATE PERSONAL INCOME TAX BURDENS UNDER ALTERNATIVE  
EXEMPTIONS AND DEDUCTIONS, THREE STATE SAMPLE,  
1987 PROVISIONS, ACTIVE LOSS ASSUMPTION  
(residents)

Decile	Comprehensive Income	N	Tax Burdens			
			State Reform <sup>a</sup>	Federal Standard Deductions <sup>b</sup>	Federal Personal Exemptions <sup>c</sup>	Double State Deduction for Elderly and Blind <sup>d</sup>
1	Less than \$ 2,456	63,132	0.00	0.00	0.00	0.00
2	\$ 2,457 - 5,608	63,949	0.14	0.14	0.04	0.14
3	5,609 - 8,783	63,370	0.91	0.91	0.65	0.87
4	8,784 - 11,999	65,036	1.41	1.40	1.24	1.30
5	12,000 - 15,968	63,534	1.59	1.59	1.39	1.54
6	15,969 - 20,169	63,964	1.79	1.79	1.61	1.75
7	20,170 - 25,527	63,561	1.95	1.95	1.86	1.92
8	25,528 - 31,519	64,054	2.10	2.10	2.03	2.10
9	31,520 - 41,710	63,836	2.26	2.26	2.27	2.28
10	More than \$41,710	63,993	2.93	2.93	3.04	2.96
Top 5 percent	More than \$52,236	31,941	3.12	3.13	3.29	3.15
Top 1 percent	More than \$97,226	6,423	3.67	3.69	4.02	3.73
	Total	638,479				

<sup>a</sup>Revenue = \$313,737,300.

<sup>b</sup>Revenue = \$313,760,300; marginal tax rates increased by .05 percent.

<sup>c</sup>Revenue = \$313,668,700; marginal tax rates increased by 12.7 percent.

<sup>d</sup>Revenue = \$313,660,000; marginal tax rates increased by 1.65 percent.

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 4-9

STATE PERSONAL INCOME TAX BURDENS UNDER ALTERNATIVE  
EXEMPTIONS AND DEDUCTIONS, THREE STATE SAMPLE,  
1991 PROVISIONS, ACTIVE LOSS ASSUMPTION  
(residents)

Decile	Comprehensive Income	N	Tax Burdens			
			State Reform <sup>a</sup>	Federal Standard Deductions <sup>b</sup>	Federal Personal Exemptions <sup>c</sup>	Double State Deduction for Elderly and Blind <sup>d</sup>
1	Less than \$ 2,456	63,132	0.00	0.00	0.00	0.00
2	\$ 2,457 - 5,608	63,949	0.13	0.07	0.03	0.13
3	5,609 - 8,783	63,370	0.89	0.74	0.62	0.84
4	8,784 - 11,999	65,036	1.39	1.28	1.21	1.28
5	12,000 - 15,968	63,534	1.62	1.51	1.39	1.56
6	15,969 - 20,169	63,964	1.78	1.69	1.58	1.74
7	20,170 - 25,527	63,561	1.96	1.92	1.86	1.93
8	25,528 - 31,519	64,054	2.12	2.10	2.04	2.12
9	31,520 - 41,710	63,886	2.30	2.31	2.31	2.32
10	More than \$41,710	63,993	3.01	3.07	3.13	3.04
Top 5 percent	More than \$52,236		3.21	3.30	3.40	3.24
Top 1 percent	More than \$97,226		3.84	3.96	4.23	3.90
	Total	638,479				

<sup>a</sup>Revenue = \$319,854,100.

<sup>b</sup>Revenue = \$319,844,000; marginal tax rates increased by 3.2 percent.

<sup>c</sup>Revenue = \$319,878,500; marginal tax rates increased by 13.7 percent.

<sup>d</sup>Revenue = \$319,795,800; marginal tax rates increased by 1.65 percent.

SOURCE: Nebraska Comprehensive Tax Study.

exemptions and deductions. The decreases are more pronounced under the 1991 provisions due to larger changes in the deductions and exemptions.

An alternative to increasing all marginal tax rates to make up revenue losses from increased standard deductions and exemptions utilizes an additional tax bracket. By adjusting the marginal rate for the new bracket to account for the revenue loss, the lower income earners can unambiguously benefit from the increased standard deductions and exemptions. We added the fifth bracket as follows:

<u>Filing Status</u>	<u>Fifth Tax Bracket</u>
Married Filing Joint	> \$90,000
Married Filing Separate	> \$45,000
Single, Head of Household	> \$54,000

In the case of using federal personal exemptions, the marginal rate for this new bracket is 13.4 percent in 1987 and 13 percent in 1991 while the marginal rates for the other four brackets are not changed. These rates maintain the same revenue as produced under the state reform. This is a large increase in the marginal tax rate for these upper income earners which may not be politically feasible.

If the state reform made use of federal standard deductions the marginal rate for the new highest bracket is 6.2 percent in 1987 and 7.6 percent in 1991, which again maintains revenues as under the state reform with state standard deductions and no change in the marginal tax rates for the other brackets. The 6.2 percent and 7.6 percent marginal rates are not too high to be a consideration for the State. Using doubled state deductions for the elderly and blind could be accomplished by imposing a marginal rate of 6.9 percent in 1987 and 7 percent in 1991 for the highest tax bracket. This would maintain revenue at the same level as under the state reform.

Tables 4-10 and 4-11 contain the tax burdens under these alternatives in 1987 and 1991. The tables show that the tax burdens decrease for all but the highest income earners when the

TABLE 4-10

STATE PERSONAL INCOME TAX BURDENS UNDER ALTERNATIVE  
EXEMPTIONS AND DEDUCTIONS, THREE STATE SAMPLE,  
1987 PROVISIONS, ACTIVE LOSS ASSUMPTION  
WITH ADDITIONAL TAX BRACKET  
(residents)

Decile	Comprehensive Income	N	Tax Burdens			
			State Reform <sup>a</sup>	Federal Standard Deductions <sup>b</sup>	Federal Personal Exemptions <sup>c</sup>	Double State Deduction for Elderly and Blind <sup>d</sup>
1	Less than \$ 2,456	63,132	0.00	0.00	0.00	0.00
2	\$ 2,457 - 5,608	63,949	0.14	0.14	0.04	0.13
3	5,609 - 8,783	63,370	0.91	0.91	0.58	0.86
4	8,784 - 11,999	65,036	1.41	1.40	1.10	1.28
5	12,000 - 15,968	63,534	1.59	1.59	1.23	1.51
6	15,969 - 20,169	63,964	1.79	1.79	1.43	1.72
7	20,170 - 25,527	63,561	1.95	1.95	1.65	1.89
8	25,528 - 31,519	64,054	2.10	2.09	1.80	2.06
9	31,520 - 41,710	63,886	2.26	2.24	2.00	2.23
10	More than \$41,710	63,993	2.93	2.90	2.82	2.92
Top 5 Percent	More than \$52,236	31,941	3.12	3.12	3.22	3.14
Top 1 Percent	More than \$97,226	6,423	3.67	3.74	4.95	3.86
	TOTAL	638,479				

<sup>a</sup>Revenue = \$313,737,300.

<sup>b</sup>Revenue = \$313,125,200; top marginal tax rate = 6.2 percent.

<sup>c</sup>Revenue = \$314,043,300; top marginal tax rate = 13.4 percent.

<sup>d</sup>Revenue = \$313,142,300; top marginal tax rate = 6.9 percent.

SOURCE: Nebraska Comprehensive Tax Study.



TABLE 4-11

STATE PERSONAL INCOME TAX BURDENS UNDER ALTERNATIVE  
EXEMPTIONS AND DEDUCTIONS, THREE STATE SAMPLE,  
1991 PROVISIONS, ACTIVE LOSS ASSUMPTION  
WITH ADDITIONAL TAX BRACKET  
(residents)

Decile	Comprehensive Income	N	Tax Burdens			
			State Reform <sup>a</sup>	Federal Standard Deductions <sup>b</sup>	Federal Personal Exemptions <sup>c</sup>	Double State Deduction for Elderly and Blind <sup>d</sup>
1	Less than \$ 2,456	63,132	0.00	0.00	0.00	0.00
2	\$ 2,457 - 5,608	63,949	0.13	0.07	0.03	0.13
3	5,609 - 8,783	63,370	0.89	0.72	0.54	0.84
4	8,784 - 11,999	65,036	1.39	1.24	1.07	1.26
5	12,000 - 15,968	63,534	1.62	1.47	1.22	1.54
6	15,969 - 20,169	63,964	1.78	1.64	1.39	1.71
7	20,170 - 25,527	63,561	1.96	1.86	1.64	1.90
8	25,528 - 31,519	64,054	2.12	2.04	1.80	2.08
9	31,520 - 41,710	63,886	2.30	2.24	2.03	2.28
10	More than \$41,710	63,993	3.01	3.02	2.91	3.01
Top 5 Percent	More than \$52,236	31,941	3.21	3.28	3.30	3.24
Top 1 Percent	More than \$97,226	6,423	3.84	4.20	4.25	4.07

<sup>a</sup>Revenue = \$319,854,100.

<sup>b</sup>Revenue = \$319,237,100; top marginal tax rate = 7.6 percent.

<sup>c</sup>Revenue = \$319,489,900; top marginal tax rate = 13 percent.

<sup>d</sup>Revenue = \$320,619,000; top marginal tax rate = 7 percent.

SOURCE: Nebraska Comprehensive Tax Study.

federal personal exemptions and standard deductions are used in conjunction with an additional tax bracket.

This exercise clearly demonstrates the trade-off available to the State. Increases in standard deductions and personal exemptions come at a cost of decreased revenues or increasing tax rates to maintain revenues. If lower revenues are adopted, these burden results should be revised to take into account the effect of a decrease in benefits from public expenditures.

At the close of the most recent legislative session, the Nebraska State Legislature altered the state standard deductions for the state personal income tax. The state standard deductions, beginning retroactively on January 1, 1988, are equal to the federal standard deductions. They are as follows:

<u>Filing Status</u>	<u>Standard Deduction</u>
Single	\$3,000
Head of Household	\$4,400
Married (joint)	\$5,000
Married (separate)	\$2,500

A special set of standard deductions apply to the elderly and blind. For single taxpayers (unmarried head of household, single, and married filing separate), an additional \$750 standard deduction applies for each special circumstance (elderly or blind). In other words, a single taxpayer that is elderly and blind gains an extra standard deduction of \$1500. For married individuals, the extra standard deduction of \$1500. For married individuals, the extra standard deduction is \$600 for each special circumstance for each person. Therefore, for a married couple who are both elderly and blind, the extra standard deduction is \$2,400.

Under 1988 provisions of the Federal and Nebraska State individual income tax using the 1988 standard deductions, I estimate individual income tax revenues from residents are nonresidents for the state to be \$323,735,400. This is a decrease of 3.7 percent for 1988 compared to the former decoupled state personal income tax.

In what follows, we present the distribution of 1988 Nebraska personal income tax tax burden under three different tax schemes: the state income tax coupled to the 1988 federal personal income tax, the decoupled state personal income before the recent legislation increasing the standard deductions to federal levels, and the new decoupled state personal income tax with federal standard deductions. Table 4-12 presents estimates of the effective tax rates for the state income tax under the three tax systems listed above. The tax rates under the first two tax systems are adjusted so that each system produces the same revenue for Nebraska residents as under the new tax system.

The first tax reform increased the tax burdens in the second through ninth income deciles and lowered the burdens in the tenth decile compared to the coupled system. The recent tax reform reduced the burden of persons in the ninth and tenth income deciles compared to the for state decoupled system. However, it is still the case that under the new tax system, burdens increased in the second through ninth income deciles and were reduced in the tenth income deciles compared to the former coupled income tax system. In fact, the burden estimates for each income decile under the recent reform are about midway between those under the coupled system and the 1987 decoupled state income tax system. The rationale behind this finding is that a larger portion of persons taking the standard deduction are in the lower income deciles and increasing the standard deduction is more likely to reduce their tax burdens. Also, a larger portion of elderly and blind taxpayers are located in the lower income deciles.

### **Conclusion**

This chapter presented the initial estimates of the state personal income tax burdens. We have outlined the data, sampling and tax burden techniques used. We also examined alternative tax treatments of standard deductions and personal exemptions.

The results of our simulations show that under the assumption of active losses, the federal tax reform requires a 21.6 percent state coupling rate under 1987 provisions and 21.8 percent in

1991 to yield pre-reform state personal income tax revenues. A system that remained coupled after federal reform would decrease effective tax rates for taxpayers in the first through ninth deciles compared to the State's tax reform. The tax burden under the state reform is shifted slightly to the lower income in comparison with a system that is coupled to the federal reform.

In the case of both the federal and state reforms the highest marginal tax rate has been lowered and the number of tax rates has decreased. At the same time different types of income are treated more equally than was the case before reform. These changes serve to decrease the number of distortions created by a tax system. In effect, the system is benefitted by increased efficiency.

The trade-off that results from these reforms is clear. The distribution of the tax burden may be shifted to the high or low income end depending upon the reform used. Increased deductions for the elderly and blind tend to decrease the burden for taxpayers in the first through seventh income deciles, if rates are increased to maintain revenues. If revenues are allowed to fall, then, under the assumption that a dollar of tax savings is worth more to an individual than a dollar of services, such a change would be welcomed by the elderly. This change can be obtained at relatively low revenue cost. Increases in the standard deduction also benefit the lower income people more than the upper income taxpayers.

An alternative approach, which the legislature adopted by 1988, is to increase the standard deduction to the federal level. This change reduces 1988 revenues by 3.7 percent, but reduces the income tax burdens on persons in the second through eighth income deciles and increases them for persons in the ninth and tenth income deciles. The burden estimates for each income decile under the recent reform are about midway between those under the coupled tax system and the 1987 decoupled state income tax system.

## Appendix 4-A

### Data and Sample Construction

#### Introduction

This appendix describes the sample data sets which we used in the analysis. The sample data sets consist of taxpayer returns designed to represent as closely as possible the income taxpayer population of Nebraska.

**Nebraska Data.** Information on the Nebraska taxpayer population comes from a series of statistical reports prepared for us by the Nebraska Department of Revenue.

The Nebraska 1984 state income tax file consists of 710,749 taxpayer returns each with sixteen entries (filing status, adjusted gross income, federal liability, etc.). Statutory confidentiality requirements made it impossible to work with the actual tax file. As an alternative, the Department of Revenue processed the tax file by classes of adjusted gross income, filing status, residency, and metropolitan area. The results of the processing provided us with measures of locations (means, standard deviations, medians, percentiles, and quartiles) for various groups. For example, there were 112 possible groups based on 28 classes of adjusted gross income, shown in Table 4-A1, and four taxpayer filing status groups (1=single, 2=married joint return, 3=married separate return, 0=other). For example, a group might be single filers having an adjusted gross income between \$15,000 and \$17,000. Of the 112 possible groups, 94 had taxpayers in them; however, eight of these groups were deleted from the statistical reports because the number of returns in these groups was less than ten, a requirement to preserve confidentiality. The eight deleted groups represented 21 returns.

The statistical reports from the Department of Revenue let us look at the taxpayer returns in a variety of ways. Where all possible classes of adjusted gross income, filing status, residency, and metropolitan area are used, 1,458 different groups are formed. But when any group based on less than ten taxpayer returns is deleted, only 1,351 groups remain. The different

**TABLE 4-A1**  
**AGI GROUPS USED TO PROCESS**  
**STATE DATA**

<u>Group</u>	<u>AGI</u>
1	less than \$ 0
2	0 - 2,000
3	2,001 - 4,000
4	4,001 - 6,000
5	6,001 - 8,000
6	8,001 - 10,001
7	10,001 - 12,000
8	12,001 - 14,000
9	14,001 - 16,000
10	16,001 - 18,000
11	18,001 - 20,000
12	20,001 - 22,000
13	22,001 - 24,000
14	24,001 - 26,000
15	26,001 - 28,000
16	28,001 - 30,000
17	30,001 - 32,500
18	32,500 - 35,000
19	35,001 - 37,500
20	37,501 - 40,000
21	40,001 - 45,000
22	45,001 - 50,000
23	50,001 - 60,000
24	60,001 - 70,000
25	70,001 - 85,000
26	85,001 - 100,000
27	100,001 - 200,000
28	more than \$200,000

SOURCE: Nebraska Department of  
Revenue

figures on the number of returns and total amounts in the tables that follow result from using different groups in the statistical reports. The control totals are used for most comparisons. In the disaggregated tables, a group with less than ten observations is deleted. We have no information on the missing groups. A total figure for the disaggregated groups will be smaller than the control total. For any group in the statistical reports, we have at a minimum the number of taxpayer returns in the group, the mean, and the standard deviation on the sixteen entries found in the file. For selected groups, we have the medians, percentiles, and quartiles.

In summary, information from the Department of Revenue provides descriptive information on the Nebraska income taxpayer population in 1984. While this information is very valuable, it is not of a form useful for modelling or simulating changes in the tax law. A quantitative analysis of income tax changes requires detailed information taken from actual tax returns to simulate the revenue impact of tax law changes as well as to provide information on sources of income and taxes paid by individuals. The descriptive information provided by the Department of Revenue lacks sufficient detail both in the level of aggregation and the number of items to do an adequate analysis.

**Alternative Taxpayer Data.** The Internal Revenue Service makes available each year a Tax Model File. The latest file available, 1984, consists of 79,556 taxpayer returns designed to tabulate and present information for 99,438,708 federal individual returns filed for the tax year 1984. The IRS uses disclosure protection techniques to protect the identity of the taxpayers. The File contains 191 tax variables taken from tax returns. A state identification code is included for all tax returns with an adjusted gross income less than \$200,000. Tax returns with an adjusted gross income greater than \$200,000 do not have a state identification variable. For example, 342 returns with adjusted gross income less than \$200,000 have Nebraska as a state identification.

The Tax Model File is intended to be used in making national estimates. The Tax File is based on 33 national groups of taxpayers identified by certain characteristics of the returns.

To allow the 79,556 returns to be "blown-up" to a national population, each return is assigned a weight. The weight tells how many tax returns each sample return in the Tax Model File represents. A single return in the Tax Model File could represent up to 5,700 tax returns.

We use the information from the Nebraska Department of Revenue as a check on the representativeness of the IRS 1984 Tax Model File for Nebraska residents. We conclude that the 342 Nebraska returns from the Tax Model File are too few to model the Nebraska income tax system fully since a number of groups are missing. Moreover, the 342 returns have no taxpayers with an adjusted gross income greater than \$200,000.

To increase the sample size, we took returns from states in the IRS Tax Model File that are similar to Nebraska. Returns for two states which we felt were very similar to Nebraska--Iowa and Kansas--along with Nebraska were pulled from the Tax Model File. In addition, we supplemented these data with a sample of returns having an adjusted gross income over \$200,000 (The data from the Nebraska Department of Revenue report that 1,901 Nebraska tax returns list adjusted gross income over \$200,000).

To insure that we are accurately representing the Nebraska income taxpayer population, we look at the population as two groups--resident filers and nonresident filers. The next section will describe the construction of the resident sample.

### **Resident Sample**

According to the 1984 Nebraska Department of Revenue, there were 642,917 resident income tax filers in Nebraska and residents represented 90.45 percent of all income tax filers. There were 1,057 filers reporting an adjusted gross income over \$200,000. There are two tasks that need to be completed in building a sample of resident income tax filers. One task involves filers with an adjusted gross income of less than \$200,000. A second task involves filers with an adjusted gross income of greater than \$200,000. The construction of the sample with filers with adjusted gross incomes less than \$200,000 will be described first.

**AGI Less than \$200,000.** The Three State Sample from the IRS 1984 Individual Tax



Model File, Nebraska, Iowa, and Kansas, contains 1,541 returns representing 2,936,105 tax filers having an adjusted gross income less than \$200,000. A comparison of information from this Three State Sample to information from the Department of Revenue statistical reports described above showed a very close match using measures of location described earlier. But, the sample weights must be adjusted to reflect Nebraska's resident taxpayer population and total revenues while preserving the distribution and close match between the IRS Tax Model File and the state supplied information.

Table 4-A2 shows the weights from the IRS Tax Model File, the number of returns (N) in the Tax Model File, and the weighted number of returns for the three states (weight \* N): Nebraska, Iowa, and Kansas. For example, the Tax Model File contains 342 returns for Nebraska for adjusted gross incomes less than \$200,000. The 342 returns are intended to represent 681,767 income tax filers. The difference of 28,982 between the actual number of returns, resident and nonresident (710,749) and the weighted sample number (681,767), is due to sampling error or to those with adjusted gross income greater than \$200,000. To calculate the adjusted sample for the three states sample, we compared the 86 groups based on adjusted gross income/filing status from the Department of Revenue statistical reports to groups in the three states sample.

The state income tax statistical reports provided information on 86 groups defined by adjusted gross income and filing status. The three states-sample drawn from the Tax Model File produced 74 groups (the Nebraska-only sample of 342 returns produced 62 groups). These two files were matched by adjusted gross income and filing status. Nine groups (4,419 returns) did not match from the Nebraska Department of Revenue statistical reports to the Tax Model File as shown in Table 4-A3. Table 4-A4 provides a summary of all the matches by adjusted gross income and filing status for the resident filers.

The first column of Table 4-A4 provides an observation number; the second column shows the adjusted gross income/filing status (AGIMAR). Adjusted gross income classes range

TABLE 4-A2

DISTRIBUTION OF WEIGHTS (VARIABLE IRS159) FOR IOWA,  
KANSAS, AND NEBRASKA IN THE IRS TAX MODEL  
FILE FOR AGI LESS THAN \$200,000

Weight	Iowa		Kansas		Nebraska	
	N	N*weight	N	N*weight	N	N*weight
4.97	4	19.88	11	54.67	5	24.85
4.98	1	4.98	4	19.92	0	---
6.77	3	20.31	2	13.54	6	40.62
36.09	12	433.08	20	721.80	4	144.36
39.92	9	359.28	10	399.20	6	239.52
57.43	9	516.87	10	574.30	10	574.30
168.87	21	3546.27	34	5741.58	15	2533.05
180.42	27	4871.34	32	5773.44	10	1804.20
226.73	6	1360.33	9	2040.57	7	1587.11
500.67	21	10,514.07	42	21,028.14	15	7,510.05
676.90	62	41,967.80	76	51,444.40	28	18,953.20
1,057.66	4	4,230.64	6	6,345.96	2	2,115.32
1,108.18	78	86,438.04	62	68,707.16	38	42,110.84
1,705.84	47	80,174.48	41	69,939.44	29	49,469.36
2,473.82	128	316,648.96	98	242,434.36	76	188,010.32
3,186.23	15	47,793.45	8	25,489.84	5	15,931.15
3,977.15	142	564,755.30	129	513,052.35	77	306,240.55
4,753.24	8	38,025.92	7	33,272.68	7	33,272.68
5,603.04	0	----	1	5,603.04	2	11,206.08
TOTALS	597	1,201,681.00	602	1,052,656.00	342	681,767.56

SOURCE: Internal Revenue Service, 1984 Individual Tax Model.

TABLE 4-A3

**NONMATCHING GROUPS BETWEEN 1984 DEPARTMENT OF  
REVENUE STATISTICAL REPORTS AND 1984 TAX  
MODEL FILE, THREE STATES SAMPLE FOR  
NEBRASKA RESIDENTS**

<u>AGI Class</u>	<u>Filing Status</u>	<u>Number of Returns</u>
2	0	3112
3	0	14
16	3	642
19	3	289
22	3	151
24	3	77
25	3	51
26	3	29
27	3	54

TOTAL NUMBER OF RETURNS:	4419
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SOURCE: Nebraska Comprehensive Tax Study

TABLE 4-A4

MATCHING GROUPS BETWEEN 1984 DEPARTMENT OF REVENUE STATISTICAL  
REPORTS AND 1984 TAX MODEL FILE, THREE STATES SAMPLE FOR  
NEBRASKA RESIDENTS

Observation Number	Adjusted Gross Income/ Filing Status (AGIMAR)	Actual Number of Returns in the State Income Tax File	Number of Returns in Three State Sample	Sum of Weighted Returns in Three State Sample	Proportion of Retained Weight	Number of Returns in Nebraska only Sample	Sum of Weighted Returns in Nebraska only Sample
1	11	4,735	10	13,247	0.35743	2	2,478.8
2	12	16,360	105	56,086	0.29169	33	15,975.0
3	13	564	2	1,933	0.29184	1	226.7
4	21	26,447	48	175,780	0.15046	12	43,183.2
5	22	4,932	5	16,298	0.30262	1	4,753.2
6	23	2,354	4	13,637	0.17261	1	1705.8
7	31	37,104	52	187,769	0.19760	14	47,217.8
8	32	6,126	14	43,559	0.14064	3	9,645.3
9	33	3,333	3	7,389	0.45109	1	3,977.1
10	41	34,100	44	172,078	0.19817	10	39,126.1
11	42	9,008	15	42,044	0.21425	3	11,916.6
12	43	3,807	2	5,683	0.66989	0	---
13	51	27,792	28	102,275	0.27174	9	31,251.7
14	52	11,702	21	48,125	0.24316	4	9,717.6
15	53	4,142	4	13,637	0.30373	1	1,705.8
16	61	24,410	22	78,412	0.31130	2	5,683.0
17	62	14,019	22	68,691	0.20409	8	24,390.8
18	63	4,468	4	15,909	0.28085	1	3,977.1
19	71	20,521	28	103,051	0.19913	7	27,840.0
20	72	14,268	32	84,243	0.16937	10	28,414.9
21	73	4,184	3	7,389	0.56626	0	---
22	81	16,709	16	58,301	0.28660	2	7,954.3
23	82	15,318	21	61,940	0.24730	6	19,320.3
24	83	3,834	9	35,794	0.10711	1	3,977.1
25	91	14,207	15	47,565	0.29868	1	3,977.1
26	92	16,091	32	89,546	0.17969	11	33,160.1
27	93	3,154	5	19,886	0.15816	1	3,977.1
28	101	11,192	9	32,925	0.33992	1	3,977.1
29	102	16,274	28	68,441	0.23778	5	8,400.0
30	103	2,506	2	15,909	0.15752	0	---
31	111	8,992	9	26,912	0.33413	2	3,582.0
32	112	16,719	32	87,447	0.19119	7	19,701.2
33	113	2,106	4	13,040	0.16151	0	---
34	121	6,935	21	46,488	0.14918	4	7,164.0
35	122	17,241	28	58,401	0.29522	6	13,477.3
36	123	1,725	1	1,108	1.55661	0	---
37	131	5,183	11	27,212	0.19047	3	7,421.5
38	132	17,062	38	74,144	0.23012	7	17,454.4
39	133	1,361	1	2,474	0.55016	1	2,473.8
40	141	4,087	12	28,320	0.14431	1	2,473.8
41	142	16,735	49	81,643	0.20498	14	22,553.7

TABLE 4-A4 (CONT.)

Observation Number	Adjusted Gross Income/ Filing Status (AGIMAR)	Actual Number of Returns in the State Income Tax File	Number of Returns in Three State Sample	Sum of Weighted Returns in Three State Sample	Proportion of Retained Weight	Number of Returns in Nebraska only Sample	Sum of Weighted Returns in Nebraska only Sample
42	143	997	6	13,477	0.07398	1	1,108.2
43	151	3,264	6	14,190	0.23003	1	1,108.2
44	152	16,290	32	64,626	0.25207	10	24,085.0
45	153	813	5	11,003	0.07389	4	8,529.6
46	161	2,654	9	24,028	0.11045	3	10,550.7
47	162	15,694	38	67,696	0.23183	10	15,605.0
48	171	2,457	3	7,421	0.33107	0	---
49	172	17,667	52	97,851	0.18055	12	25,882.5
50	173	546	4	6,733	0.08110	1	1,108.2
51	181	1,784	6	14,843	0.12019	3	7,421.5
52	182	15,337	30	53,816	0.28499	6	11,504.1
53	183	393	1	2,474	0.15886	1	2,473.8
54	191	1,429	2	3,582	0.39894	0	---
55	192	13,655	33	63,179	0.21613	8	15,693.6
56	201	1,075	4	7,164	0.150056	2	3,582.0
57	202	11,561	27	54,929	0.210473	4	8,529.0
58	203	203	1	2,474	0.082059	1	2,473.8
59	211	1,374	3	5,448	0.252188	0	---
60	212	17,624	48	77,539	0.227929	9	12,424.2
61	213	240	1	1,108	0.216571	0	---
62	221	818	1	2,474	0.330663	0	---
63	222	11,621	57	51,532	0.225510	5	7,840.9
64	231	918	5	3,208	0.286136	0	---
65	232	11,968	97	63,385	0.188815	12	7,974.9
66	233	166	1	677	0.245236	1	676.9
67	241	443	6	6,865	0.064529	1	676.9
68	242	5,293	53	32,510	0.162811	12	7,654.9
69	251	380	4	2,023	0.187808	2	1,177.6
70	252	3,590	44	18,880	0.190149	8	4,566.26
71	261	176	3	1,523	0.115586	1	676.9
72	262	1,843	36	9,365	0.196790	9	2,120.4
73	271	294	6	1,135	0.258928	0	---
74	272	3,051	104	14,215	0.214634	19	2,909.42
TOTAL		637,425	1,541	2,936,105		342	681,768.0

SOURCE: Nebraska Comprehensive Tax Study

from 1 to 28; filing status range from 0 to 3. For example, AGIMAR 11 is adjusted gross income class one and filing status one (single). The third column shows the actual number of returns as reported by the Nebraska Department of Revenue. The fourth column shows the actual number of returns in the Three State Sample from the Tax Model File. The fifth column shows the total number of returns each group from the three states in the Tax Model File is designed to represent.

To arrive at a sample weight that better reflects Nebraska's income tax filer population, the weights in the Tax Model File are proportionally reduced. The amount of retention (throwing out excess weight) is calculated by dividing the true population based on the number of income tax filers in each group by the sum of the weights in each group from the Tax Model File. For example, for observation one, the actual number of returns in the state income tax file (4,735) is divided by the sum of weighted returns in the Three State Sample (13,247). The resulting proportion (.35743), is multiplied by the Tax Model File sample weight to arrive at the adjusted weight for each individual return. The proportion of retention of the Tax Model File sample weight is shown in the sixth column. The method used here allowed us to expand our sample while retaining the underlying structure of the Tax Model File. The seventh and eighth columns show the number and weighted number of income tax filers for just Nebraska in the Tax Model File. The small number of sample returns and missing groups show why we required to enlarge the sample.

**AGI Greater Than \$200,000.** The three states Tax Model File sample also does not include tax returns with adjusted gross incomes greater than \$200,000. The Department of Revenue statistical information reports 1057 resident individuals having adjusted gross incomes greater than \$200,000. Table 4-A5 shows the number of actual tax filers by filing status for adjusted gross incomes greater than \$200,000. To sample the resident income tax filers with adjusted gross incomes greater than \$200,000, a variety of additional information was obtained from the Department of Revenue. The AGI group 28 was broken down into five smaller groups

TABLE 4-A5

NUMBER OF RESIDENT RETURNS BY FILING STATUS  
FOR ADJUSTED GROSS INCOME GREATER  
THAN \$200,000

<u>Filing Status</u>	<u>Number of Returns</u>	<u>Percent of Returns in Class</u>
Single	112	10.6
Married Joint	928	87.8
Other	<u>17</u>	<u>1.6</u>
TOTAL	1,057	100.0

SOURCE: Nebraska Department of Revenue.

as shown in Table 4-A6. Second, the percentage of federal tax liability to federal taxable income was calculated as a way of further disaggregating the information. The percentages, grouped in 10 percent ranges (0 percent-10 percent, 10 percent-20 percent, etc.) were provided by the five smaller groups by filing status. Third, some measures of location for the smaller groups, residents and nonresidents, were provided for several items. Any group less than ten was deleted, which created many gaps in the information.

This additional information allowed us to profile 37 separate groups from which we could sample based on adjusted gross income, filing status, and the percentage grouping of federal tax liability to federal taxable income. The sample returns for adjusted gross incomes greater than \$200,000 (1057 returns) were combined with the three states sample (or with the Nebraska-only sample where a comparison might be useful) to represent Nebraska resident taxpayers. The sample returns for adjusted gross incomes greater than \$200,000 had a weight of one.

Tables A7 and A8 show how well our samples compare to the actual data. Table 4-A7 compares Department of Revenue information to the sample information for adjusted gross incomes greater than \$200,000 for the five disaggregated adjusted gross income groups. The total number of returns is 1,057, but the disaggregated adjusted gross income groups have 1,040 returns; 17 returns have a filing status of other. For each variable, three numbers can be compared. As an example, consider the figures on adjusted gross income. The Nebraska Department of Revenue reported the total adjusted gross income for the five groups (1,040 returns) to be \$438 million. This figure represents a "control total" to guide drawing the sample. The total figure created from the Tax Model File, total Sample AGI, was \$440 million. But, the Nebraska Department of Revenue total figure for the 1,057 returns with AGI greater than \$200,000, was \$451 million. Therefore, we estimate that there is about a 2.4 percent under-reporting error in our sample estimates. The difference results from not having detailed information on all groups. The figures for federal taxable income and federal tax liability have



TABLE 4-A6

NUMBER OF RESIDENT RETURNS FOR ADJUSTED GROSS INCOME  
GREATER THAN \$200,000, BROKEN INTO  
FIVE SMALLER GROUPS

<u>Group</u>	<u>Adjusted Gross Income Range</u>	<u>Number of Returns</u>
28	\$200,000 - \$250,000	397
29	\$250,000 - \$300,000	184
30	\$300,000 - \$500,000	270
31	\$500,000 - \$1,000,000	139
32	More than \$1,000,000	<u>50</u>
	SUBTOTAL	1,040
	Returns not broken down	<u>17</u>
	TOTAL	1,057

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SOURCE: Nebraska Department of Revenue.

TABLE 4-A7

COMPARISON OF TOTALS FOR ADJUSTED GROSS INCOME GREATER THAN \$200,000 BETWEEN  
 1984 DEPARTMENT OF REVENUE STATISTICAL REPORTS AND 1984 TAX  
 MODEL FILE, THREE STATES SAMPLE FOR NEBRASKA RESIDENTS  
 (dollar amounts are in thousands)

AGI Group	Actual Number of Returns	Sample Number of Returns	Actual AGI	Sample AGI	Actual Federal Taxable Income	Sample Federal Taxable Income	Actual Federal Tax Liability	Sample Federal Tax Liability
28	397	409	\$ 87,598	\$ 91,446	\$ 65,977	\$ 66,017	\$ 25,612	\$ 28,511
29	184	185	50,048	50,543	37,183	35,619	14,905	17,169
30	270	270	100,595	105,120	76,886	75,475	32,708	36,186
31	139	139	90,954	96,877	64,719	68,053	29,439	34,034
32	50	50	109,129	96,979	87,696	66,000	40,610	38,333
TOTAL	1,040	1,053	\$438,324	\$440,965	\$332,461	\$311,164	\$143,274	\$154,233
Other Returns	+17							
True Amounts	1,057		(\$451,653)		(\$342,319)		(\$147,854)	

SOURCE: Nebraska Department of Revenue and Nebraska Comprehensive Tax Study.

TABLE 4-A8

COMPARISON OF TOTALS BETWEEN 1984 DEPARTMENT OF REVENUE  
 STATISTICAL REPORTS AND 1984 TAX MODEL FILE,  
 THREE STATES SAMPLE FOR NEBRASKA RESIDENTS  
 (dollar amounts in thousands)

	<u>1984 State Tax File</u>	<u>Sample Estimates</u>	<u>Difference</u>
Number of Returns	642,901	638,478	4,423
Adjusted Gross Income <sup>a</sup>	\$12,447,568	\$12,334,691	\$112,877
Federal Taxable Income <sup>a</sup>	9,801,482	9,725,830	75,652
Federal Tax Liability <sup>a</sup>	1,598,836	1,622,411	- 23,575
Nebraska Tax Liability <sup>a</sup>	303,665	308,258	- 4,593

<sup>a</sup>Negative numbers set to zero when totals created.

SOURCE: Nebraska Department of Revenue and Nebraska Comprehensive Tax.

about the same amount of error.<sup>12</sup> A similar listing is available for all adjusted gross income/filing status groups.

To evaluate the entire resident population sample, Table 4-A8 provides a comparison between figures provided by the Nebraska Department of Revenue and the Three State Sample. For this comparison, information on 642,901 returns is available from the Department of Revenue statistical reports; 16 returns were deleted when the sample sizes in certain cells were less than ten. Nine groups representing 4,419 total returns in the Department of Revenue statistical reports are not represented in the Tax Model File. In addition, four returns were not found for one group in the sample procedure for adjusted gross income greater than \$200,000. The difference between the Department of Revenue 1984 State Tax file adjusted gross income for residents and the sample estimated adjusted gross income for residents is \$112.8 million or about 0.9 percent of the actual amount. The difference between the Department of Revenue 1984 State Tax file Nebraska tax liability for residents and the sample estimated amount for residents is \$4.6 million or about 1.5 percent of the actual amount.

### **Nonresidents**

**AGI Less Than \$200,000.** In 1984 there were 67,832 nonresident Nebraska income tax returns filed. In general, the same procedures used in the creation of the resident sample are used in the nonresident sample. For nonresident returns having an adjusted gross income less than \$200,000, the same Three State Sample from the Tax Model file described earlier is used to represent nonresidents. To calculate the sample weights for nonresidents, we compared the nonresident groups from the Nebraska Department of Revenue statistical reports to groups in the three states sample. As with the residents, the two files were matched by adjusted gross income

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<sup>12</sup>For purposes of this Appendix, federal tax liability is calculated as line 38 of Federal Form 1040, or line 20 of Federal Form 1040A or line 20 of Federal Form 1040EZ, plus the alternative minimum tax, if applicable, as per the instructions for calculating "Federal income tax before credits," Nebraska form 1040N, 1984, line 6.

and filing status; six groups representing 244 returns did not match from the state income tax file to the Tax Model File as shown in Table 4-A9. A summary of matches is shown in Table 4-A10.

The first column of Table 4-A10 provides an observation number; the second column shows the adjusted gross income/filing status (AGIMAR). Adjusted gross income classes range from one to 28; filing status ranges from one to three. For example, AGIMAR 11 is adjusted gross income class one and filing status one (single). The third column shows the actual number of returns in the Nebraska Department of Revenue statistical reports for nonresidents. The fourth column shows the actual number of returns in the three states sample from the Tax Model File. The fifth column shows the total number of returns each group from the three states in the Tax Model File is designed to represent. To arrive at a sample weight that better reflects Nebraska's income tax nonresident filer population, the weights in the Tax Model File are proportionally reduced. The amount of retention (throwing out excess weight) is calculated by dividing the true population based on the number of income tax filers in each group (column 3) by the sum of the weights from the Tax Model File (column 5). The proportion of retention of the Tax Model File sample weight, shown in the sixth column, is multiplied by the Tax Model File sample weight to arrive at the adjusted weight for each individual return.

**AGI Greater Than \$200,000.** The three states Tax Model sample file lacks tax returns with adjusted gross income greater than \$200,000. The Department of Revenue statistical information reports 844 nonresident tax filers having adjusted gross incomes greater than \$200,000. Table 4-A11 shows the number of actual tax returns by filing status for nonresidents with adjusted gross incomes greater than \$200,000. The income range on 20 returns was not available. To sample nonresident income tax files with adjusted gross incomes greater than \$200,000, we again relied on supplemental information provided by the Department of Revenue. But three problems made the task of sampling nonresidents more difficult than residents. First, the smaller number of returns made many group sizes less than ten, creating more gaps in the information. Second, the percentage of federal tax liability to federal taxable

TABLE 4-A9

NONMATCHING GROUPS BETWEEN 1984 DEPARTMENT OF REVENUE  
STATISTICAL REPORTS AND 1984 TAX MODEL FILE,  
THREE STATES SAMPLE FOR NEBRASKA  
NONRESIDENTS

<u>AGI Class</u>	<u>Filing Status</u>	<u>Number of Returns</u>
16	3	77
19	3	66
22	3	42
24	3	20
25	3	11
27	3	<u>28</u>
TOTAL NUMBER OF RETURNS		244

SOURCE: Nebraska Comprehensive Tax  
Study.

TABLE 4-A10

**MATCHING GROUPS BETWEEN 1984 DEPARTMENT OF  
REVENUE STATISTICAL REPORTS AND 1984  
TAX MODEL FILE, THREE STATES SAMPLE  
FOR NEBRASKA NONRESIDENTS**

Observation Number	Adjusted Gross Income/ Filing Status (AGIMAR)	Actual Number of Returns to the State Income Tax File	Number of Returns in Three State Sample	Sum of Weighted Returns in Three State Sample	Proportion of Retained Weight
1	11	191	10	13,247	0.014418
2	12	682	105	56,086	0.012160
3	13	33	2	1,933	0.017076
4	21	1,221	48	175,780	0.006946
5	22	405	5	16,298	0.024850
6	23	251	4	13,637	0.018405
7	31	2,177	52	187,769	0.011594
8	32	348	14	43,559	0.007989
9	33	370	3	7,389	0.050076
10	41	2,599	44	172,078	0.015104
11	42	591	15	42,044	0.014057
12	43	452	2	5,683	0.079536
13	51	2,557	28	102,275	0.025001
14	52	907	21	48,125	0.018847
15	53	472	4	13,637	0.034611
16	61	2,320	22	78,412	0.029587
17	62	1,187	22	68,691	0.017280
18	63	478	4	15,909	0.030047
19	71	1,981	28	103,051	0.019223
20	72	1,343	32	84,243	0.015942
21	73	454	3	7,389	0.061444
22	81	1,728	16	58,301	0.029639
22	82	1,616	21	61,940	0.026090
24	83	420	9	35,794	0.011734
25	91	1,383	15	47,565	0.029076
26	92	1,721	32	89,546	0.019219
27	93	340	5	19,886	0.017098
28	101	1,212	9	32,925	0.036811
29	102	1,768	28	68,441	0.025832
30	103	315	4	15,909	0.019801
31	111	937	9	26,912	0.034817
32	112	1,954	32	87,447	0.022345
33	113	254	4	13,040	0.019479
34	121	763	21	46,488	0.016413
35	122	1,951	28	58,401	0.033407
36	123	192	1	1,108	0.173257

TABLE 4-A10 (CONT.)

Observation Number	Adjusted Gross Income/ Filing Status (AGIMAR)	Actual Number of Returns to the State Income Tax File	Number of Returns in Three State Sample	Sum of Weighted Returns in Three State Sample	Proportion of Retained Weight
37	132	608	11	27,212	0.022343
38	132	1,971	38	74,144	0.026583
39	133	169	1	2,474	0.068315
40	141	481	12	28,320	0.016984
41	142	1,948	49	81,643	0.023860
42	143	140	6	13,477	0.010388
43	151	413	6	14,190	0.029106
44	152	1,975	32	64,626	0.030561
45	153	118	5	11,003	0.010724
46	161	338	9	24,028	0.014067
47	162	1,827	38	67,696	0.026988
48	171	349	3	7,421	0.047026
49	172	2,063	52	97,851	0.021083
50	173	85	4	6,733	0.012625
51	181	248	6	14,843	0.016708
52	182	1,920	30	53,816	0.035677
53	183	59	1	2,474	0.023850
54	191	231	2	3,582	0.064489
55	192	1,682	33	63,179	0.026623
56	201	195	4	7,164	0.027219
57	202	1,428	27	54,929	0.025997
58	203	35	1	2,474	0.014148
59	211	241	3	5,448	0.044234
60	212	2,479	48	77,539	0.031971
61	213	51	1	1,108	0.046021
62	221	197	1	2,474	0.079634
63	222	1,727	57	51,532	0.033513
64	231	188	5	3,208	0.058599
65	232	2,138	97	63,385	0.033731
66	233	31	1	677	0.045797
67	241	115	6	6,865	0.016751
68	242	1,099	53	32,510	0.033805
69	251	97	4	2,023	0.047941
70	252	879	44	18,880	0.046557
71	261	54	3	1,523	0.035464
72	262	466	36	9,365	0.049758
73	271	125	6	1,135	0.110089
74	272	988	104	14,215	0.069505
TOTAL		66,731	1,541	2,936,105	

SOURCE: Nebraska Comprehensive Tax Study.



TABLE 4-A11

NUMBER OF NONRESIDENT RETURNS FOR ADJUSTED GROSS  
INCOMES GREATER THAN \$200,000, BROKEN INTO  
FIVE SMALLER GROUPS

AGI Group	Adjusted Gross Income Range	Actual Number of Returns	Sampling Range	Sample Number of Returns
28	\$200,000 - \$250,000	163	\$209,000 - \$237,000	169
29	\$250,000 - \$300,000	111	\$258,000 - \$287,000	117
30	\$300,000 - \$500,000	220	\$328,000 - \$442,000	226
31	\$500,000 - \$1,000,000	171	\$553,000 - \$831,000	177
32	More than \$1,000,000	<u>155</u>	\$1,000,000 - \$21,000,000	<u>155</u>
	TOTAL	820		844

SOURCE: Nebraska Department of Revenue and Nebraska Comprehensive Tax Study.

income is not useful for nonresidents because federal taxable income is reported as a proportion of Nebraska taxable income in the Department of Revenue information. Third, the distribution of income above \$1 million is very skewed. For the last group, adjusted gross income of \$1 million or more, the standard deviation moves from \$3.7 million for residents to \$21.3 million for nonresidents. Kurtosis, a measure of tail heaviness in a distribution, went from 44.61 for residents to 105.65 for nonresidents. The sum of adjusted gross income for tax returns about \$1 million increases from \$109.1 million for residents to \$794.7 million for nonresidents.

To sample the 844 nonresidents with adjusted gross incomes above \$200,000, five groups were created, as shown in Table 4-A11, based on one standard deviation above and below the mean value for each of the smaller groups. As shown in Table 4-A12, for the first four income groups, the sample total adjusted gross income accurately represents actual total adjusted gross income, and the same is true about sample and actual federal taxable income. However, for the reasons noted above, the sample adjusted gross income for the \$1 million and over income group is \$498.5 million or 66 percent lower than total actual adjusted gross income. Additional information, not available under statutory confidentiality requirements, would have been necessary to build greater accuracy into this income group.

The final task is to apportion the Nebraska share of federal tax liability to the sample. Statistical information supplied by the Department of Revenue allowed us to calculate the Nebraska share of federal tax liability to federal taxable income for each adjusted gross income/filing status group. For the first two adjusted gross income groups, where negative incomes are reported, the share number .005 assigned. This assigned number appeared to be in line with the other share numbers. The calculated shares are presented in Table 4-A13. A further discussion of the shares is provided in Appendix 4-D.

To evaluate the entire nonresident population sample, Table 4-A14 provides a comparison between figures provided by the Department of Revenue and the sample. Information is available on 67,819 returns; 23 returns were deleted from state information when

TABLE 4-A12

COMPARISON OF TOTALS FOR ADJUSTED GROSS INCOMES GREATER THAN \$200,000  
 BETWEEN 1984 DEPARTMENT OF REVENUE STATISTICAL REPORTS  
 AND 1984 TAX MODEL FILE, THREE STATES SAMPLE FOR  
 NEBRASKA NONRESIDENTS

AGI Group	Actual Returns	Sample Returns	Actual AGI	Sample AGI	Actual Federal Taxable Income	Sample Federal Taxable Income
28	163	169	\$ 36,370,105	\$ 37,419,100	\$ 25,082,383	\$ 26,092,316
29	111	117	30,280,229	31,773,400	22,446,403	23,315,980
30	220	226	84,791,001	86,359,500	60,162,945	64,083,190
31	171	177	118,332,879	118,187,200	93,017,834	92,454,840
32	155	155	754,712,139	296,214,000	687,057,375	246,773,420
TOTALS	820	844	\$1,024,486,353	\$569,953,200	\$887,766,940	\$452,719,753
True Amount			(\$1,084,531,560)		(\$901,895,868)	

SOURCE: Nebraska Department of Revenue and Nebraska Comprehensive Tax Study.

TABLE 4-A13

APPROPORTIONAL NEBRASKA SHARES OF FEDERAL TAX LIABILITY TO 1984  
 TAX MODEL FILE, THREE STATES SAMPLE BY AGI CLASS  
 AND FILING SHARES FOR NONRESIDENTS

<u>AGI Class</u>	<u>Filing Status</u>	<u>Share</u>	<u>AGI Class</u>	<u>Filing Status</u>	<u>Share</u>	<u>AGI Class</u>	<u>Filing Status</u>	<u>Share</u>
1	1	.5000	10	2	.5520	19	3	.3628
1	2	.5000	10	3	.5314	20	1	.3624
1	3	.5000	11	1	.5847	20	2	.4833
2	1	.5000	11	2	.5555	20	3	.3786
2	2	.5000	11	3	.5283	21	1	.3750
2	3	.5000	12	1	.5354	21	2	.4680
3	1	.5000	12	2	.5310	21	3	.2929
3	2	.5000	12	3	.5430	22	1	.3225
3	3	.5000	13	1	.5493	22	2	.4356
4	1	.6212	13	2	.5362	22	3	.3061
4	2	.5000	13	3	.5684	23	1	.2740
4	3	.5434	14	1	.5153	23	2	.3716
5	1	.5801	14	2	.5473	23	3	.1664
5	2	.1605	14	3	.4806	24	1	.2871
5	3	.5682	15	1	.4743	24	2	.3053
6	1	.5849	15	2	.5535	24	3	.3159
6	2	.2291	15	3	.4630	25	1	.2309
6	3	.5451	16	1	.4603	25	2	.2662
7	1	.5865	16	2	.5403	25	3	.1234
7	2	.5633	16	3	.4608	26	1	.2044
7	3	.5494	17	1	.4695	26	2	.2132
8	1	.6178	17	2	.5223	27	1	.1854
8	2	.5131	17	3	.3989	27	2	.1869
8	3	.5558	18	1	.4086	27	3	.2713
9	1	.5850	18	2	.5231	28	1	.0314
9	2	.5366	18	3	.3520	28	2	.0483
9	3	.5820	19	1	.3497	28	3	.0132
10	1	.5964	19	2	.5041			

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 4-A14

COMPARISON OF TOTALS BETWEEN 1984 DEPARTMENT OF REVENUE  
 STATISTICAL REPORTS AND 1984 TAX MODEL FILE, THREE  
 STATES SAMPLE FOR NEBRASKA--NONRESIDENTS  
 ALL GROUPS  
 (dollar amounts are in thousands)

	<u>1984 Tax File</u>	<u>Sample Estimates</u>	<u>Difference</u>
Number of Returns	67,819	67,575	243
Adjusted Gross Income <sup>a</sup>	\$2,740,605	\$2,201,895	\$538,710
Federal Taxable Income <sup>a</sup>	2,194,308	1,753,435	440,873
Federal Tax Liability <sup>a</sup>	N/A	441,284	
Nebraska Share Federal Tax Liability <sup>a</sup>	108,986	98,675	18,748
Nebraska Tax Liability	20,710	18,748	1,962

<sup>a</sup>Negative numbers set to zero when totals created.

SOURCE: Nebraska Department of Revenue and Nebraska Comprehensive Tax Study.

the group size was less than ten. Six groups with 244 returns were not represented in the Tax Model File. The large difference between the actual figures and the sample figures results mostly from the problems in the \$1 million and over income group, as described above. Table 4-A15 shows the difference between the actual figures and sample figures for the first twenty-seven adjusted gross income/filing status groups. The difference in adjusted gross income is 2.95 percent too low, while the federal taxable income figure is .6 percent too high.

The resident and nonresident samples are available from us as SAS data sets on IBM SL tapes.

**Limitations of Using 1984 Data.** Because our data are from 1984, the Department of Revenue and the Revenue Committee's 1987 estimates of the revenue loss from the 1986 federal reform under a 19 percent state tax rate and the calculation of a revenue neutral coupling rate will not be the same as those calculated from 1984 data in this paper. If the distribution of income changed between 1984 and 1986, the impacts of federal reform will result in different revenue losses.

We also do not know how a shift in the income distribution over time would affect the revenue-loss measure due to the tax reform. However, qualitative estimates are possible. The federal tax reform expands the income base by decreasing deductions and credits and increasing the number of taxable preference items. Under these circumstances, the more skewed the income distribution is toward the upper income end, the more the base is expanded and the larger is the revenue gain due to the tax reform. However, lower marginal tax rates and larger standard deductions and personal exemptions must be weighed against the increased base.

At the lower end of the income distribution, the larger standard deductions and personal exemptions decrease the tax base. An increase in the earned income credit also benefits certain lower income taxpayers. Therefore, without actual data for the years 1984 through 1986, it is not possible to determine the effects of a change in the distribution of income on the revenue loss

TABLE 4-A15

COMPARISON OF TOTALS FOR ADJUSTED GROSS INCOMES UNDER  
 \$200,000 BETWEEN DEPARTMENT OF REVENUE STATISTICAL  
 REPORTS AND 1984 TAX MODEL FILE, THREE STATES  
 SAMPLE FOR NEBRASKA NONRESIDENTS

	<u>1984 Tax File</u>	<u>Sample Estimates</u>	<u>Difference</u>
Number of Returns	66,975	66,731	244
Adjusted Gross Income	\$1,656,074	\$1,607,122	\$48,952
Federal Taxable Income	\$1,292,413	\$1,300,715	-\$ 8,302

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SOURCE: Nebraska Department of Revenue and Nebraska Comprehensive Tax Study.

estimates.<sup>13</sup> However, the differences between our estimates and those of the Department of Revenue are probably small and we take our estimates as indications of the percentage change in state revenue due to federal tax reform.

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<sup>13</sup>The federal reform changes AGI dramatically in some cases. Since the weights for the samples are based on pre-reform AGI, the distribution of post-reform AGI for the samples may not reflect the actual post-reform distribution.



**Appendix 4-B****Assumptions Used in Modelling State and Federal Reform**

A number of assumptions were made in programming the state and federal reforms. They were made due to lack of data and/or other necessary information. For both reforms, behavioral responses were ignored except for the decision of whether or not to itemize deductions.

Federal Reform (affects state AGI under the state and federal reforms):

- No imputation was made for scholarships, fellowships, etc.
- Any taxpayer with AGI > \$40,000 (married joint), \$25,000 (single return) was assumed to be covered by some type of pension plan (resulting in a limited IRA deduction or no deduction).
- Taxpayers claiming supplemental losses from partnerships, estates, S-corps, or rental property were all assumed to be passive or all active participants thereby receiving only a 65 percent deduction for losses in 1987 and 0 percent in 1991.
- No additional imputation was made for disbursement of government pensions or lump sum payments for those less than 59 1/2 years old.
- Since moving expenses are not itemized in our data, the deduction was allowed if  $(\text{moving expenses} - [.02 * \text{AGI}]) > 0$ , and it was assumed that the other criteria for deduction of moving expenses were met.
- Miscellaneous itemized deductions were used as reported in 1984 although certain deductions (mainly reimbursed expenses) are treated separately under the Federal Tax Reform.
- All business expenses are lumped together and treated as being subject to the 2 percent floor due to insufficient data breakdown.
- No imputation was made to account for increased taxes paid by children.
- Depreciation on farm equipment was not changed.
- 1991 tax rates are assumed to be equal to 1988 rates which include a phase-out of standard deductions and personal exemptions.

**State Reform:**

- Interest from non-Nebraska tax exempt bonds was not estimated.
- Operation loss derived from Nebraska sources was not estimated.
- Nebraska-exempt interest and dividends were not estimated.
- Rates in 1991 are assumed to be the same as in 1987.
- Standard deductions and personal exemptions are based on 1988 allowances.

**Appendix 4-C****Tax Burdens Under Passive Loss Assumptions**

These tables present the revenue and tax burden estimates under various schemes using 1987 and 1991 provisions under passive assumptions for the "Three State Sample." As is true with Table 4-1 in the text, these results show substantial revenue loss under the 19 percent coupling scheme.

As expected, the active/passive loss assumption has a significant impact on the estimates of revenue loss. The distribution of the tax burden under these various schemes reiterates the earlier finding that the state reform increases the tax burden for lower income earners relative to the coupled system.

TABLE 4-C1

STATE PERSONAL INCOME TAX REVENUES, RESIDENTS, NONRESIDENTS,  
AND TOTAL, 1987-1991 FEDERAL AND STATE PROVISIONS,  
ACTIVE LOSS ASSUMPTION

	<u>Pre-Reform</u>	<u>Federal Reform 19 Percent Coupling</u>	<u>Percent Change in Revenue under Federal Reform with 19 Percent Coupling</u>	<u>State Reform</u>
<u>1987</u>				
Residents	\$302,839,800	\$266,158,700	-12.1	\$313,757,300
Nonresidents	18,571,675	16,123,247	-13.2	19,057,508
Total	321,411,475	282,281,947	-12.2	332,814,808
<u>1991</u>				
Residents	\$302,839,800	\$262,897,100	-13.2	\$319,874,100
Nonresidents	18,571,675	15,897,559	-14.4	19,372,342
Total	321,411,475	278,794,659	-13.3	339,246,442

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 4-C2

**STATE PERSONAL INCOME TAX REVENUES, RESIDENTS, NONRESIDENTS,  
AND TOTAL, 1987-1991 FEDERAL AND STATE PROVISIONS,  
PASSIVE LOSS ASSUMPTION**

	<u>Pre-Reform</u>	<u>Federal Reform 19 Percent Coupling</u>	<u>Percent Change in Revenue under Federal Reform with 19 Percent Coupling</u>	<u>State Reform</u>
<u>1987</u>				
Residents	\$302,839,800	\$272,366,509	-10.1	\$328,535,300
Nonresidents	18,571,675	16,386,763	-11.8	19,663,175
Total	321,411,475	288,753,272	-10.2	348,198,475
<u>1991</u>				
Residents	\$302,839,800	\$277,030,900	-8.5	\$335,322,400
Nonresidents	18,571,675	16,488,543	-11.2	20,008,469
Total	321,411,475	293,519,443	-8.7	355,330,869

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 4-C3

AVERAGE EFFECTIVE STATE PERSONAL INCOME TAX RATE BY  
POPULATION DECILE FOR RESIDENTS, THREE STATE  
SAMPLE, 1987 FEDERAL AND STATE REFORM  
PROVISIONS, PASSIVE LOSS ASSUMPTION  
(in percentages)

Deciles	Comprehensive Income	Number of Taxpayers	Average Effective Tax Rates			
			Pre-Reform <sup>a</sup>	Federal Reform State Coupled <sup>b</sup> 21.12 Percent	Federal Reform State Coupled <sup>c</sup> 22.9 Percent	State <sup>d</sup> Reform
1	Less than \$ 2,456	63,132	0.91	0.01	0.01	0.02
2	\$ 2,457 - 5,608	63,949	0.26	0.04	0.05	0.22
3	5,609 - 8,783	63,370	0.87	0.61	0.67	0.94
4	8,784 - 11,999	65,036	1.30	1.14	1.24	1.49
5	12,000 - 15,968	63,534	1.37	1.24	1.36	1.60
6	15,969 - 20,169	63,964	1.63	1.45	1.57	1.82
7	20,170 - 25,527	63,561	1.79	1.69	1.83	1.99
8	25,528 - 31,519	64,054	1.96	1.86	2.01	2.12
9	31,520 - 41,710	63,886	2.22	2.08	2.26	2.28
10	More than \$41,710	63,993	2.93	2.99	3.25	3.04
Top 5 percent	More than \$52,236	31,941	3.16	3.35	3.63	3.32
Top 1 percent	More than \$97,226	6,423	3.89	4.41	4.78	4.13

N = 638,479

<sup>a</sup> Revenue = \$302,839,800.<sup>b</sup> Revenue = \$302,756,800.<sup>c</sup> Revenue = \$328,273,200.<sup>d</sup> Revenue = \$328,535,300.

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 4-C4

AVERAGE EFFECTIVE STATE PERSONAL INCOME TAX RATE BY  
POPULATION DECILE FOR RESIDENTS, THREE STATE  
SAMPLE, 1991 FEDERAL AND STATE REFORM  
PROVISIONS, PASSIVE LOSS ASSUMPTION  
(in percentages)

Deciles	Comprehensive Income	Number of Taxpayers	Average Effective Tax Rates			
			Pre-Reform <sup>a</sup>	Federal Reform State Coupled <sup>b</sup> 21.12 Percent	Federal Reform State Coupled <sup>c</sup> 22.9 Percent	State <sup>d</sup> Reform
1	Less than \$ 2,456	63,132	0.92	0.02	0.03	0.02
2	\$ 2,457 - 5,608	63,949	0.26	0.09	0.10	0.21
3	5,609 - 8,783	63,370	0.87	0.59	0.65	0.92
4	8,784 - 11,999	65,036	1.30	1.13	1.25	1.47
5	12,000 - 15,968	63,534	1.37	1.22	1.35	1.63
6	15,969 - 20,169	63,964	1.63	1.39	1.54	1.81
7	20,170 - 25,527	63,561	1.79	1.65	1.83	2.00
8	25,528 - 31,519	64,054	1.96	1.81	2.02	2.14
9	31,520 - 41,710	63,886	2.22	2.06	2.29	2.32
10	More than \$41,710	63,993	2.93	2.95	3.25	3.12
Top 5 percent	More than \$52,236	31,941	3.05	3.36	3.73	3.42
Top 1 percent	More than \$97,226	6,423	3.89	4.53	5.03	4.34

N = 638,479

<sup>a</sup> Revenue = \$302,839,800.

<sup>b</sup> Revenue = \$302,756,800.

<sup>c</sup> Revenue = \$328,273,200.

<sup>d</sup> Revenue = \$328,535,300.

SOURCE: Nebraska Comprehensive Tax Study.

**Appendix 4-D****Calculation of Nebraska Income Share  
For Nonresidents**

Nebraska tax liability under the 1984 Tax Code is calculated as follows:<sup>14</sup>

Federal AGI ± federal deductions and exemptions  
= federal taxable income

Federal taxable income ± Nebraska adjustments  
= Nebraska adjusted federal taxable income

Nebraska adjusted federal taxable income \* marginal tax rate  
= federal income tax before credits

Income derived from Nebraska sources ± adjustments  
= Nebraska AGI

**Nebraska AGI**

Federal AGI \* (federal exemptions and deductions)  
= Nebraska share of federal exemptions  
and deductions (1)

Nebraska AGI - Nebraska share of federal exemptions and  
deductions = Nebraska taxable income (2)

**Nebraska Taxable Income**

Nebraska adjusted federal taxable income \* federal income  
tax before credits = Nebraska share of federal income tax  
before credits (3)

Nebraska share of federal income tax before credits  
\* coupling rate = Nebraska tax liability (4)

Under the state reform, Nebraska tax liability for nonresidents is calculated as:

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<sup>14</sup>1984 Nebraska Tax Forms Guide, Nebraska Department of Revenue.



Nebraska tax liability of a resident with the same  
total income \* [Nebraska AGI (adjusted)]/[Federal AGI  
(adjusted)] = Nebraska tax liability for nonresident

We have data from the State by AGI/filing status for federal taxable income (XNEB6), federal AGI (XNEB5), and Nebraska share of federal taxable income before credits (XNEB7). Due to lack of data we assumed that the adjustments to federal taxable income and income derived from Nebraska sources were negligible. This allowed us to calculate a "share" variable to simulate the coupled system and the state reform. This share variable was used to adjust total tax liability in various simulations. The shares were calculated for each AGI/filing status group. The share variable was calculated as follows:

For the coupled system:

$$\frac{\text{Nebraska share of federal income tax before credits}}{\text{Federal taxable income} * 1984 \text{ federal tax rate}} = \text{coupling share}$$

In terms of variables:

$$\frac{\text{XNEB7}}{\text{XNEB6} * \text{tax rate}} = \text{coupling share} = X_c$$

The tax rates used are the 1984 federal tax rates. We have three filing statuses: married joint, single, and other. The rates applied to a filing status of other are a compromise among the remaining possible filing statuses: head of household, married separate, and estates and trusts.

The federal reform was simulated using the nonresidents. The resulting federal liability was multiplied by the  $X_c$  of the appropriate AGI/filing status group to yield the new Nebraska share of federal income tax before credits. This result was then multiplied by the appropriate coupling rate. This share is also used for the state reform.



## CHAPTER 5

# AN ANALYSES OF CORPORATE INCOME TAXATION IN NEBRASKA AND COMPARISON WITH THE 50 STATES<sup>1</sup>

by Robert Carroll

### Introduction

The imposition of the corporate income tax by 45 states and the federal government has resulted in a myriad of statutes and procedures imposing the tax on numerous bases and using various methodologies. The complexity of corporate taxation means that a thorough understanding of the corporate income tax is required for an analysis of Nebraska's corporate income tax. In this chapter, we undertake a broad and detailed analysis of the theoretical underpinnings of a corporate income tax and institutional structures existing in Nebraska, other states and at the federal level. Examining corporate taxation outside of Nebraska is crucial to understanding the interaction and interrelationships between state corporate income taxes and the federal corporate income tax and making sound recommendations for Nebraska.

The findings here indicate that there are only minor problems with corporate taxation in Nebraska. The corporate income tax burden in Nebraska is low to moderate compared to the average for all states and compared to neighboring states that levy a corporate income tax. Overall the corporate income tax appears well-designed. The sales-only formula, that is currently being phased-in should be limited to a three factor formula with a double weight given

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<sup>1</sup>The author is grateful to Deborah Thomas and Eric Will of Nebraska Senator Vard Johnson's staff for helpful comments on a previous draft of this chapter. Also, Donald Ellingson of the State of Nebraska, Department of Revenue was very generous in helping him to understand many of the intricacies of state corporate income taxation. This chapter is based on Robert Carroll, "An Analysis of Corporate Income Taxation in Nebraska and Comparison with the 50 States," Nebraska Comprehensive Tax Study Staff Paper No. 10, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, February 1988).

to sales. This scheme is both competitive with that in most other states and is less discriminatory with respect to various types of firms than the sales-only formula.

Section one details the growth and importance of the state corporate income tax as a source of revenues and means of enhancing competitiveness. Section two outlines the theoretical framework for defining the tax base among firms operating across state boundaries. In addition, the treatment of foreign corporate income by the states is outlined with particular emphasis on foreign source dividends and credits for taxes paid to foreign governments. Section three explains the rationale behind the various approaches and methodologies used to apportion and allocate interstate corporate income to a taxing state. Interstate comparisons are drawn between the institutional structure used in Nebraska and the other states to apportion and allocate interstate corporate income. Section four reviews changes made to Nebraska's corporate income tax during the 1987 Legislative Session which significantly altered the apportionment and allocation mechanism. To the extent possible, this section includes revenue implications of these changes. Section five concludes the chapter by providing recommendations for Nebraska.

## **Corporate Tax Revenue**

### **Corporate Tax Reliance**

The state corporate income tax represented 8.1 percent of total tax collections among all states in 1986, and the proportion of revenues generated by the state tax has remained constant over the past few decades. During this same period, the federal corporate income tax has declined as a source of revenues. Table 5-1 illustrates the percent of corporate tax collections to total tax collections for all states, corporate income tax states and the federal government for selected years beginning in 1960. Corporate income tax receipts have remained roughly constant, relative to total receipts, for those states with a corporate income tax, but have increased somewhat as a proportion of total receipts for all states. The federal corporate income

TABLE 5-1

CORPORATE INCOME TAX RECEIPTS AS A PERCENT OF  
TOTAL REVENUES FOR SELECTED YEARS  
(in percentages)

	Years			
	1960	1970	1980	1986
All States	6.5	7.8	9.7	8.1
Corporate Income Tax States	9.3	9.0	10.6	8.7
Federal	23.2	17.0	12.5	9.1

SOURCE: U.S. Bureau of the Census, Statistical Abstracts of the United States (Washington: U.S. Government Printing Office, selected years).

tax has declined in importance relative to other federal revenue sources decreasing from 23.2 percent in 1960 to 9.1 percent of total federal receipts in 1986. Thus, overall state corporate income taxes have increased in importance compared to the federal corporate income tax.

The relative decline in federal corporate income tax receipts during the 1980's can, at least partly, be explained by the substantial changes to the federal corporate income tax base by the Economic Recovery Act of 1981 (ERTA). Post-ERTA depreciation schedules and property classification rules allowed taxpayers to depreciate property at accelerated levels and represents an especially significant cause of the decline in the federal tax base. Although the Tax Reform Act of 1986 lowers federal corporate income tax rates, the broadening of the tax base has led to estimates for a \$120 billion increase in corporate tax receipts over the next five years.<sup>2</sup> Changes occurring to the federal tax base have a definite impact on the tax bases and revenues of those states that couple to federal taxable income. Consequently, the decline of corporate tax revenues experienced by Nebraska during the 1980's can be partially explained by the use of federal taxable income as a computational starting point for the Nebraska corporate income tax and the changes to the federal base encompassed by ERTA.

Nebraska has exhibited a low reliance on the corporate income tax as a source of tax revenues relative to other states. As indicated by Table 5-2, in 1985 Nebraska ranked fortieth among the states in terms of corporate tax revenue as a percentage of total tax revenue. Colorado is the only corporate income tax state neighboring Nebraska with a lower ranking.<sup>3</sup> Nebraska has consistently ranked in the lowest quartile of corporate income tax states since first imposing a corporate income tax state in 1968.

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<sup>2</sup>*Issues Raised for States by Federal Tax Reform*, (Washington, D.C.: National Association of State Budget Officers, 1987), p.7.

<sup>3</sup>South Dakota and Wyoming impose no corporate income tax.

TABLE 5-2

**STATE RANKINGS OF CORPORATE TAX REVENUES  
AS A PERCENT OF TOTAL TAX REVENUES:  
NEBRASKA AND NEIGHBORING STATES  
(in percentages)**

State	Rankings		
	1970	1980	1985
Nebraska	37	34	40
Colorado	19	29	42
Iowa	36	26	29
Kansas	29	10	16
Minnesota	14	8	24
Missouri	39	37	38
South Dakota	--	No Corporate Income Tax	--
Wyoming	--	No Corporate Income Tax	--

SOURCE: U.S. Department of Commerce, Bureau of the Census, State Government Finances (Washington: U.S. Government Printing Office, selected years).

## Corporate Tax Burdens

Low reliance (corporate taxes as a percent of total revenue) represents one measure of corporate tax burden. Corporate tax as a percent of income and several other measures give a more detailed picture of tax burden. Burden is measured here in four different ways: (1) corporate tax revenues as a percent of total income; (2) the progressivity of the corporate income tax; (3) the corporate tax burden taking tax shifting into account; and (4) nominal marginal corporate income tax rates.

The calculation of some of these four measures is quite complex and we rely on published calculations. In particular, the progressivity measure and the measure of burden taking shifting into account are based on published information for 1975-76 data. However, our interest is in comparing Nebraska to other states and the comparisons based on this dated information may still be indicative of the relative corporate income tax progressivity among states.

The burden of the corporate income tax on personal income for Nebraska and its neighboring states in 1985 is shown in Table 5-3. The measure of burden used is corporate tax revenues as a percentage of personal income. There is considerable variation among the corporate income tax states. The state with the highest burden is Minnesota at 6.46 percent; the lowest is Colorado at 2.14 percent of personal income. As indicated in Table 5-3, Nebraska ranked 44th among the states in 1985, and ranked below all of its neighboring states imposing a corporate income tax except for Colorado which ranked 46th.

Business climate studies often include the personal income measure of tax burden as an important factor influencing business location decisions. For example, the Grant Thornton business climate study included state and local taxes per \$1,000 of personal income as the fifth most important factor among the 22 measurement factors used to rank states by their business



TABLE 5-3

**CORPORATE TAX REVENUES AS A PERCENT OF PERSONAL INCOME,  
STATE RANKINGS: NEBRASKA AND NEIGHBORING STATES**

State	1970		1980		1985	
	Percent	Ranking	Percent	Ranking	Percent	Ranking
Nebraska	1.53	39	3.95	34	2.34	44
Colorado	3.74	23	3.59	40	2.14	46
Iowa	2.56	37	4.98	27	4.28	30
Kansas	2.27	36	6.35	18	4.69	27
Minnesota	5.24	13	9.28	3	6.46	13
Missouri	1.19	40	2.95	44	2.43	43
South Dakota			-- No Corporate Income Tax --			
Wyoming			-- No Corporate Income Tax --			

SOURCE: U.S. Department of Commerce, Bureau of the Census, State Government Finances (Washington: U.S. Government Printing Office, selected years); U.S. Department of Commerce, Bureau of Economic Analysis, computer tape.

climates in 1986.<sup>4</sup> But the use of tax burden figures based on personal income fails to address how the tax burden is distributed among taxpayers within a state. Consequently, analyses based solely on tax revenues as a percentage of personal income to measure tax burden differentials among the states and to draw conclusions regarding interlocational business decisions are not necessarily conclusive.

To address the distribution of the tax burden issue, Table 5-4 depicts the progressivity levels of the corporate tax for Nebraska and its neighboring states for the 1975-76 period.<sup>5</sup> The index used is bounded by +1.0 where the highest income class bears the full burden; and -1.0 where the lowest income class bears the full burden. A tax is exactly proportional if the index exactly equals zero. All of the corporate income tax states listed have a progressive corporate income tax structure. Missouri's corporate tax exhibits the highest progressivity at 0.16. The Nebraska corporate income tax exhibits a progressivity index of 0.15, and only somewhat above the national average of 0.12. Although Nebraska's corporate income tax exhibits a higher progressivity index than all of its neighboring states except for Missouri, it should be noted that there is little variation among the progressivity levels not only of the states listed in Table 5-4, but among all states. This suggests that the progressivity of the corporate income tax does not vary much among the states and gives weight to the argument that tax burden figures based on personal income accurately reflect interstate differentials in tax burdens among firms.

Table 5-5 provides estimates for effective tax rates for Nebraska taking corporate tax shifting into account. In particular, corporate tax burdens are reported for Nebraska and its neighboring states for firms with a taxable income in excess of 35,000 dollars under three

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<sup>4</sup>*The Seventh Annual Study of General Manufacturing Climates of the Forty-Eight Contiguous States of America* (Chicago: Grant Thornton, Inc., June 1986), p. 41.

<sup>5</sup>Although the structure of the many corporate income tax systems have been altered since the 1975-76 period, there are no readily available progressivity estimates for more recent time periods.

TABLE 5-4

PROGRESSIVITY OF CORPORATE INCOME TAX: NEBRASKA  
AND NEIGHBORING STATES, 1975-76

State	Suits Progressivity Index
U.S. Average	0.12
Nebraska	0.15
Colorado	0.12
Iowa	0.11
Kansas	0.11
Minnesota	0.14
Missouri	0.16
South Dakota	-- No Corporate Income Tax --
Wyoming	-- No Corporate Income Tax --

SOURCE: Donald Phares, Who Pays State and Local Taxes?  
(Cambridge: Oelgeschlager, Gunn and Hain,  
Publishers, Inc., 1980).

TABLE 5-5

**EFFECTIVE CORPORATE INCOME TAX RATES, SELECTED  
INCIDENCE ASSUMPTIONS: NEBRASKA AND  
NEIGHBORING STATES, INCOME OVER  
\$35,000, 1975-76**

State	Tax Borne		
	100 Percent by Capital	100 Percent by Consumers	50 Percent by Capital and 50 Percent by Consumers
Nebraska	0.78	0.13	0.46
U.S. Average	1.20	0.22	0.71
Colorado	0.94	0.16	0.55
Iowa	0.91	0.20	0.56
Kansas	1.46	0.28	0.87
Minnesota	2.05	0.34	1.19
Missouri	0.08	0.11	0.46
South Dakota	-- No Corporate Income Tax --		
Wyoming	-- No Corporate Income Tax --		

SOURCE: Donald Phares, Who Pays State and Local Taxes?  
(Cambridge: Oelgeschlager, Gunn and Hain, Publishers,  
Inc., 1980).

incidence assumptions: (1) the tax is completely borne by capital, (2) the tax is completely shifted forward to consumers, and (3) the tax is borne 50 percent by consumers and 50 percent by capital. Nebraska's effective corporate tax rate is below all of its neighboring corporate tax states except Missouri regardless of the incidence assumption. Minnesota has the highest corporate income tax rate of those states listed. Although these estimates are somewhat dated, they suggest that Nebraska has competitive corporate income tax rates relative to its neighboring states.

The marginal tax rates and major features of the corporate income tax for Nebraska and its neighboring states, as outlined in Table 5-6, represents more current information on the corporate income tax rate structure. As indicated by Table 5-6, Iowa and Minnesota have the highest marginal rates--12 percent for the highest income bracket. Kansas, Nebraska, Colorado, and Missouri have marginal rates between 4.50 percent and 6.75 percent depending upon the income class in question. The federal income tax is deductible only in Iowa and the federal definition is used as the computational starting point for all of the neighboring corporate income tax states listed except for Minnesota. With the exception of South Dakota and Wyoming which impose no corporate income tax, Nebraska's marginal tax rates are not appreciably different from most of its neighboring states, with the exception of Iowa (taking deductibility into account) and Minnesota where Nebraska's rates are substantially less.

In summary, the Nebraska corporate income tax has a relatively low tax burden when taxes are compared to personal income, exhibits low effective tax rates when tax shifting is taken into account, and has low or average marginal tax rates depending on the comparison state used. In addition, the progressivity estimates, although admittedly somewhat dated, suggest that Nebraska's corporate income tax is not substantially more progressive than neighboring states. Consequently, Nebraska's corporate income tax appears to be competitive with that in its neighboring states.

TABLE 5-6

STATE CORPORATE INCOME TAX RATES FOR TAX YEAR 1986  
(as of January 1987)

State	Net Income	Marginal Rate (percent)	Income Tax Deductible	Federal Used as State Tax Base
Nebraska	\$0 - \$50,000	4.75	No	Yes
	Greater than \$50,000	6.65		
Colorado	All	6	No	Yes
Iowa	\$0 - \$25,000	6	Yes	Yes
	\$25,001 - \$100,000	8		
	\$100,001 - \$250,000	10		
	Greater than \$250,000	12		
Kansas	\$0 - \$25,000	4.5	No	Yes
	Greater than \$25,000	6.75		
Minnesota	\$0 - \$25,000	6	No	No
	Greater than \$25,000	12		
Missouri	All	5	Yes	Yes
South Dakota		-- No Corporate Income Tax --		
Wyoming		-- No Corporate Income Tax --		

SOURCE: Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism, 1987 Edition (Washington: ACIR, June 1987), p. 68.

### **Defining the State Corporate Income Tax Base.**

When the activities of a business enterprise are conducted wholly within a state the enterprise's entire income is included within the state's tax base. This basic definition of corporate income becomes much more complicated when an enterprise operates across state boundaries. The procedures and methodologies used to apportion and allocate the income of an enterprise in the latter case also raise a number of economic issues.

Two countervailing methodologies are used to define a state's corporate income tax base: (1) "unitary combination", and, (2) "arms-length." The unitary combination method essentially combines the income of affiliated firms for tax purposes. Typically, a unitary group will include a parent corporation and its foreign and domestic subsidiaries. The firm whose commercial domicile is within the taxing jurisdiction is required to file a consolidated return which includes the income of all of the firms within the unitary group. In effect, the state share of the income of the entire unitary group is included within the tax base.

The arms-length method assumes that a corporation can be split into distinct pieces representing the part of a corporation responsible for income generated within and without a taxing jurisdiction. Accordingly, the portion of the corporation not responsible for income generated within the jurisdiction is excluded from the tax base. In addition, affiliated corporations conducting business activities exclusively outside of the taxing jurisdiction, regardless of their connection to the corporation located within and taxed by the jurisdiction, are excluded from the tax base. The separate accounting principles are applied under the arms-length method to determine the income generated by a corporation within and outside of the jurisdiction. Separate accounting will be discussed in greater detail below.

The states have generally used the unitary method in one form or another, while the U.S. government and most foreign governments have opted to use the arm's length method. For

states, either method requires the tax code to define "affiliated firms" and confronts the problem of apportioning the income of the particular state.

The states are constitutionally limited, when imposing an income-based tax, from taxing value earned outside their borders.<sup>6</sup> As a result, the states attempt to identify that income attributable to business activities occurring within a particular state's borders. Three approaches are used to apportion interstate income among the states: (1) formula apportionment, (2) separate accounting, and (3) specific allocation. Most states use formula apportionment to identify the corporate income attributable to a particular state. With only a few exceptions, the states use a three factor apportionment formula which is based, in equal parts, on the proportion of a business' total payroll, property, and sales located within the taxing state. The apportionment formula takes into account the relative contributions of supply related components (capital and labor) and a demand component (markets).

In addition to formula apportionment, most states, within certain limitations, permit the use of separate accounting and specific allocation. Separate accounting assumes that the operations of a multistate business can be split into pieces (e.g., based on the geographical borders of the states).<sup>7</sup> This method has been faulted as being imprecise and subject to manipulation. Critics and the courts have stated that it often ignores the many subtle and largely unquantifiable transfers of value that can take place within a business enterprise spanning across several states or nations.<sup>8</sup> Specific allocation recognizes that certain items (e.g., rents, royalties, dividends, and interest) are unapportionable and requires that the items be wholly attributed to one state or another.<sup>9</sup>

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<sup>6</sup>*ASARCO, Inc. v. Idaho State Tax Commission*, 458 U.S. 315 (1982).

<sup>7</sup>J. A. Maxwell and J. R. Aronson, *Financing State and Local Governments*, 3rd ed., (Washington, D.C.: Brookings Institution, 1977), p. 118.

<sup>8</sup>*Container Corp v. Franchise Tax Board*, 463 U.S. 164-165 (1983).

<sup>9</sup>Maxwell et al., *Financing State and Local Governments*, p.118.



The use of the apportionment formula normally corresponds to the application of the unitary combination method, whereas the use of separate accounting is associated with the arms-length method.

### **Unitary Business**

The U.S. Constitution does not allow a state to "tax income arising out of interstate activities ... unless there is a 'minimal connection' or 'nexus' between the interstate activities and the taxing state, and 'a rational relationship between the income attributed to the State and the intrastate values of the enterprise.'"<sup>10</sup> In determining whether intrastate values of an enterprise should be taxed, the U.S. Supreme Court has generally employed the "three unities"--ownership, operation, and use--to support a finding for a unitary business. The Court has stated that when common ownership, operation, and use is present among firms existing as part of a business enterprise, its separate parts cannot be fairly considered by themselves since the value is derived from the unity of the enterprise.<sup>11</sup> In such cases, the Court has generally supported the finding of a unitary business and the taxing of intrastate values.

The organization of business enterprises has given credence to the unitary method based upon a clearly defined economic rationale.<sup>12</sup> However, it is the potential failure of separate accounting to allocate accurately income of a multistate firm across several states that has led many states to apply the unitary business principle when defining the tax base for their corporate income tax. Among the attributes of the unitary method that have led to the desirability, on a theoretical basis, to group affiliated firms for tax purposes, two are of particular significance.

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<sup>10</sup>*Container Corp. v. Franchise Tax Board*, 463 U.S. 165-166 (1983); citing *Mobil Oil Corp. v. Commissioner of Taxes*, 445 U.S. 436-437 (1980).

<sup>11</sup>*Ibid.*

<sup>12</sup>For a detailed discussion of the economic rationale for a unitary business see: C. E. McLure, Jr. (ed.), "Defining a Unitary Business," in *The State Corporate Income Tax: Issues in Worldwide Unitary Combination* (Stanford, CA: Hoover Institution Press, 1984), pp. 89-124.

1. the transfer pricing of goods and services exchanged among firms at the various stages of the production process (perhaps to take advantage of noncompetitive pricing), and, the consequent inability to attribute accurately the income to each of the firms since the source of the income among the firms is unknown,
2. the existence of the unitary group, in and of itself, may be the source of the income which, as a result, cannot be accurately allocated to the individual firms since the source of the income is the enterprise and not the individual firms.

In the first instance above, a vertically integrated business enterprise could exchange goods and services among firms within the enterprise using exchange prices that may not accurately reflect the value-added to the product at each stage of production. When the enterprise's operations are conducted in both high and low tax jurisdictions, an enterprise could lower its tax liability by inflating transfer (selling) prices in low tax states and deflating transfer prices in high tax states. Under separate accounting, the use of these transfer prices would attribute a higher proportion of corporate profits to low tax states. It is both the difficulty of using separate accounting accurately and the potential for willful distortion in the assignment of corporate profits among states that has encouraged the use of the unitary combination method. The unitary combination method obviates completely transfer pricing considerations.

The second reason for the unitary method--the very nature of the business enterprise is the cause and source of a portion of the total income of the firm--is clearly found among vertically integrated business enterprises. Indeed, this has been cited as a reason for the formation of such a business arrangement. Savings from transactions costs and economies of scale are among the cost savings and income producing benefits of a vertically integrated business. When vertical activities in the production-distribution chain are organized within one firm, there is less need to shop around, less difficulty in appraising products and services, less expense in contracting, more certainty of supply and of markets, and more flexibility in adapting

to changing conditions.<sup>13</sup> The total cost of advertising, accounting, and legal services, and research and development facilities may also be lower if borne by the enterprise rather than the individual firms. The arms-length method cannot attribute the additional income due to savings in transaction costs to particular firms since it is the organization of the group that is the source of the income.

Even though unitary combination may be attractive on a conceptual level and because of the inadequacies of the arms-length method, unitary combination has been faulted for distorting "the measurement of taxable income" which "may result in either over or under taxation."<sup>14</sup> As well, critics of the unitary combination method argue that:

- Worldwide unitary combination departs from the internationally accepted standard of taxation, which is based on arm's length or separate accounting principles.
- Worldwide unitary has given rise to vigorous objections by both foreign governments and foreign business and may lead to retaliatory actions.
- Worldwide unitary combination is administratively burdensome and complex, especially for a foreign-based multinational which must report its worldwide income and apportionment factors in U.S. dollars under tax accounting principles used by the unitary states. A U.S. subsidiary may not have access to the necessary information relating to the activities of its foreign parent and sister subsidiaries, and may be prohibited by foreign law from access to that information.
- The absence of a consistent and appropriate definition of a unitary business gives rise to an unacceptable degree of taxpayer uncertainty and may discourage investment in the United States.<sup>15</sup>

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<sup>13</sup>McLure, "Defining a Unitary Business," p. 93.

<sup>14</sup>"The Final Report of the Worldwide Unitary Taxation Working Group: Chairman's Report and Supplemental Views," in *Economic Perspectives on State Taxation of Multijurisdictional Corporations*, ed. by C. McLure (Arlington: Tax Analysts, 1986), p. 244.

<sup>15</sup>Ibid, pp. 244-245.

### Arms-Length Method

The arms-length method treats the portions of a business enterprise operating outside of a jurisdiction's boundaries as independent third parties from the portion operated inside the jurisdiction. The enterprise's activities inside the state are regarded as though they were carried on by a separate and distinct in-state entity.<sup>16</sup> Accordingly, corporate income for this "entity" is computed without reference to receipts or operating expenses of the remainder of the corporation.<sup>17</sup> The use of separate accounting ascertains which entity earned which profits on a jurisdictional basis.<sup>18</sup>

When the activities of a business enterprise occurring within a jurisdiction are truly separate and distinct from its activities without the jurisdiction, so that the segregation of income may be made clearly and accurately, the use of the separate accounting method is clearly appropriate. However, the usefulness of separate accounting diminishes as when the business activities inside and outside of a state become interdependent.

During the early part of this century when the corporate income tax was first used by the states on a broad scale, separate accounting for multistate operations was regarded as "the most precise and accurate method of determining the income derived for the various states."<sup>19</sup> However, with the development of open economies among the states and between nations, and the resurgence of multistate and multinational firms, in most cases, separate accounting no

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<sup>16</sup>U.S. Congress, *State Taxation of Interstate Commerce*, Report of the Special Subcommittee on State Taxation of Interstate Commerce of Committee on the Judiciary, House of Representatives (Washington, DC: U.S. Government Printing Office, 1964), p. 160.

<sup>17</sup>Ibid.

<sup>18</sup>"California Tax Policy Conference Examines New Water's Edge Unitary," *Tax Notes*, Vol. 33, No. 4 (27 October 1986): 340.

<sup>19</sup>J. R. Hellerstein and W. Hellerstein, *State and Local Taxation: Cases and Materials*, 4th ed., (St. Paul, MN: West Publishing Co., 1978), p. 432.

longer permits the maintenance of records in a manner adequate for the state-by-state breakdown of data.

The difficulty for a taxing jurisdiction to account for transfer pricing lessens the usefulness of separate accounting. The distortion of transfer prices by an enterprise can be remedied by a taxing jurisdiction if market prices exist to which it can compare the prices for the internal purchases of goods and services within the enterprise. The taxing jurisdiction would simply adjust purchase prices of goods and services exchanged within the enterprise to reflect the market prices of such goods and services.

This adjustment of prices to reflect market conditions is precisely what the federal government attempts through adjustments authorized by Section 482 of the Internal Revenue Code.<sup>20</sup> However, obvious administrative difficulties arise. Primarily, the existence of market prices for comparable exchanges of goods and services must exist. In addition, within an enterprise millions of exchanges may take place among the firms thereby making auditing the prices that firms attach to each transaction difficult, if not impossible. Depending on the number of transactions that occur, it may be the case that the resources needed to compute the adjustment (e.g., auditors and associated resources) will be greater than the revenue resulting from the adjustment. The actual procedures and methodology set forth by Section 482 and the Internal Revenue Service practices involving such adjustments will be discussed in greater detail below when discussing the provisions of the federal corporate income tax.

Critics of separate accounting have contended that:

- Compared to worldwide unitary, it [separate accounting] may distort the measurement of taxable income. It may result in either over- or under-taxation.

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<sup>20</sup>I.R.C., sec. 482 (1954).

- Because of the difficulties in getting accurate information from foreign-based multinationals, distortion may be greater for foreign-based multinationals than for U.S.-based ones.
- Because of possible income distortion, it may lead to undertaxation of multinationals; it may shift the corporate tax burden onto smaller business and put them at a competitive disadvantage.
- Because of the economic interdependence created by shared expenses, economies of scale, and other factors within a multinational, separate accounting may fail, even in theory, to measure income accurately.
- It is administratively complex. Given the millions of transactions that must be reviewed to audit on an arm's length basis, it may be administratively burdensome for state revenue officials as well as taxpayers. States lack the resources to administer it effectively.
- The absence of consistent and appropriate ways to determine arm's length prices may create an unacceptable degree of taxpayer uncertainty.
- Separate accounting departs from the accepted method of taxation, which is based on apportionment and the unitary business principle.<sup>21</sup>

The Reagan Administration proposed federal legislation to limit the use of the worldwide unitary combination method by the states. The states responded that a limitation on their use of the unitary combination method would constitute an infringement on their ability to raise revenue and act independently of the federal government. Despite this response, many states have since changed their corporate income taxes away from worldwide unitary combination to stave off federal action. As of November 1986, it was reported that only three states, Alaska, Montana, and North Dakota, applied the worldwide unitary combination method.<sup>22</sup>

In place of worldwide unitary combination method, many states use the domestic combination method--a less encompassing method than the worldwide unitary approach. This method excludes certain foreign-earned income from a state's tax base. There exists

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<sup>21</sup>*The Final Report of the Worldwide Unitary Taxation Working Group: Chairman's Report and Supplemental Views*, p. 245.

<sup>22</sup>*Daily Tax Report*, No. 189 (November 1986): G-5.

considerable variation among the states regarding what foreign-earned income is excluded. Some states exclude the income of foreign subsidiaries, but include dividends received by a domestic corporation from the foreign subsidiary in the tax base. Other states exclude both the income and dividends of foreign subsidiaries, but include the income of domestic corporations operating abroad in the tax base. In addition, some states exclude all foreign-earned income whether earned by a foreign or domestic corporation.

Nebraska's corporate income tax is best characterized as a domestic unitary combination approach. The Nebraska statute defines a unitary business as,

"a business that is conducted as a single economic unit by one or more corporations with common ownership and shall include all activities in different lines of business that contribute to the single economic unit."<sup>23</sup>

Nebraska deviates from the worldwide unitary combination approach in its treatment of foreign source income. Essentially, Nebraska excludes the business activities of foreign corporations that do no business in Nebraska, but would be construed as belonging to a worldwide based unitary business from its tax base.

### **Treatment of Foreign-Source Dividends**

The treatment of foreign source dividends by the states has been the focus of considerable disagreement between state policy makers and business leaders. The states have generally argued in favor of continued taxation of foreign source dividends, while business leaders have adamantly opposed such taxation. The application of the unitary combination approach at the "water's edge" and the different treatment of such dividends by the states and the federal government poses some difficulty for determining whether foreign source dividends should be included within the tax base.

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<sup>23</sup>Revised Statutes of Nebraska, sec. 77-2734.04(13) (1943).

Under worldwide unitary combination dividends paid from one corporation in the unitary group to another are eliminated from the calculation, as are other transactions between members of the combined group of affiliated firms. The question of how to treat foreign-source dividends paid by subsidiaries thus only arises in the case of water's edge limitation or unitary combination. Under separate accounting the income from which foreign source dividends are paid is commonly attributed to foreign sources.<sup>24</sup> Therefore, if the results of separate accounting are accepted, such dividends should not be included in the income of the parent and then apportioned to a state by some other method such as formula apportionment. Furthermore, it has been argued that including foreign source dividends in apportionable income of states is simply a "highly deflective way of approximating the results of worldwide unitary combination via the back door--but only for domestic multinational corporations."<sup>25</sup>

The federal government excludes for tax purposes 100 percent of corporate dividends received from a domestic corporation where 80 percent or more of the stock of the domestic corporation is owned by the receiving corporation.<sup>26</sup> In the case where the domestic corporation is not 80 percent or more owned by the receiving corporation, the federal government permits an 80 percent dividend exclusion.<sup>27</sup> Dividends received from foreign corporations are entirely included in the federal tax base. As mentioned above, the federal government permits corporations to deduct or take a credit for foreign taxes paid. This provision, discussed in greater

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<sup>24</sup>C. McLure, "State Taxation of Foreign-Source Dividends: Starting from First Principles," *Tax Notes*, Vol. 30, No. 10 (March 1986).

<sup>25</sup>*Ibid.*

<sup>26</sup>I.R.C., sec. 243(a)(3), sec. 1504.

<sup>27</sup>*Ibid.*, sec. 243(a)(1) (1954), note that the Federal Tax Reform Act of 1986 decreased this deduction from 85 percent to 80 percent for dividends received after December 31, 1986. House of Representatives, *Tax Reform Act of 1986: Conference Report to Accompany H.R. 3838, Vol. II*, 99th Cong., 2d Sess., 1986, H. Rept. 99-841, (Washington, DC: U.S. Government Printing Office, 1987), p. 161.



detail below, is intended to prevent double taxation of foreign source income that has already been taxed once by the host country.

As dividends received from foreign corporations are included in the federal tax base, they are implicitly included in the tax bases of states that use the federal taxable income as a computational starting point for their state corporate income tax, unless provisions explicitly excluding such dividends have been adopted by the taxing state. As indicated by Table 5-7, 31 corporate income tax states exclude, at least partially, foreign source dividends from the tax base. Among Nebraska's neighboring states, Iowa and Kansas include foreign source dividends in the tax base. Colorado and Minnesota partially exclude such dividends from the tax base. Only Missouri and Nebraska exclude 100 percent of foreign-source dividends.

#### **Federal Foreign Tax Credit and Implications for States**

Consistent with the full taxation of foreign dividends, the federal government permits corporations to claim either a tax credit or a deduction for foreign taxes paid to foreign nations to offset the federal tax upon foreign source income.<sup>28</sup> In the case of a credit, the federal government limits this credit to the amount at which such income would be taxed if it were U.S. income. Consequently, a corporation that has paid foreign taxes at overall effective rates above the U.S. level would obtain no reduction on its U.S. tax for such "excess credits." However, "excess taxes" paid to one foreign country at rates higher than the U.S. can, subject to a maximum, be used to offset U.S. tax due on income earned in another foreign country whose rates are lower than the U.S. rates.

The potential for use of excess credits to avoid U.S. federal tax liability was the rationale for the alteration in the calculation of the foreign tax credit by the Tax Reform Act of 1986. Generally, taxpayers with excess credits and particularly those taxpayers with a surplus of excess

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<sup>28</sup>I.R.C., sec. 901 (1954).

TABLE 5-7

## STATE TAXATION OF FOREIGN SOURCE DIVIDENDS, 1986

State	Tax Status		
	Exempt	Partially Excluded or Conditionally Exempt	Considered Taxable Income
Alabama.....		X	
Alaska.....			X
Arizona.....	X		
Arkansas.....		X	
California.....			X
Colorado <sup>a</sup> .....		X	
Connecticut.....	X		
Delaware.....	X		
Florida.....	X		
Georgia.....	X		
Hawaii.....	X		
Idaho <sup>b</sup> .....			X
Illinois.....		X	
Indiana.....			X
Iowa.....			X
Kansas.....			X
Kentucky.....	X		
Louisiana.....			X
Maine.....			X
Maryland.....		X	
Massachusetts.....		X	
Michigan <sup>c</sup> .....		X	
Minnesota <sup>d</sup> .....	X		
Mississippi.....	X		
Missouri.....	X		
Montana.....			X
Nebraska.....	X		
New Hampshire.....			X
New Jersey.....		X	
New Mexico.....			X
New York.....		X	
North Carolina.....		X	
North Dakota.....			X
Ohio.....	X		
Oklahoma.....			X
Oregon.....		X	
Pennsylvania.....	X		
Rhode Island <sup>e</sup> .....		X	
South Carolina.....		X	
Tennessee.....		X	
Utah.....		X	
Vermont.....			X
Virginia.....	X		
West Virginia.....	X		
Wisconsin <sup>f</sup> .....		X	

TABLE 5-7 (CONT.)

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<sup>a</sup>Beginning with 1986 tax years, the amount of foreign source income, including dividends, excludable by a taxpayer depends on whether the taxpayer elects the federal foreign tax deduction or the foreign tax credit. If the deduction is elected, Colorado will consider all foreign source income, less the deduction to be taxable income. If the credit is elected the proportion to be excluded from Colorado taxable income is the ratio of the foreign taxes paid or accrued to 34 percent (the maximum federal corporate tax rate) of the foreign source income. The foreign source income is to be excluded to the extent the foreign taxes paid by the taxpayer are less than the federal taxes it would have paid had the income been U.S. income.

<sup>b</sup>Foreign source dividends, exclusive of Internal Revenue Code, Section 78 gross-up, are taxable when either is allocated or apportioned to Idaho.

<sup>c</sup>Under Michigan's single business (value-added) tax, a subtraction from the tax base is allowed for dividends received.

<sup>d</sup>Minnesota statute (Sec. 290.21(4)(e)) grants a 100 percent dividends received deduction to taxpayers for foreign dividends received from corporations of which the receiving corporation has at least an 80 percent controlling interest. Otherwise, an 80 percent deduction for foreign dividends is allowed.

<sup>e</sup>Dividends received from a wholly-owned foreign subsidiary are exempt in Rhode Island.

<sup>f</sup>Wisconsin allows a 100 percent deduction for dividends received from affiliates.

SOURCE: Prepared by the National Association of Tax Administrators, "Finance Subcommittee Considers Federal Restrictions on Worldwide Unitary Method," Tax Notes, Vol. 33, No. 1 (6 October 1986): 18.

credits are thought to have an incentive to increase foreign income against which excess credits may be claimed. Income that is easily manipulable as to source, e.g., portfolio investment income, may be shifted from U.S. corporations to foreign corporations to provide foreign income against which excess credits may be claimed. Since the lowering of federal corporate tax rates by the Tax Reform Act was expected to increase the excess credits position of U.S. multinational corporations, this may have resulted in an unintended favoring of foreign investment over U.S. investment. To counter this disincentive for U.S. investment relative to foreign investment, the Tax Reform Act altered the manner in which the foreign tax credit is calculated. Specifically, foreign source income must now be segregated into ten income categories<sup>29</sup> whereby the foreign tax credit limitation is applied separately to each income category. The additional income categories created by the Tax Reform Act are described as easily manipulable as to source of income or frequently bear little foreign tax or high foreign tax.<sup>30</sup> The separate application of the foreign tax credit to these additional categories will limit the potential for decreasing federal tax liability through the manipulation of income between the United States and foreign nations.

The net effect of the federal foreign tax credit/deduction is for foreign source income to be taxed at whichever tax rate is higher--the U.S. tax rate or that in the foreign source country. This practice eliminates the potential for a tax penalty against income from foreign sources (e.g., double taxation of foreign income),<sup>31</sup> and attempts to provide equal treatment of foreign and

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<sup>29</sup>Additional separate income categories required by the Tax Reform Act are: passive income, financial services income, shipping income, high withholding tax interest income, and dividends from noncontrolled section 902 corporations. Prior to the Tax Reform Act, separate foreign tax credit limitations were required only for overall income, DISC dividends, FSC dividends, passive interest income, and extraction income. U.S. Congress, Joint Committee on Taxation *General Explanation of the Tax Reform Act of 1986*, 100th Cong., 1st Sess., (Washington, D.C.: Government Printing Office, 4 May 1987), pp. 862-863.

<sup>30</sup>Ibid.

<sup>31</sup>Certain taxpayers, particularly petroleum firms, that are generally subject to high foreign tax rates, do not have enough income in low tax countries to claim all of their excess credits. Consequently, such taxpayers are not able to fully escape the tax penalty associated with double taxation of foreign source income.

domestic source income.

This federal practice has implications for the states depending whether (1) the type of corporation in question is foreign or domestically incorporated, and (2) the corporation chooses the federal foreign tax credit or deduction. In the case of a foreign incorporated firm, foreign source income and foreign taxes are excluded from the federal base, and accordingly, from state tax bases of states using federal taxable income as the computational starting point for the state tax.

In the case of a domestic corporation that operates primarily abroad, commonly referred to as "80-20 corporations," the inclusion of foreign taxes in the state base is contingent on whether the corporation opts for the deduction or credit. Federal law defines firms that incorporate within the United States and carry on no more than 20 percent of their operations within the United States as "80-20 corporations."<sup>32</sup> If the deduction is chosen, then foreign taxes are implicitly excluded from the tax base of states' using federal taxable income as the computational starting point for the state tax. If the credit is chosen, foreign taxes are included in the state base.

In order for the states to follow the consistent treatment of foreign and domestic source income by the federal government, a state must either exclude both foreign corporate income taxes and the federal corporate income tax (net of the federal credit/deduction) from the state tax base, or include both in the state tax base. Generally, the states accommodate foreign and the

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<sup>32</sup>Generally, 80-20 corporations are formed to provide the corporation with the protection afforded by United States law. For example, in the case of an expropriation by a foreign government, an 80-20 corporation is able to declare an ordinary loss on the U.S. income tax form. Oil companies and other firms engaged in the extraction of energy or other raw materials in the more volatile areas of the world tend to form 80-20 corporations rather than to simply incorporate in a foreign nation. Additionally, firms seeking the protections afforded by U.S. patent laws will also tend to form 80-20 corporations to carry on business abroad. Due to the relative ease of incorporation and liberal treatment of corporations by Delaware law, 80-20 corporations are generally formed in the State of Delaware.

federal tax issue by allowing: (1) a deduction for federal income taxes, (2) the deduction of foreign taxes, or (3) firms using the federal foreign tax deduction implicitly deduct such taxes from the state base by using federal taxable income as the computational starting point for the state tax. The specific treatment of foreign and federal corporate income taxes varies substantially between the states. Among Nebraska's neighboring states both Iowa and Missouri allow taxpayers to deduct the federal income tax from the state tax base.<sup>33</sup> Minnesota and Missouri allow the deduction of foreign taxes to at least some extent.<sup>34</sup>

In 1984, Nebraska enacted legislation that allows a deduction for foreign taxes paid in excess of what would be due in the United States if the corporation were a domestic rather than a foreign corporation. Thus, the tax treatment of foreign source income for 80-20 corporations is exactly the same as domestic source income.

### **Allocation and Apportionment**

Once the tax base is defined, a state must then identify the intrastate income earned by an enterprise operating within its borders. In the case of real and tangible property, states generally employ the specific allocation method. Following this method, income earned by real and tangible property located within or associated with a state is allocated exclusively to that state. Specific allocation is applied "in many states to rents and royalties from real estate, including oil and mineral royalties, and from tangible personal property; patents and copyright royalties; dividends and interest; capital gains and losses; and, in some states, to compensation for services."<sup>35</sup>

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<sup>33</sup>*State Tax Review*, Vol. 47, No. 49 (December 1986): 2.

<sup>34</sup>*Multistate Corporate Income Tax Guide* (Chicago, IL: Commerce Clearing House, Inc., 1987), par. 97.

<sup>35</sup>Hellerstein et al., *State and Local Taxation*, p. 339.

A similar allocation scheme for intangible property, however, is problematic. For example, consider enterprise X which produces in state A and sells in state B. Income is generated in state A from the production of the product, but also earned in state B through the use of its markets. Accordingly, both states attempt to tax that income earned within its borders, thereby requiring the apportionment of the income of the enterprise to the states.

### **Formula Apportionment**

Most states permit the use of separate accounting, but prefer the use of an apportionment formula. With the exception of Mississippi and New Mexico, states require prior written approval of the use of separate accounting from the tax administering agency. Approval generally depends on the nature and character of the business transacted by the appellant. If the in-state activities of the enterprise are separate and distinct from the out-of-state activities, separate accounting may be determined to be appropriate by the administering agency.

All states imposing a corporate income tax, with the exception of Mississippi, employ an apportionment formula to allocate interstate income. The formula, generally based on the in-state/out-of-state ratios of property, payroll and sales of a business enterprise, attempts to take into account relevant demand and supply factors contributing to the earning of income by the enterprise.

Table 5-8 demonstrates the variation in the apportionment formulae used by the states. Kansas is the only state neighboring Nebraska which exclusively applies the three factor formula with equal weights on the sales, property, and payroll factors. Colorado, and Missouri allow taxpayers to choose between apportionment formulas.<sup>36</sup> Minnesota repealed provisions

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<sup>36</sup>Colorado taxpayers may opt to apply the three factor formula with equal weights or a two factor formula equally weighting the sales and property factors, Colorado Revised Statutes, sec. 24-60-1301 (1973), sec. 39-22-303(2)(b) (1973). Missouri taxpayers may elect to use the three factor formula with equal weights or a sales-only formula, Vernon's Annotated Missouri Statutes, sec. 32.200 et seq., sec. 143.451 (1969).

TABLE 5-8

CHARACTERISTICS OF STATE CORPORATE INCOME TAX  
APPORTIONMENT FORMULAS

State	Three Equally Weighted Factors	Three Factors with Double Weighted Sales	Two Factors	Sales Only	Option between Formulas	Separate Accounting Permitted
Alabama	Yes	No	No	No	No	Yes
Alaska	Yes	No	No	No	No	Yes
Arizona	Yes	No	No	No	No	Yes
Arkansas	Yes	No	No	No	No	Yes
California	Yes	No	No	No	No	Yes
Colorado	Yes	No	Yes	No	Yes	Yes
Connecticut	No	Yes <sup>a</sup>	No	Yes <sup>a</sup>	No	Yes
Delaware	Yes	No	No	No	No	Yes
Florida	No	Yes	No	No	No	Yes
Georgia	Yes	No	No	No	No	Yes
Hawaii	Yes	No	Yes	No	Yes	Yes
Idaho	Yes	No	No	No	No	Yes
Illinois	No	Yes	No	No	No	Yes
Indiana	Yes	No	No	No	No	Yes
Iowa	No	No	No	Yes	No	Yes
Kansas	Yes	No	No	No	No	Yes
Kentucky	No	Yes	No	No	No	Yes
Louisiana	Yes <sup>a</sup>	No	Yes <sup>a</sup>	No	No	Yes
Maine	Yes	No	No	No	No	Yes
Maryland	Yes	No	No	No	No	Yes
Massachusetts	No	Yes	No	No	No	Yes
Michigan	Yes	No	No	No	No	Yes
Minnesota	No	Yes <sup>d</sup>	No	No	No	Yes
Mississippi	No	No	No	No	No	Yes <sup>b</sup>
Missouri	Yes	No	No	Yes	Yes	Yes
Montana	Yes	No	No	No	No	Yes
Nebraska <sup>e</sup>	Yes	No	No	No	No	Yes
New Hampshire	Yes	No	No	No	No	Yes
New Jersey	Yes	No	No	No	No	Yes
New Mexico	Yes	No	No	No	Yes <sup>c</sup>	Yes <sup>c</sup>
New York	No	Yes	No	No	No	Yes
North Carolina	Yes	No	No	No	No	Yes
North Dakota	Yes	No	No	No	No	Yes
Ohio	No	Yes	No	No	No	Yes
Oklahoma	Yes	No	No	No	No	Yes
Oregon	Yes	No	No	No	No	Yes
Pennsylvania	Yes	No	No	No	No	Yes
Rhode Island	Yes	No	No	No	No	Yes
South Carolina	Yes <sup>a</sup>	No	No	Yes <sup>a</sup>	No	Yes
Tennessee	Yes	No	No	No	No	Yes
Utah	Yes	No	No	No	No	Yes
Vermont	Yes	No	No	No	No	Yes
Virginia	Yes	No	No	No	No	Yes
West Virginia	No	Yes	No	No	No	Yes
Wisconsin	No	Yes	No	No	No	Yes
TOTAL	34	9	3	4	4	45



TABLE 5-8 (CONT.)

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<sup>a</sup>Applies only to certain types of firms.

<sup>b</sup>Allows taxpayers to use separate accounting without prior approval unless this method is found to be unreflective of actual income attributable to Mississippi.

<sup>c</sup>Allows taxpayers otherwise subject to formula apportionment to use separate accounting for five years beginning with the 1981 tax year, or for their first five years in business in New Mexico.

<sup>d</sup>70 percent sales, 15 percent property, and 15 percent payroll.

<sup>e</sup>In 1987, Nebraska passed legislation that phases-in over a five-year period a sales-only allocation formula. By 1992, multi-state firms will be required to use a sales-only formula to apportion their corporate income to Nebraska.

SOURCE: Multi-State Corporate Income Tax Guide, Vol. 1 (Chicago, ILL: Commerce Clearing House, Inc., 1987), Para. 146; All-States Tax Guide (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1987), Para. 223.

allowing taxpayers the option to apply the three factor formula with equal weights during the 1987 Legislative Session.<sup>37</sup> Most Minnesota taxpayers must use a three factor formula based on 70 percent sales, 15 percent property, and 15 percent payroll.<sup>38</sup> Iowa employs a sales-only apportionment formula. Neither South Dakota nor Wyoming impose a corporate income tax.

Prior to the 1988 tax year, Nebraska had applied the three factor formula equally weighting the sales, payroll, and property factors. Legislation enacted during the 1987 Legislative Session requires the phase-out of the property and payroll factors over a five year period. For the 1992 tax year and thereafter, Nebraska's corporate taxpayers will be required to use a sales-only formula for apportioning multistate income. The implications of changing the apportionment formula, revenue and otherwise, will be discussed in Section V where the 1987 changes to the Nebraska corporate income tax are reviewed in greater detail.

#### **Uniform Division of Income for Tax Purposes Act**

Uniformity among the apportionment formulae employed by the states is an often cited goal for the promotion of administrative ease on the part of the taxpayer and the elimination of double taxation. Double taxation occurs whenever a corporation is taxed on more than 100 percent of its income.

For example, consider corporation X operating in States A and B, where the firm produces its product in State B and receives equal sales receipts for the product in both states.

#### **RATIOS OF IN-STATE/OUT-OF-STATE FACTORS**

	<u>Property</u>	<u>Payroll</u>	<u>Sales</u>	<u>First Factors</u>	<u>Sales-Only</u>
State A	0	0	.5	.167	.5
State B	1	1	.5	.833	.5

<sup>37</sup>1987 Tax Act, ch. 268, Art. 1, sec. 74, 1987 Minn. Sess. Law Serv., 104-108 (West). Repeals Art. IV of the Multistate Tax Compact which allowed the use of the three factor formula with equal weights.

<sup>38</sup>Ibid., Art. 1, sec. 75, 1987 Minn. Sess. Law Serv., 122-124 (West).

When State A uses the sales-only formula and State B uses the three factor formula with equal weights the total proportion of the firm's income that is taxed is:

$$\text{State A Ratio} + \text{State B Ratio} = .5 + .833 = 1.333$$

One-third of corporation X's income is effectively taxed twice, once by state A and then again by state B.

Alternatively, when State A uses a three factor formula with equal weights and State B uses a sales-only formula, the proportion of the firm's income that is taxed is:

$$\text{State A Ratio} + \text{State B Ratio} = .167 + .5 = .667$$

In this case, the result is undertaxation--one-third of the firm's income is not subject to the tax due to the use of different apportionment formulae by the two States and the distribution of the firm's property, payroll and sales. State A is able to shift the burden of the tax to firms operating primarily outside of their borders by imposing a sales-only formula if State B imposes the three factor formula.

Absent federal action, many states have moved towards uniformity on their own initiative by enacting entirely, or in part, the provisions of the Uniform Division of Income for Tax Purposes Act (UDITPA). The UDITPA, originally drafted in 1957 by the National Conference of Commissioners on Uniform State Laws,<sup>39</sup> provides a common framework for the allocation and apportionment of interstate corporate income. The Act serves to reduce the diversity among the multitude of state corporate income taxes.

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<sup>39</sup>Hellerstein et al., *State and Local Taxation*, p. 480.

The Act distinguishes between business and nonbusiness income. The three factor formula is applied to business income, while nonbusiness income is allocated according to the type of income and the type of property giving rise to such income. The Act defines business income as:

income arising from transactions and activity in the regular course of the taxpayer's trade or business and includes income from tangible and intangible property if the acquisition, management, and disposition of the property constitute integral parts of the taxpayer's regular trade or business operations.<sup>40</sup>

Nonbusiness income is defined as all other income and includes,

1. rents and royalties from real and tangible personal property,
2. capital gains and losses from sales of real and personal property,
3. interest and dividends, and
4. patent and copyright royalties.<sup>41</sup>

As indicated by Table 5-9, a total of 25 states have adopted the UDITPA. Among Nebraska's neighboring states, only Kansas has adopted the UDITPA in its entirety. Colorado, and Missouri have enacted major provisions of the Act. Minnesota repealed reference to the Act during the Minnesota 1987 Legislative Session.<sup>42</sup> Nebraska repealed the Act in 1984, though Nebraska still conforms to some extent.

In 1966, the Multistate Tax Commission (MTC) was established by the Multistate Tax Compact. The Compact is a document to which states may subscribe in the interest of uniform taxation of multistate corporate income. The Compact adopts the UDITPA as an optional

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<sup>40</sup>*Multistate Corporate Income Tax Guide*, par. 8005.

<sup>41</sup>*Multi-state Corporate Income Tax Guide*, par. 80145, UDITPA, sec. 4.

<sup>42</sup>1987 Tax Act, ch. 268, Art. 1, sec. 74, 1987 Minn. Sess. Law Serv. 104-108 (West).

TABLE 5-9

STATE ADOPTION OF UDIPTA, MULTISTATE TAX COMMISSION (MTC)  
REGULATIONS, AND MULTISTATE TAX COMPACT

State	Adoption of UDIPTA	Adoption of MTC Regulations	Membership in Multistate Tax Compact
Alabama	Yes <sup>a</sup>	Various	No
Alaska	Yes	Nearly all	Yes
Arizona	Yes	None	No
Arkansas	Yes	Small number	Yes
California	Yes	Nearly all	Yes
Colorado	Yes <sup>b</sup>	Substantially all	Yes
Connecticut	No <sup>c</sup>	None	No
Delaware	No <sup>c</sup>	None	No
Florida	Yes	Most	No
Georgia	No <sup>c</sup>	None <sup>c</sup>	No
Hawaii	Yes <sup>b</sup>	None	Yes
Idaho	Yes	Nearly all	Yes
Illinois	Yes	Many	No
Indiana	No <sup>c</sup>	Many	No
Iowa	No <sup>c</sup>	Only a few	No
Kansas	Yes	Most	Yes
Kentucky	Yes <sup>d</sup>	Generally consistent	No
Louisiana	No <sup>c</sup>	None	No
Maine	Yes	Abbreviated version	No
Maryland	No	None	No
Massachusetts	Yes <sup>d</sup>	None	No
Michigan	Yes	None	Yes
Minnesota	No	None	No
Mississippi	No	None	No
Missouri	Yes <sup>b</sup>	Substantially all	Yes
Montana	Yes	Substantially all	Yes
Nebraska	Yes <sup>d</sup>	Substantially all	Yes
New Hampshire	No	None	No
New Jersey	No	None <sup>c</sup>	No
New Mexico	Yes	Substantially all	Yes
New York	No <sup>c</sup>	None <sup>c</sup>	No
North Carolina	No <sup>c</sup>	None	No
North Dakota	Yes	Nearly all	Yes
Ohio	No <sup>c</sup>	None	No
Oklahoma	No	None	No
Oregon	Yes	Substantially all	Yes
Pennsylvania	Yes <sup>d</sup>	None <sup>c</sup>	No
Rhode Island	No <sup>c</sup>	None	No
South Carolina	No <sup>c</sup>	None	No
Tennessee	Yes	Majority	No
Utah	Yes	Most	Yes
Vermont	No <sup>c</sup>	None <sup>c</sup>	No
Virginia	No	None <sup>c</sup>	No
West Virginia	No	Differs significantly	No
Wisconsin	Yes <sup>d</sup>	Some	No
TOTAL	25		15

TABLE 5-9 (CONT.)

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<sup>a</sup>Applies only for most foreign corporations.

<sup>b</sup>Option to apply UDIPTA or significantly different state provisions.

<sup>c</sup>No, but similar.

<sup>d</sup>Yes, but with variations.

SOURCE: Multistate Corporate Income Tax Guide (Chicago, ILL: Commerce Clearing House, Inc., 1987), Para. 145.

method of apportionment in member states. Currently, 15 states that impose a corporate income tax have adopted the Multistate Tax Compact.<sup>43</sup> Nebraska withdrew from the MTC in 1985, but rejoined in June 1987. The adoption and revision of regulations interpreting the UDITPA has become a major role of the MTC. In addition, the MTC conducts multistate audits of major corporations, provides states with technical assistance, and litigates in state and federal courts.

### **Design of Apportionment Factors**

Among those states using an apportionment method, there exists considerable diversity of the factors included and the specific design of individual factors. Several states place greater emphasis on the sales factor. Four states employ a sales-only formula, while nine states double weight the sales factor and use it in conjunction with the property and payroll factors. Three states apply a formula based on two factors. Although most states permit the use of separate accounting within limited circumstances, only two states (Mississippi and New Mexico) indicate a preference for the use of separate accounting over formula apportionment.

The states use a variety of definitions for the apportionment factors. Each factor is designed to more or less capture the contribution of the relevant inputs in the operation of a business enterprise. States treat the various components of the formula differently in many instances.

**Sales Factor: Tangible Property.** The sales factor, or more appropriately the gross receipts factor, is a much broader definition than simply sales from tangible property. It includes income from services, rentals, royalties and business operations generally.<sup>44</sup> The determination of the numerator of the in-state/out-of-state sales factor ratio involves the application of four major tests by the states:

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<sup>43</sup>*Multistate Corporate Income Tax Guide*, par. 426.

<sup>44</sup>Hellerstein et al., *State and Local Taxation*, p. 459.

1. destination test--attributes the sales receipts to the state in which the goods are shipped to the customer, or in which they are delivered to the customer,
2. origin test--attributes to the state of the factory, warehouse or office from which the goods are shipped,
3. sales office negotiation test--attributes to the state of the sales office from which the sales was principally negotiated, and
4. sales activity test--attributes to the state in which the sales employees principally conducted selling activities.

Table 5-10 indicates the composition of the sales factor for the states. All but three states use primarily the destination test to determine where a sale occurs and, consequently, whether the sale is included within the numerator of the sales factor ratio. Of the three states that do not apply the destination test, Vermont uses the origin test, and Connecticut and Massachusetts use the sales office negotiation test.

States adopting the UDITPA apply the destination test for assigning the sales of tangible personal property. The UDITPA provides for two exceptions to the destination test rule: (1) sales to the U.S. government, and (2) sales to purchasers in states where the seller has no nexus and therefore has no tax liability. In both cases, the sales are assigned or "thrown back" to the state from which the goods are shipped for tax purposes.

The UDITPA states that "a taxpayer is taxable in another state if:

1. in that state he is subject to a net income tax, a franchise tax measured by net income, a franchise tax for the privilege of doing business, or a corporate stock tax, or
2. that state has jurisdiction to subject the taxpayer to a net income tax regardless of whether, in fact, the state does or does not.<sup>45</sup>

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<sup>45</sup>*Multistate Corporate Income Tax Guide*, par. 8010; UDITPA, sec. 3.



TABLE 5-10

COMPOSITION OF SALES FACTOR IN STATE CORPORATE  
INCOME TAXES

State	Tangible Sales:			Intangible
	Destination Test	Throwback Rule	Sales to U.S. Thrown Back	Sales Income Producing Test Used
Alabama	Yes	Yes	Yes	Yes
Alaska	Yes	Yes	Yes	Yes
Arizona	Yes	Yes	Yes	Yes
Arkansas	Yes	Yes	Yes	Yes
California	Yes	Yes	Yes	Yes
Colorado	Yes	Yes <sup>g</sup>	Yes <sup>g</sup>	Yes <sup>g</sup>
Connecticut	Yes <sup>a</sup>	No	No	No
Delaware	Yes	No	No	No
Florida	Yes	Yes	Yes	Yes
Georgia	Yes	No	No	No
Hawaii	Yes	Yes <sup>c</sup>	Yes <sup>c</sup>	Yes <sup>c</sup>
Idaho	Yes	Yes	Yes	Yes
Illinois	Yes	Yes	Yes	Yes
Indiana	Yes	Yes	Yes	Yes <sup>d</sup>
Iowa	Yes	No	No	Yes
Kansas	Yes	Yes	Yes	Yes
Kentucky	Yes	No	Yes	Yes
Louisiana	Yes	No	No	No
Maine	Yes	Yes	Yes	Yes
Maryland	Yes	No	No	Yes
Massachusetts	Yes <sup>a</sup>	Yes	No	Yes
Michigan	Yes	Yes	Yes	No <sup>e</sup>
Minnesota	Yes	No	No	No
Mississippi	Yes	Yes	Yes	Yes
Missouri	Yes	Yes	Yes	Yes
Montana	Yes	Yes	Yes	Yes
Nebraska	Yes	Yes	Yes	Yes
New Hampshire	Yes	Yes	Yes	Yes
New Jersey	Yes	No	No	No
New Mexico	Yes	Yes	Yes	Yes
New York	Yes	No	No	No
North Carolina	Yes	No	Yes	No
North Dakota	Yes	Yes	Yes	Yes
Ohio	Yes	No	No	Yes
Oklahoma	Yes	Yes	Yes	No
Oregon	Yes	Yes	Yes	Yes
Pennsylvania	Yes	No	No	Yes
Rhode Island	Yes	No	No	No
South Carolina	Yes	Yes <sup>f</sup>	Yes <sup>f</sup>	Yes
Tennessee	Yes	Yes	Yes	Yes
Utah	Yes	Yes	Yes	Yes
Vermont	No <sup>b</sup>	Yes	No	No
Virginia	Yes	No	No	Yes
West Virginia	Yes	Yes	Yes	Yes
Wisconsin	Yes	Yes	Yes	Yes
TOTAL	44	30	30	33

TABLE 5-10 (CONT.)

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<sup>a</sup>Apply sales office negotiation test under certain circumstances.

<sup>b</sup>Apply origin test.

<sup>c</sup>Optional.

<sup>d</sup>Dependent on physical location in the case of tangible personal property, and "business situs" or place where employed as capital in the case of intangible property.

<sup>e</sup>Dependent on where business activity is principally performed.

<sup>f</sup>Phased out by 1988.

<sup>g</sup>Applicable only if three factor formula used.

SOURCE: Multi-State Corporate Income Tax Guide, Vol. 1 (Chicago: Commerce Clearing House, Inc., 1987), Para. 148; All-States Tax Guide (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1987), Para. 224.

According to point two above, if a taxpayer conducts business activity in State A, which imposes a tax on corporate income, and in State B, which imposes no tax on corporate income but does have the jurisdiction to tax such income, then State A must apportion the taxpayers sales between both states. Consequently, the throwback rule does not apply. The UDITPA comment states that:

this is desirable in order to treat the business of all states equally, and in order to avoid having this Act as a factor in inducing a state to have an income tax. If a state does not wish to tax income, that is no reason for a state which does not wish to tax income to attempt to obtain more than its fair share of taxable income.<sup>46</sup>

An alternative "throw-out" method is used, on a limited basis, in at least one state-- Pennsylvania.<sup>47</sup> Under this method, if a corporation is not subject to tax in the destination state, the sales attributable to the destination state are excluded entirely from both the numerator and denominator of the sales factor. Under this tax scheme there would be full accountability for all of the taxpayers income to the states in which the corporation is taxable if this method were employed by all states across the board.

As indicated by Table 5-10, of the 44 states using a sales factor, 30 states apply the throwback rule. Among Nebraska's neighboring states, Kansas is the only state that exclusively applies the destination test and throwback rule. Colorado taxpayers using the three factor formula with equal weights apply the throwback rule, whereas taxpayers using the two factor property, payroll formula do not. Neither the Iowa nor Minnesota apportionment formulas' provide for the throwback rule. Missouri taxpayers apply the throwback rule regardless of which apportionment formula they elect to use.

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<sup>46</sup>Ibid.

<sup>47</sup>J. Hellerstein, *State Taxation: Corporate Income and Franchise Taxes*, (New York: Warren, Gorham, and Lambert, 1983), p. 589.

Nebraska law applies the destination test to attribute sales between states. The statutory definition of the Nebraska throwback rule is identical to the corresponding UDITPA provision.<sup>48</sup> Accordingly, sales emanating from Nebraska to purchasers in Wyoming, South Dakota, or other non-corporate income tax states are thrown back to Nebraska and included in the sales factor ratio only if the Nebraska corporation does not have nexus in the purchaser's state.

During both the 1987 and 1988 Nebraska Legislative Sessions, legislation was introduced (L.B. 585 and L.B. 1086) to eliminate the throwback rule altogether.<sup>49</sup> Although both bills were defeated, proponents of this legislation argued for the elimination of the throwback rule in the interest of retaining and attracting business to Nebraska. An evaluation of such legislation is provided in Section four of this chapter.

**Sales Factor: Intangible Property.** Sales other than of tangible personal property are assigned by the UDITPA according to the "income-producing activity" test (see Table 5-10). Generally, if the receipts are attributable to some income producing activity performed by a taxpayer, the receipts are assigned to the state in which they occurred. If the income producing activity occurs in several states, the receipts are assigned to the state within which the greatest proportion of the activity is performed.<sup>50</sup>

As indicated by Table 5-10, 34 states, including Nebraska, apply the income producing test for intangible property. Among Nebraska's neighboring states, Iowa, Kansas, and Missouri apply the income producing activity test. Colorado taxpayers apply this test only if they elect to use the two factor property, sales apportionment formula.

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<sup>48</sup>Revised Statutes of Nebraska, sec. 77-2734.14(b) (1943); *Multistate Corporate Income Tax Guide*, par. 8058, UDITPA, sec. 17(b).

<sup>49</sup>Testimony before the Nebraska Legislative Committee on Revenue Hearing on Legislative Bill 585 (February 19, 1987), p. 33.

<sup>50</sup>*Multistate Corporate Income Tax Guide*, par. 1068.

**Property Factor.** The property factor is employed by 43 states to apportion corporate income. The inclusion and valuation of such property comprise the basis for the construction of the property factor. The classification of property as tangible/intangible and business/nonbusiness income largely dictates which property is included as part of the numerator or denominator of the property factor, or both. As well, the treatment of in-transit, and movable or mobile property is taken into account in the construction of the property factor. Table 5-11 depicts the major characteristics of the property factor for the states.

**Inclusion of Property.** The UDITPA includes in the property factor the taxpayer's real and tangible personal property owned or rented during the tax period. Although the UDITPA does not define real and tangible personal property, the MTC regulations specify that "real and tangible personal property includes land, buildings, machinery, stock of goods, equipment, and other real and tangible personal property but does not include coin or currency."<sup>51</sup> The UDITPA specifically excludes income arising from rents and royalties, capital gains, interest and dividends, and patent and copyright royalties from the construction of the property factor. Such income is allocated under the UDITPA under the specific allocation provisions.

The UDITPA excludes property used for the production of nonbusiness income from the property factor. Following the UDITPA, the MTC regulations "limit the factor to property used 'in the regular course of [the taxpayer's] trade or business.'" The regulations specifically exclude property producing nonbusiness income from the factor.

Since the UDITPA includes in the denominator of the property factor all of a taxpayer's property which is "owned...and used during the tax period,"<sup>52</sup> property purchased or sold at the beginning or end of the tax period--property in-transit between states--presents the problem of

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<sup>51</sup>Ibid., par. 8255; MTC Regulations, IV.10.(a).

<sup>52</sup>Ibid, par. 8036; UDITPA, sec. 10.

TABLE 5-11

## COMPOSITION OF PROPERTY FACTOR IN STATE CORPORATE INCOME TAXES

State	Rented Property Included at Eight Times Rentals	Intangibles Included	Property Valued at Original Cost or Original Cost Less Depreciation	Existing or Average Value
Alabama	Yes	No	Original Cost	Average
Alaska	Yes	No	Original Cost	Average
Arizona	Yes	No	Original Cost	Average
Arkansas	Yes	No	Original Cost	Average
California	Yes	No	Original Cost	Average
Colorado	Yes	No	Elective	Average
Connecticut	Yes	No	Depreciated	Average
Delaware	Yes	No	Original Cost	Average
Florida	Yes	No	Original Cost	Average
Georgia	Yes	No	Original Cost	Average
Hawaii	Yes	No	Original Cost	Average
Idaho	Yes	No	Original Cost	Average
Illinois	Yes	No	Original Cost	Average
Indiana	Yes	No	Original Cost	Average
Iowa	No Prop Factor	No	N.A.	Average
Kansas	Yes	No	Original Cost	Average
Kentucky	Yes	No	Original Cost	Average
Louisiana	No	No	Depreciated	Average
Maine	Yes	No	Original Cost	Average
Maryland	Yes	No	Original Cost	Average
Massachusetts	Yes	No	Original Cost	Average
Michigan	Yes	No	Original Cost	Average
Minnesota	Yes	No	Original Cost	Average
Mississippi	Yes	No	Depreciated	Average
Missouri	Yes	No	Original Cost	Average
Montana	Yes	No	Original Cost	Average
Nebraska	Yes	No	Original Cost	Average
New Hampshire	No	No	Original Cost	Average
New Jersey	Yes	No	Depreciated	Average
New Mexico	Yes	No	Original Cost	Average
New York	Yes	No	No FMV	Average
North Carolina	Yes	No	Original Cost	Average
North Dakota	Yes	No	Original Cost	Average
Ohio	Yes	No	Original Cost	Average
Oklahoma	Yes	No	Original Cost	Average
Oregon	Yes	No	Original Cost	Average
Pennsylvania	Yes	No	Original Cost	Average
Rhode Island	Yes	No	Net Book Value	Average
South Carolina	Yes	No	Original Cost	Average
Tennessee	Yes	No	Original Cost	Average
Utah	Yes	No	Original Cost	Average
Vermont	Yes	No	Original Cost	Average
Virginia	Yes	No	Original Cost	Average
West Virginia	Yes	No	Original Cost	Average
Wisconsin	Yes	No	Original Cost	Average
TOTAL	42			

<sup>a</sup> Applicability of various components of the factor depends upon which apportionment formula is chosen by the taxpayer.

SOURCE: Multi-State Corporate Income Tax Guide, Vol. 1 (Chicago: Commerce Clearing House, Inc., 1987), Para. 152; All-States Tax Guide (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1987), Para. 226-A.

whether to include property still in transit during the change of the tax period in the numerator of the purchasers or the sellers property factor.

The MTC regulations distinguish between two kinds of property in transit:

1. property of the taxpayer in transit between locations of the taxpayer, and,
2. property in transit between a buyer and a seller.<sup>53</sup>

In both cases, the MTC regulations require that property be assigned to the property factor numerator of the destination state.

In the case of movable or mobile property, e.g., property both within and without a state during the tax year, the MTC regulations include a value in the property factor numerator "on the basis of total time within the state ...."<sup>54</sup> Examples of movable or mobile property include construction equipment, trucks, and leased electronic equipment.<sup>55</sup>

#### **Valuation of Property.**

All of the corporate income tax states employing the property factor use the average value of property during the tax period for the construction of this factor. The average value is determined under the UDITPA by adding the value of all rented and owned property at the beginning and end of the tax period and dividing by two.<sup>56</sup> Most states allow the tax administrator to require the averaging of monthly values. This will generally be required if there is substantial fluctuation in the value of the property during the tax period.

The states use several different methods to determine the value of property. Those methods used include, fair market value, book cost less accrued depreciation, and undepreciated

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<sup>53</sup>Ibid, par. 8266; MTC Regulations, IV.10(d).

<sup>54</sup>Ibid.

<sup>55</sup>Ibid, par. 1114

<sup>56</sup>Ibid., par. 8036; UDITPA, sec. 10.

original or book cost. The UDITPA guidelines state that owned property be valued at its original cost.<sup>57</sup> The drafters of the UDITPA justified the use of original cost, rather than depreciated cost, by noting that the UDITPA "does not impose a tax, nor prescribe the depreciation allowable in computing the tax, but merely provides a basis for division of taxable income.... The use of original cost obviates any differences due to the varying methods of depreciation, and has the advantage that the basic figure is readily ascertainable from the taxpayer's books." The MTC regulations also require that owned property be valued at original cost.<sup>58</sup> However, if original cost is unascertainable, the property is included in the factor at its fair market value as of the date of acquisition by the taxpayer."<sup>59</sup>

Traditionally, rented property was not included in the property factor.<sup>60</sup> However, with the "extensive growth of sale lease-backs and the widespread use of leasing, many states have changed their laws to include rented property used in the conduct of business.<sup>61</sup> The UDITPA requires rented property to be valued at eight times the net annual rental rate.<sup>62</sup>

Nebraska statute includes in the property factor "the average value of the taxpayer's real and tangible personal property owned or rented...during the tax period...."<sup>63</sup> Property is valued

<sup>57</sup>Ibid., par. 8039; UDITPA, sec. 11.

<sup>58</sup>According to the MTC regulations, "original cost is deemed to be the basis of the property for federal income tax purposes (prior to any federal adjustments) at the time of acquisition by the taxpayer and adjusted by subsequent capital additions or improvements thereto and partial disposition thereof...." Ibid, par. 8270; MTC Regs., IV.11.(a).

<sup>59</sup>Ibid, par. 8270; MTC Regs., IV.11.(a).

<sup>60</sup>Hellerstein, *Corporate Income and Franchise Taxes*, p. 455.

<sup>61</sup>Ibid.

<sup>62</sup>The net annual rental rate is the annual rental rate paid by the taxpayer less any annual rental rate received by the taxpayer from sub-rentals. *Multistate Corporate Income Tax Guide*, par. 8039; UDITPA, sec. 11.

<sup>63</sup>Revised Statutes of Nebraska, sec. 77-2734.12(1) (1943).



at its original cost while rented property is valued at eight times the net annual rental rate.<sup>64</sup> Under the provisions of amendments to the Nebraska statute in 1984, the "entire federal taxable income of a unitary business...is presumed income subject to apportionment."<sup>65</sup> Accordingly, property associated with what the UDITPA defines as nonbusiness income is included in the property factor. A taxpayer may refute this presumption by showing by a preponderance of evidence that the income is not part of a unitary business nor has such income been claimed as part of a unitary business subject to apportionment in another state.<sup>66</sup>

**Payroll Factor.** The payroll factor is employed by 43 states to apportion interstate corporate income. The payroll factor is generally set equal to the ratio of in-state compensation to out-of-state compensation. The factor varies somewhat more between states than the property factor, but is less controversial.<sup>67</sup> Compensation is defined by the UDITPA as "wages, salaries, commissions and any other form of remuneration paid to employees for personal services."<sup>68</sup> Most states have statutorily adopted this language. This definition was derived from the Model Unemployment Compensation Act and the Federal Unemployment Tax Act.<sup>69</sup> As such, compensation is generally construed in accordance with the interpretation of the Federal Unemployment Tax Act by the Internal Revenue Service, as embracing all compensation for services as an employee, whether paid in cash or in kind, which is treated as gross income for

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<sup>64</sup>Ibid., sec. 77-2734.12(2) (1943); The net annual rental rate is defined to be the annual rental rate by the taxpayer. This definition of the rental rate differs from the UDITPA by excluding deductions of subrentals from the net annual rental rate. Nebraska Statutes Annotated, sec. 77-2734.12(2); *Multistate Corporate Income Tax Guide*, par. 8039; UDITPA, sec. 11.

<sup>65</sup>Revised Statutes of Nebraska, sec. 77-2734.06(10) (1943).

<sup>66</sup>Ibid., sec. 77-2734.06(1) (1943).

<sup>67</sup>Hellerstein et al., *Corporate Income and Franchise Taxes*, p. 578.

<sup>68</sup>*Multistate Corporate Income Tax Guide*, par. 8005; UDITPA, sec. 1(c).

<sup>69</sup>Ibid, draftsmen's comments; Hellerstein, *State Corporate Income and Franchise Taxes*, p. 579.

federal income tax purposes.<sup>70</sup> Fringe benefits are excluded from federal income under the Internal Revenue Code.<sup>71</sup>

Following the Model Unemployment Insurance Act, the UDITPA attributes compensation to a state if:

1. the individual's service is performed entirely within the state; or
2. the individual's service is performed both within and without the state, but the service performed without the state is incidental to the individual's service within the state; or
3. some of the service is performed in the state and (a) the base of operations or, if there is no base of operations, the place from which the service is directed or controlled is in the state, or (b) the base of operations or the place from which the service is directed or controlled is not in any state in which some part of the service is performed, but the individual's residence is in this state.<sup>72</sup>

Adherence to this provision avoids fractionation of compensation between states. The property factor differs in this respect where, for example, movable or mobile property, and in-transit property is attributed to a state on a fractional basis depending on the time spent within and without a state.

All states do not follow this provision. As indicated by Table 5-12, both Vermont and New York attribute compensation on a time basis if compensation would otherwise lead to an inequitable attribution. States abiding by the test set forth by the Model Act and the UDITPA generally presume that the total wages reported by a taxpayer to a state for unemployment compensation purposes constitute compensation paid in the state. The MTC regulations

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<sup>70</sup>Hellerstein, *Corporate Income and Franchise Taxes*, p. 579.

<sup>71</sup>J. A. Pechman, *Federal Tax Policy*, 5th edition (Washington, DC: The Brookings Institution, 1987), p. 65.

<sup>72</sup>*Multistate Corporate Income Tax Guide*, par. 8049; UDITPA, sec. 14.

TABLE 5-12

**COMPOSITION OF PAYROLL FACTOR IN STATE CORPORATE  
INCOME TAXES**

State	Officer's Compensation Included	401(k) Earnings Included	State	Officer's Compensation Included	401(k) Earnings Included
Alabama	Yes	Yes	Minnesota	No	Yes
Alaska	No	Yes	Mississippi	No	No
Arizona	Yes	Yes	Missouri	Yes	Yes
Arkansas	Yes	No	Montana	Yes	Yes
California	Yes	Yes	Nebraska	Yes	Yes
Colorado <sup>a</sup>	Yes	Yes	New Hampshire	Yes	N.A.
Connecticut	Yes	Yes	New Jersey	Yes	N.A.
Delaware	No	N.A.	New Mexico	Yes	No
Florida	Yes	Yes	New York	No	Yes
Georgia	Yes	N.A.	North Carolina	No	Yes
Hawaii <sup>a</sup>	Yes	Yes	North Dakota	Yes	No
Idaho	Yes	Yes	Ohio	Yes	Yes
Illinois	Yes	Yes	Oklahoma	No	Yes
Indiana	Yes	N.A.	Oregon	Yes	N.A.
Iowa	N.A.	N.A.	Pennsylvania	Yes	Yes
Kansas	Yes	Yes	Rhode Island	Yes	N.A.
Kentucky	Yes	Yes	South Carolina	No	Yes
Louisiana	Yes	Yes	Tennessee	Yes	No
Maine	Yes	No	Utah	Yes	Yes
Maryland	Yes	Yes	Vermont	No	N.A.
Massachusetts	Yes	N.A.	Virginia	Yes	Yes
Michigan	Yes	Yes	West Virginia	Yes	N.A.
			Wisconsin	Yes	Yes

<sup>a</sup>Applicability of various components of the factor depends upon which apportionment formula is chosen by the taxpayer.

SOURCE: Multi-State Corporate Income Tax Guide, Vol. 1 (Commerce Clearing House, Inc., 1987), Para. 156; All-States Tax Guide (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1987), Para. 225.

explicitly include this presumption.<sup>73</sup> Nebraska statute defines compensation and attributes compensation to the state in complete accordance with the UDITPA.<sup>74</sup> In addition, Nebraska regulations are consistent with the MTC regulations in this regard.<sup>75</sup>

The MTC regulations include in the payroll factor only amounts paid directly to employees (e.g., value of board, rent, housing, lodging, etc.).<sup>76</sup> The states often exclude certain compensation from the payroll factor.

As indicated by Table 5-12, the treatment of deferred earnings varies between states. Earnings that are included in a deferred arrangement under Internal Revenue Code sec. 401(k) are excluded from federal taxable income, but at least 27 states include such deferred earnings in the payroll factor.<sup>77</sup> Nebraska follows the federal government in excluding 401(k) deferred earnings from the tax base.

Thirty-five states include compensation paid to executive officers or directors in the payroll factor. The evaluation of executive and directors' salaries from the payroll factor may be justified on the notion that high executive salaries tend to distort the payroll factor.<sup>78</sup> As indicated by Table 5-12, Nebraska includes officers compensation in its payroll factor.

### **Corporate Taxation Changes in Nebraska**

#### **Transition to Sales-Only Formula**

The statutory change requiring the use of a sales-only apportionment formula is being phased in over a period of five years beginning in the 1988 tax year. In 1988, taxpayers are

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<sup>73</sup>Ibid, par. 8303; MTC Regs., IV.13(c).

<sup>74</sup>Revised Statutes of Nebraska, sec. 77-2734.04(2), sec. 77-2734.13(2).

<sup>75</sup>*Multistate Corporate Income Tax Guide*, par. 3412.38.

<sup>76</sup>Ibid, par. 1123.

<sup>77</sup>Ibid, par. 2403-1.

<sup>78</sup>Hellerstein, *State Corporate Income & Franchise Taxes*, p. 581.

required to apportion interstate income applying the three factor formula to 80 percent of apportionable income and the sales factor to the remaining 20 percent. Each successive year the percentage of income to which the three factor formula is applied will be decreased by 20 percent. The schedule depicted by Figure 5-1 indicates the relative income shares applied to the particular factors. Beginning with the 1992 tax year, taxpayers will be required to use a sales-only formula to apportion interstate income.

Arguments in favor of this change were based primarily on the competitiveness issue--how can Nebraska retain and attract jobs and investment if neighboring states base their tax on the sales factor and not the payroll or property factors. Iowa's use of a sales-only formula was cited as a cause for concern. In addition both Colorado and Minnesota recently enacted statutory changes **requiring** firms to use apportionment formulae that place greater emphasis on the sales-factor. Interestingly, both of these states repealed provisions allowing taxpayers to elect a three factor formula with equal weights on property, payroll, and sales, thereby eliminating the ability of taxpayers to choose the apportionment formula that minimizes corporate tax liability. Missouri allows firms to elect between a three factor apportionment formula and a sales-only apportionment formula.

Nebraska's transition to a sales only formula will have an effect on the type of investment that is encouraged or discouraged. A firm will have a relatively stronger incentive to locate its retailing operations outside of Nebraska and to locate its property and payroll within Nebraska. Thus, a sales-only formula attracts corporations that export production out of the state. Alternatively, in the case of Missouri, where firms may opt between a three factor formula with equal weights and a sales-only formula, the tax system will be conducive to both exporting operations (e.g., such firms would be expected to elect to use the sales-only formula) and retailing operations (e.g., such firms would be expected to elect to use the three factor formula).

FIGURE 5-1

**SCHEDULE FOR THE PHASE-IN OF THE SALES-ONLY  
APPORTIONMENT FORMULA**

<u>Year</u>	Weight Given to Each Factor (in percent)		
	Sales	Property	Payroll
1987	33 1/3	33 1/3	33 1/3
1988	46 2/3 = (20 + 26 2/3)	26 2/3	26 2/3
1989	60 = (40 + 20)	20	20
1990	73 1/3 = (60 + 13 1/3)	13 1/3	13 1/3
1991	86 2/3 = (80 + 6 2/3)	6 2/3	6 2/3
1992	100	0	0

The diminishing importance in Nebraska of the payroll and property factors in the near term, and the eventual phase-out of these factors, will shift the burden of the tax to those firms with primarily sales operations in Nebraska. The result is for the burden of the tax to shift away from firms using capital and labor within Nebraska, and towards firms that tend primarily to sell products in Nebraska markets.

**Revenue Effect of Sales Only.** Estimates of distributional impacts of moving to a sales only apportionment formula (e.g., in-state/out-of-state, by industrial sector, by number of workers employed, or Nebraska and/or federal taxable income) are unavailable through the Nebraska Department of Revenue. Also unavailable are accurate aggregate revenue impact of the above statutory change, other proposals, or any options discussed below. Although the cooperation and efforts of the Nebraska Department of Revenue should be commended, the accessibility and maintenance of the necessary data to quantify this analysis is not adequate. The Department of Revenue makes revenue estimates on the basis of a nonrandom sample of the largest firms. This practice probably gives us an upper bound on aggregate losses when considering the transition to the sales-only formula, because a greater portion of smaller firms than larger firms are likely to be Nebraska only firms, whose corporate income is, therefore, not affected by charges in the apportionment formula. Thus, revenue estimates based on large firms will mean that revenue losses are overestimates.

Figures provided by the Department of Revenue indicate that maximum revenue loss of a one year transition to a sales-only formula, based on 1984 data, is \$6.681 million.<sup>79</sup> This

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<sup>79</sup>This figure is based on a **nonrandom** sample consisting of 11.6 percent of Nebraska firms apportioning interstate income with the largest Nebraska tax liability. These firms paid 82.8 percent of the tax liability of firms that apportioned interstate income in 1984. Due to the non-randomness of the sample the only conclusion that can be drawn is that the revenue loss will not exceed \$6.681 million. It is possible that the revenue impact will be less than \$6.681 million.

represents 9.9 percent of total revenues collected by the 1984 tax.<sup>80</sup> If Nebraska opted to allow an election between a three factor apportionment formula with equal weights and a sales-only formula, the maximum revenue loss would be \$9.825 million, representing 14.5 percent of 1984 tax collections.

**Evaluation.** The three factor formula existing in Nebraska during 1987 arguably best represents the production of income occurring within the state. However, since three of Nebraska's five neighboring states use an apportionment formula requiring greater weight on the sales factor, and one state allows firms to elect between a three-factors formula and a sales only formula, Nebraska's recent move to give greater weight to the sales factor will eliminate the relative tax advantage that these four states have in attracting export corporations. However, in 1992, Nebraska will tax retailing operations more heavily than all of its neighboring states except for Iowa. Consequently, the complete phaseout of the property and payroll factors may not be desirable for these types of firms.

In addition, the deviation of an apportionment formula in one state from that used in other states may create a situation where particular taxpayers or groups of taxpayers are under- or over-taxed. This situation will lead to a distortionary effect on resource use. An apportionment formula that merely double or triple weights the sales factor will mean less under- or over-taxation, and is more in-line with Nebraska's neighboring states.

### **Sales Throwback Rule**

As noted above, proposals to repeal the throwback rule were introduced in both the 1987 and 1988 Legislative Sessions (see L.B. 585 and L.B. 1086). Neither proposal was approved. Under present Nebraska law, firms are required to include in the sales factor sales to points outside of the state if the firm does not have nexus in the destination state.

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<sup>80</sup>1985 Annual Report, Nebraska Department of the Department.



Proponents of this measure contended that the repeal of the sales throwback rule would provide an incentive for firms engaged in out-of-state retail or sales operations to remain in or move to Nebraska. The fact that two of Nebraska's neighboring states, Iowa and Minnesota, do not apply the throwback rule lent credence to the repeal of the throwback rule to enhance competitiveness. However, 30 of the 45 states imposing a corporate income tax do apply the throwback rule to prevent income from escaping taxation altogether.

The complete repeal of the throwback rule may have a distortionary effect on factor use. The repeal of the throwback rule will have differing effects across firms, as tax burdens will not change uniformly, because taxes on labor and property factors will increase and those on markets will decrease. But maintaining the existing throwback rule and moving to a sales-only apportionment formula will mean the throwback rule will have a stronger effect on taxable income, as a 100 percent weight is given to sales.

### **Treatment of Foreign Source Income**

As noted in the previous section, Nebraska's corporate income tax conforms rather closely to the federal corporate income tax. One significant, but appropriate, departure is Nebraska's 100 percent deduction allowed for foreign-source dividends. The source-based nature of state corporate income taxes dictates this practice.

Nebraska's tax treatment of 80-20 corporations is also appropriate. For 80-20 corporations, foreign income is included in the federal corporate tax base definition, and consistent with domestic unitary combination, in the Nebraska's corporate tax base computation. The federal government allows a tax credit against federal liability for taxes paid by 80-20 corporations to foreign governments. Nebraska allow 80-20 corporations to deduct only foreign taxes paid in excess of what their United States liability would be on that income from corporate income before apportioning it to Nebraska.

It has been argued that the exclusion of foreign source income of foreign corporations from the tax base (via the deduction of foreign dividends), but the inclusion of net foreign source income of 80-20 corporations (incorporated within the United States) is inconsistent and unfairly reduces the ability of such firms to compete with foreign firms due to the different tax treatment. Accordingly, it has been argued that Nebraska should allow 80-20 corporations to deduct their foreign income from the tax base computation.

This rationale, however, is flawed.<sup>81</sup> The 80-20 corporations could avoid inclusion in the Nebraska tax base computation as well as in most states, simply by incorporating abroad. Since these firms opt not to do this it must be the case that the benefit of retaining their current U.S. status--the protection against expropriation by foreign governments, and favorable treatment of U.S. copyright and patent laws--exceeds the detrimental effect of inclusion in the Nebraska tax base computation.

While it is true that most states treat 80-20 domestic corporations as foreign corporations for tax purposes, several important states, such as California, Kansas, Oregon and others, make no such provision. The important point here is Nebraska's adoption of federal tax base standards. As 80-20 corporations pay United States corporate income taxes, with appropriate offsets for taxes paid to foreign governments, Nebraska taxes 80-20 corporations as they would

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<sup>81</sup>Comments to a prior draft of this chapter stated that Nebraska is not a water's edge state, but a domestic unitary combination state because Nebraska includes in its tax base computations operations beyond the continental United States--namely, 80-20 corporations. In addition, the comments stated that Nebraska ought to adopt the water's edge approach to be truly equitable in the area of taxation. There exists considerable disagreement whether a water's edge group should be defined to include the income arising from firms **residing and operating** in the United States or from firms merely *residing* within the United States. See the *Final Report of the Worldwide Unitary Taxation Working Group: Chairman's Report and Supplemental Views*, pp. 249-250, for further discussion of the opposing definitions. The comments indicated that the former definition is appropriate. Regardless of which definition of water's edge is used or appropriate, the argument for the exclusion of the income of 80-20 corporations from the tax base computation is specious since such corporations could avoid inclusion in the tax base computation altogether by simply incorporating abroad.

any domestically incorporated firm. Such a tax structure seems rational and consistent with the principles of good tax policy.

### Conclusion

The Nebraska corporate income tax does not deviate sharply from the tax burden of other states regardless of the measure of tax burden used. Using a number of measures underlying tax revenue as a percent of personal income, progressivity, effective tax rates, and marginal tax rates, Nebraska compares favorably with its neighboring states that levy a corporate income tax.

Nebraska's use of the domestic unitary combination method for defining the tax base is similar to the method used by the federal government and thereby provides simplicity to the taxpayer. One difference between the federal method and that employed by Nebraska is the 100 percent foreign dividend deduction. Nebraska's exclusion of foreign dividends is quite appropriate given that Nebraska's tax is essentially a source-based tax and should accordingly attempt to exclude income arising from economic activity occurring beyond the state's borders. The treatment of 80-20 corporations as domestic corporations is consistent with that of the federal government and is appropriate given the benefit that U.S. incorporation provides against expropriation by foreign governments.

The eventual transition of Nebraska's apportionment formula to a sales-only formula will have the behavioral effect of discouraging and encouraging certain types of firms to locate and expand in Nebraska. In addition, it will have a distortionary effect in factor prices and lead to the potential inefficient use of resources. Four of Nebraska's five neighboring corporate income tax states give at least some weight to the property and payroll factors. Accordingly, in the interests of remaining competitive but minimizing potential over- and under-taxation, Nebraska should apply an apportionment formula that retains the payroll and property factors, but double or triple weights the sales factor.

Finally, the current status of corporate income tax data by the Nebraska Department of Revenue prevents the accurate estimation of revenue impact and distributional effects of various changes to Nebraska's corporate income tax. Immediate and appropriate steps to ensure that a random sample is available from which to quantify an analysis of changes to the tax would allow policy makers to act upon accurate revenue estimates and not questionable estimates of maximum revenue loss or gain.

CHAPTER 6  
AN EVALUATION OF THE PROPERTY TAX  
IN NEBRASKA<sup>1</sup>

by John Yinger and Michael Wasylenko

**Introduction**

The property tax is the principal source of local revenue in Nebraska. Counties, townships, municipalities, school districts, and a variety of special districts all obtain most of their own-source revenue through the property tax. Moreover, the property tax burden in the state is considerably higher than the national average. In fiscal year 1985, Nebraska's property taxes per capita were 25 percent above the property taxes in the average state and only two states, New York and New Jersey, had higher effective property tax rates on single-family houses. Furthermore, more revenue is collected through local property taxes in Nebraska than through the state's three broad-based taxes (general sales, personal income, and corporate income) combined.<sup>2</sup>

Given this heavy reliance on property taxes, an understanding of the state and local finance system in Nebraska and of the role for state policy requires a careful analysis of property taxes in the state. This chapter provides such an analysis. In the first section, we examine property tax assessment procedures in Nebraska. We evaluate the administrative structure for

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<sup>1</sup>The authors are grateful for helpful comments from Deborah Thomas, the Revenue Committee Council, and to Bill Lock, a research analyst for the Legislative Research Division of the Nebraska Legislature. This chapter is based on John Yinger and Michael Wasylenko, "An Evaluation of the Property Tax in Nebraska," Nebraska Comprehensive Tax Study Staff Paper No. 16, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, July 1988).

<sup>2</sup>For more detailed comparisons of property taxes in Nebraska and other states, see Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism*, 1987 Edition (Washington, DC: ACIR, 1988); or J. Miner and P. Joyce, "The Nebraska State and Local Revenue and Expenditure System: A Comparative Analysis of Structure and Levels," Chapter 1 of this volume.

assessment and examine the assessment of agricultural land. In the second section, we consider existing exemptions from property taxes in the state and evaluate several proposals for new property tax exemptions. In the third section, we explore the implications of heavy reliance on the property tax for the fiscal health of Nebraska's local governments.

### **Assessment Procedures**

The property tax payment on a given property equals the nominal tax rate in the jurisdiction multiplied by the assessed value of the property. The effective property tax rate on a given property is defined to be the tax payment divided by the market value of the property. The effective rate, not the nominal rate, measures the economic burden of the tax and therefore is the appropriate rate to use in comparing the property tax burden on different taxpayers. Note that the effective property tax rate on a given property equals the nominal tax rate multiplied by the assessment-sales ratio for that property. As a result, government officials can change the effective tax rate either by changing the assessment-sales ratio or by changing the nominal tax rate. In this section we consider assessments; in a later section we consider differences in nominal tax rates across jurisdictions.

#### **The Case for Accurate Assessments**

The first principal of property tax design is that assessments should be as accurate as possible; that is, they should be as close as possible to the market values of taxable property. Accuracy is desirable both to prevent distortions in economic decisions and to insure that all taxpayers are treated fairly.

Distortions in economic decisions arise when assessment methods systematically under- or over-value certain types of property. One common error in the income-approach to property assessment, for example, is to use a capitalization rate that is too high because it has not been

corrected for anticipated inflation.<sup>3</sup> Whenever the capitalization rate is too high, assessed values are too low. In other words, this error leads to a situation in which property assessed by the income method is under-assessed relative to other property.<sup>4</sup> In this situation, investment decisions are skewed toward this type of property.

Both systematic and random errors in assessment methods can lead to a property tax that is unfair. At one level, this lack of fairness is obvious: some property owners face higher assessment-sales ratios and hence higher effective property tax rates than other property owners. In fact, however, the issue of fairness is more subtle than this argument indicates. If assessment errors are known at the time a property is purchased, they will be reflected to some degree in the purchase price of the property. Consider two houses, A and B, that are identical except that house A has a higher assessment. Then well-informed house buyers will not be willing to pay as much for house A as for house B.<sup>5</sup> To the extent that assessment errors are reflected in purchase prices, buyers of houses that are overassessed will not be in any worse economic position than buyers of houses that are underassessed; in other words, buyers will be compensated for relatively high taxes in the form of lower purchase prices.

What then is the source of the unfairness? The answer is that any *unanticipated* change in a property's assessment-sales ratio leads to a capital gain or loss on that property. If a house's assessment-sales ratio declines, for example, because the market value of the house rises and the assessed value is not updated, then the owner of that house will experience a drop in his effective

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<sup>3</sup>For a detailed discussion of this issue, see J. Yinger *et al.*, *Property Taxes and House Values* (New York: Academic Press, forthcoming).

<sup>4</sup>This error often arises for commercial and industrial property, which typically is assessed using the income approach. See, for example, O. Oldman and R. G. Torto, "Final Report to the City of Hartford on Assessing Income Property," unpublished report submitted to the Mayor of the City of Hartford, Connecticut, August 1983.

<sup>5</sup>For evidence that house buyers do indeed behave in this manner, see Yinger *et al.*, *Property Taxes and House Values*.

property tax rate and a capital gain. This gain is fundamentally unfair. Assessment policy should not lead to arbitrary and unanticipated capital gains for some taxpayers and capital losses for others. The only way to avoid these arbitrary gains and losses is to set assessments as closely as possible to market values and to update assessments regularly as market values change.<sup>6</sup>

### **Administrative Structure**

In this section we describe the administrative structure of the property tax in Nebraska.<sup>7</sup> In the following section we examine the quality of the assessments that this structure produces.

On the plus side, while property taxes are levied by counties, townships, municipalities, school districts, and special districts, assessed values are determined only by a county assessor. This arrangement is desirable because many small local governments do not have the expertise to estimate market values accurately. Moreover, by limiting the number of jurisdictions with assessment responsibilities, this arrangement facilitates, in principle, both oversight by and technical assistance from the state government.

Two different actors in the administrative structure check the accuracy of the assessed values set by the county assessor. The County Board of Equalization, whose members are the elected officials charged with governing the county, determines whether assessed values are indeed close to market values. This board can adjust the assessed values of individual properties or of classes and sub-classes of property, such as single-family houses or range land. It also hears taxpayers' appeals of their assessments. Second, the State Board of Equalization and Assessment, which is in the State Department of Revenue, makes certain that all counties have equally accurate assessments, as measured by assessment-sales ratios. This state board has the

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<sup>6</sup>For a more detailed discussion of the capital gains and losses from poor assessments, see Yinger *et al.*, *Property Taxes and House Values*.

<sup>7</sup>For a detailed discussion of the administration of the property tax in Nebraska, see "A Layman's Guide to State and Local Revenue and Taxation in the State of Nebraska," Staff of the Revenue Committee, Nebraska Legislature, January 1988.



authority to adjust the assessed values of a class of property within a county. The state board also is responsible for assessing a few classes of property, including utilities, railroads, airlines, and motor vehicles. In addition to these formal administrative checks on assessment accuracy, individual taxpayers can appeal the decisions of assessors or county boards to the state district court and can appeal decisions of the state board to the state supreme court.

### **Assessments Quality**

Although the administrative structure of the property tax appears to be reasonable, the true test of its merits lies in the quality of the assessments it produces. In this section we evaluate the accuracy of assessments using information on assessment-sales ratios for four different classes of property in 93 counties. This information is reported in Table 6-1. The four classes of property are improved residential property, improved and unimproved commercial and industrial property, improved agricultural property and unimproved agricultural property.

The standard measure of assessment accuracy is called the "coefficient of dispersion" or COD. The COD indicates the magnitude of the variation in the assessment-sales ratio for each property type in each county. A value of zero for the COD for a property type within a county indicates that the assessment-sales ratio is the same for all the property in that class in that county: a larger COD means less accuracy, that is, more variation in property assessments. It is unrealistic to set a standard of zero for the COD on the basis of existing assessment techniques; the International Association of Assessing Officers (IAAO) has set standards of between 0.05 and 0.15 for residential property, of up to 0.20 for vacant lots, farm property, and acreage, and of 0.15 in the case of other income-producing property.<sup>8</sup>

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<sup>8</sup>For a discussion of these standards for the coefficient of dispersion, see Research and Technical Department, *Evaluating Real Property Assessment Practices: A Management Guide*, produced for the Office of Policy Development and Research, Department of Housing and Urban Development (Chicago, International Association of Assessing Officers, no date), pp. 4-5.

TABLE 6-1

May 3, 1988

STATE OF NEBRASKA  
DEPARTMENT OF REVENUE  
ASSESSMENT/SALES RATIO  
FOR 1986 REAL ESTATE SALES BY  
PROPERTY CLASS WITHIN COUNTY  
FOR THE ASSESSMENT YEAR 1987

No.	County	RESIDENTIAL			COMMERCIAL & INDUSTRIAL			AGRICULTURAL			AGRICULTURAL		
		No. of Sales	Ratio	COD	No. of Sales	Ratio	COD	No. of Sales	Ratio	COD	No. of Sales	Ratio	COD
1	Adams	297	97.48	.2242	37	86.89	.3088	10	105.75	.1920	16	84.30	.1902
2	Antelope	30	103.98	.3977	---	---	---	2	103.75	.1929	2	53.17	.3671
3	Arthur	---	---	---	---	---	---	1	85.12	---	---	---	---
4	Banner	---	---	---	---	---	---	2	83.34	---	---	---	---
5	Blaine	---	---	---	---	---	---	---	---	---	---	---	.2064
6	Boone	22	92.03	.1697	---	---	---	---	---	---	---	---	---
7	Box Butte	134	78.52	.4402	12	88.26	.4808	10	98.85	.2654	10	93.60	.3218
8	Boyd	16	85.37	.2701	---	---	---	8	62.19	.1620	14	64.75	.3154
9	Brown	28	89.02	.3346	---	---	---	2	167.93	.1798	9	63.69	.5154
10	Buffalo	320	85.00	.2367	21	85.38	.5060	2	106.03	.1668	7	94.03	.4186
11	Burt	45	88.09	.3696	8	88.64	.3890	10	107.45	.1893	30	83.27	.3269
12	Butler	36	89.57	.3132	6	100.49	---	5	81.94	.1041	7	75.46	.1322
13	Cass	238	85.00	.2761	17	89.82	.1952	7	77.42	.1663	12	82.59	.2709
14	Cedar	34	96.71	.2552	9	101.27	.1734	3	75.70	.3103	12	61.06	.1689
15	Chase	32	87.91	.1716	6	101.96	.1345	8	93.00	.1524	15	87.17	.2212
16	Cherry	38	102.88	.7041	6	101.96	.1345	4	66.12	.2645	4	115.16	.2403
17	Cheyenne	118	85.00	.3130	---	---	---	10	72.49	.5258	16	56.23	.4031
18	Clay	47	105.10	.6683	8	90.93	.2260	1	38.29	---	2	48.97	.4411
19	Colfax	68	103.96	.4290	7	96.54	.4775	7	121.19	.4485	14	77.03	.1137
20	Cuming	34	87.14	.1260	6	107.90	.5044	2	90.77	.0085	10	66.28	.2472
21	Custer	75	88.38	.3739	---	---	---	2	90.52	.0972	6	70.92	.2442
22	Dakota	151	85.00	.2126	7	101.68	.3551	6	97.78	.2055	11	85.13	.3198
23	Dawes	74	85.75	.4065	13	90.71	.6854	3	139.55	.0038	2	70.56	.1700
24	Dawson	113	85.60	.1275	11	98.26	.5024	3	58.20	.7090	2	73.41	---
25	Deuel	22	97.58	.2360	7	92.00	.2300	2	84.70	.2977	1	88.66	.2181
26	Dixon	28	112.92	.3025	---	---	---	2	72.36	.1705	7	45.92	.2784
27	Dodge	429	95.57	.2400	---	---	---	5	96.56	.1766	6	110.87	.2477
					31	104.65	.3392	7	78.79	.2282	18	61.55	3094

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TABLE 6-1 (CONT.)

No.	County	RESIDENTIAL		COMMERCIAL & INDUSTRIAL		AGRICULTURAL		AGRICULTURAL			
		Improved		Improved & Unimproved		Improved		Unimproved			
		No. of Sales	Ratio	No. of Sales	Ratio	Ratio	No. of Sales	Ratio	No. of Sales	Ratio	COD
28	Douglas	4,825	85.61	74	89.66	.1433	---	---	---	---	---
29	Dundy	20	89.65	---	---	---	6	87.05	3	92.83	.2033
30	Fillmore	55	113.91	9	91.00	.6993	9	131.58	23	84.95	.2278
31	Franklin	31	107.78	---	---	---	5	113.10	1	123.71	.6139
32	Frontier	16	94.24	---	---	---	1	69.78	1	99.33	.2655
33	Furnas	51	85.00	7	85.00	.1258	1	139.70	9	91.81	.2223
34	Gage	302	85.48	10	92.73	.1851	9	73.29	12	84.96	.2104
35	Garden	11	94.37	---	---	---	3	64.70	7	46.31	.2384
36	Garfield	12	101.69	---	---	---	2	101.92	1	72.28	---
37	Gosper	6	101.80	---	---	.3005	2	133.77	4	103.79	.2352
38	Grant	---	---	---	---	.4011	1	178.25	---	---	---
39	Greeley	17	87.01	---	---	.1708	3	92.47	1	114.44	.2918 ♀
40	Hall	515	89.58	48	85.36	.3835	7	94.25	1	105.71	.3242
41	Hamilton	43	89.13	---	---	---	4	92.11	15	70.48	.2416
42	Harlan	33	95.99	---	---	---	2	103.57	15	122.27	.5060
43	Hayes	---	---	---	---	---	3	163.11	2	102.13	.1495
44	Hitchcock	18	89.81	---	---	---	5	87.20	2	122.04	.5757
45	Holt	46	92.66	---	---	.0795	7	84.35	14	67.93	.4461
46	Hooker	---	---	---	---	---	1	44.09	---	---	---
47	Howard	31	111.78	---	---	.4168	7	133.42	6	109.13	.4222
48	Jefferson	75	101.10	8	92.60	.1423	1	102.92	10	84.83	.2643
49	Johnson	32	107.28	---	---	.4849	13	81.09	6	93.97	.2733
50	Kearney	46	95.84	7	104.80	.2031	3	129.48	8	94.43	.2038
51	Keith	30	97.93	8	92.09	.1856	3	61.44	12	108.49	.2430
52	Keya Paha	---	---	---	---	---	4	81.06	2	76.79	.0042
53	Kimball	29	90.10	---	---	.2458	1	68.75	6	70.98	.1166
54	Knox	36	112.51	8	89.96	.3013	6	116.04	6	92.41	.4482
55	Lancaster	2,499	85.01	54	89.36	.3778	9	74.38	14	66.28	.2287
56	Lincoln	354	85.12	15	108.95	.4059	15	76.29	18	63.89	.3752
57	Logan	---	---	---	---	---	2	66.73	3	66.37	.0215
58	Loup	---	---	---	---	---	2	67.67	---	---	---
59	Madison	309	88.36	22	103.35	.2792	8	.8778	16	80.36	.2003
60	McPherson	---	---	---	---	---	---	---	---	---	---
61	Merrick	61	98.91	---	---	.2610	7	123.36	9	92.22	.5201

TABLE 6-1 (CONT.)

No.	County	RESIDENTIAL			COMMERCIAL & INDUSTRIAL			AGRICULTURAL			AGRICULTURAL		
		Improved			Improved & Unimproved			Improved			Unimproved		
		No. of Sales	Ratio	COD	No. of Sales	Ratio	COD	No. of Sales	Ratio	COD	No. of Sales	Ratio	COD
62	Morrill	25	114.09	.1824	---	---	---	4	78.94	.1654	---	---	---
63	Nance	17	104.14	.2101	---	---	---	6	93.48	.1972	5	99.72	.2188
64	Nemaha	42	89.38	.2298	9	91.42	.1364	4	87.01	.3178	9	66.84	.1519
65	Nuckolls	40	85.48	.4958	---	---	---	4	157.09	.6226	13	89.16	.1155
66	Otoe	153	93.61	.3584	7	99.13	.5093	8	84.86	.2978	16	78.00	.1399
67	Pawnee	15	98.13	.2845	---	---	---	6	95.45	.2957	7	102.16	.2799
68	Perkins	13	86.29	.0991	---	---	---	3	67.13	.0294	8	69.15	.2874
69	Phelps	76	85.17	.1434	6	87.05	.2708	4	112.02	.0774	9	79.88	.2374
70	Pierce	49	91.78	.1897	---	---	---	12	87.26	.1783	8	119.79	.6762
71	Platte	291	92.16	.1214	8	105.37	.1269	12	65.47	.2359	19	69.63	.1886
72	Polk	38	89.27	.4374	7	91.28	1.4657	3	90.23	.1820	16	77.83	.1542
73	Red Willow	58	87.46	.1598	14	109.02	.2833	3	105.39	.3090	4	64.94	.1623
74	Richardson	64	95.39	.2954	6	102.78	.1364	13	69.88	.3172	11	90.66	.2315
75	Rock	---	---	---	---	---	---	1	56.73	---	3	60.65	.4157
76	Saline	87	90.30	.2789	8	98.26	.2780	10	88.71	.1349	15	71.66	.3180
77	Sarpy	1,706	87.63	.0931	38	85.00	.4658	4	52.97	.2181	13	51.82	.4299
78	Saunders	199	85.03	.2610	25	99.69	.4234	19	71.66	.2036	44	69.68	.2635
79	Scotts Bluff	336	85.00	.2218	30	91.00	.3653	15	71.47	.2911	9	72.49	.2475
80	Seward	109	89.01	.2165	10	88.02	.2671	11	102.42	.2330	20	70.05	.2313
81	Sheridan	33	96.24	.2260	7	85.05	.4057	4	57.98	.3132	13	68.65	.3339
82	Sherman	12	115.00	.5127	---	---	---	13	110.45	.4767	8	106.44	.2267
83	Sioux	---	---	---	---	---	---	5	60.92	.5959	6	40.98	.1702
84	Stanton	31	102.53	.2671	---	---	---	8	73.16	.2694	8	89.56	.2745
85	Thayer	54	94.64	.3598	8	110.02	.5595	1	108.97	---	8	77.37	.1884
86	Thomas	---	---	---	---	---	---	---	---	---	---	---	---
87	Thurston	24	92.16	.1052	---	---	---	4	100.41	.1025	7	107.45	.2281
88	Valley	40	99.72	.3905	6	85.77	.3245	5	104.73	.2531	7	58.24	.6876
89	Washington	95	85.16	.2014	7	85.23	.1590	11	70.79	.5092	10	55.96	.2005
90	Wayne	50	85.12	.1200	---	---	---	4	84.03	.1159	8	79.57	.0948
91	Webster	37	93.63	.6444	---	---	---	2	96.61	.1800	5	104.75	.3233
92	Wheeler	---	---	---	---	---	---	---	---	---	---	---	---
93	York	103	92.08	.1921	17	88.16	.1831	10	100.96	.3049	17	72.87	.2104

SOURCE: Nebraska Department of Revenue.

These guidelines allow us to interpret the information in Table 6-1. We first eliminate those counties for which the number of sales is either zero or one, as the coefficient of dispersion is not defined when there are fewer than two sales. As a result, 79 counties have CODs for residential property, 45 counties have CODs for industrial and commercial property, 76 counties have CODs for improved agricultural property, and 78 counties have CODs for unimproved agricultural property. For residential property, only seven of the 79 counties have CODs at the standard of 0.15 or below, and 34 of the 79 counties have CODs above 0.30 or more than double the IAAO standard for residential property.<sup>9</sup> For commercial and industrial property, only eight of the 45 counties have CODs at 0.15 or below and 22 of the 45 counties have CODs above 0.30 or more than double the relevant IAAO standard.

By contrast, the assessment of agricultural property appears more accurate. For improved agricultural property, 20 of the 76 counties have CODs at the standard of 0.20 or below, while only 13 of the 76 counties have CODs more than double the standard. A similar pattern is observed for unimproved agricultural property. In this category, 36 of the 78 counties have CODs at or below the standard of 0.20, while only nine of the 78 counties have CODs more than double the standard.

One possible explanation for the inaccuracy of assessments is that many counties in Nebraska have few property sales. With few sales to observe, assessments are more subject to errors of judgment and are likely to exhibit larger CODs. If this hypothesis is true, then counties that have more sales of properties should have lower CODs.

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<sup>9</sup>Based on data from 1981, Nebraska's assessment quality appears to be close to the national average. For example, the median area in Nebraska and the median area in the United States both had a COD of about 0.20. However, 12 percent of the areas in the United States compared to only 9 percent of the areas in Nebraska had a COD of 0.10 or below. See 1982 Census of Governments, *Taxable Property Values and Assessment-Sales Price Ratios*, Report GC82, Volume 2 (Washington, DC: U.S. Bureau of the Census, February 1984). Given the relatively poor quality of assessments in many jurisdictions, however, Nebraska should not settle for assessments of average quality.

We test this hypothesis for each of the four property categories by using a standard statistical procedure, bivariate regression analysis, to determine whether counties with fewer sales have higher CODs. The results are reported in Table 6-2. In general, we find the expected negative relationship between the COD and the number of properties sold in the county. But this relationship is unexpectedly positive and statistically significant for unimproved agricultural property and the relationships are not statistically significant for industrial and commercial property and for improved agricultural property. In addition, the number of sales explains at best only 6 percent of the variation across counties in the COD.<sup>10</sup> We conclude that most of the explanation of relatively poor assessments in Nebraska lies in the administration of the property tax and not in the lack of property sales in many of Nebraska's counties.

We have not undertaken a detailed investigation into assessment procedures or the assessment process in Nebraska and therefore do not offer any specific recommendations for the improvement of property assessment. Shortcomings in the training of assessors, a lack of professionally trained boards at the county level to oversee the assessment process and to hear appeals, and the short time available to the state board to review each county's assessments could all contribute to the relatively poor assessment record. We recommend that the state conduct an investigation into property assessment procedures and practices to determine which of these or other factors is at work. While the assessment process itself needs improvement, we believe that the basic administrative structure is sound. In particular, the active participation of the State Department of Revenue should be retained and their review role expanded.

#### **Assessment of Agricultural Land**

A 1984 amendment to the Nebraska constitution allowed the state legislature to treat agricultural land as a separate class of property. This amendment was designed to legalize the

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<sup>10</sup>This conclusion is based on the R-squared for the residential property regression. The R-squared is even smaller in each of the other regressions.

TABLE 6-2

THE IMPACT OF SALES VOLUME ON THE  
COEFFICIENTS OF DISPERSION: 1987

<u>Independent Variable</u>	<u>Residential</u>	<u>Industrial and Commercial</u>	<u>Improved Agricultural</u>	<u>Unimproved Agricultural</u>
Constant	0.339 (15.24)	0.345 (6.76)	0.276 (9.85)	0.189 (6.26)
Number of Sales	-0.00007 (2.22)	-0.0003 (0.14)	-0.0003 (0.14)	0.0086 (2.05)
Number of Observations	79	45	76	78
R-squared	0.06	0.0005	0.003	0.05

NOTES: These results are based on a bivariate regression analysis with counties as observations. The dependent variable is the county coefficient of dispersion. Absolute values of t-statistics are reported in parentheses. A t-statistic above 1.96 is statistically significant at the 2.5 percent level.

SOURCE: Nebraska Comprehensive Tax Study.

longstanding policy in Nebraska of preferential assessments for agricultural land. The preference was given by assessing agricultural land on the basis of its "use-value," which is the present value of the stream of earnings it generates, instead of on the basis of its market value, which is the amount it would sell for. This amendment was implemented through legislation and an official Agricultural Land Valuation Manual, which insured that the assessment-sales ratios for agricultural land remained far below one and significantly below the assessment-sales ratios for other types of property. One estimate places the 1987 average assessment-sales ratio for agricultural land in the state at 75 percent, compared to 85 or 90 percent for other kinds of property.<sup>11</sup> In the 1987 Banner decision, however, the Nebraska Supreme Court ruled that the 1984 amendment does not authorize preferential assessment and that agricultural land, like all other property, must be assessed at its market value. Without a revised constitutional amendment, therefore, assessment-sales ratios for agricultural land must be the same as the ratios for other property.

Although it is a common procedure in other states, we see no policy justification for preferential assessment of agricultural land. This preferential assessment distorts economic choices between agricultural land and equipment and constitutes an unfair difference in effective tax rates for owners of different types of property.<sup>12</sup> Somewhat ironically, preferential assessments may not even confer significant benefits on current owners of farm land because the value of these preferential assessments may have been capitalized into the value of the land when they purchased it. In other words, preferential assessment for farm land is a poor way to help

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<sup>11</sup>See W. Lock, "Ag Land Valuation," Taxation LRD Report 88-6, Nebraska Legislative Council, February 1988. This chapter also presents the history of assessment practices for agricultural land in Nebraska.

<sup>12</sup>Because agricultural equipment is not now taxed, under either the property tax or the sales tax, the current system, even with preferential assessment of agricultural land, distorts choices in favor of equipment. If, as we recommend in a later section, the property tax exemption for agricultural equipment were removed, however, preferential assessment of agricultural land would distort choices in favor of land.



farmers. If the state legislature wants to help farmers, it should do so through a cost-effective direct subsidy instead of by an ineffective and distortionary policy of preferential assessment for farm land.

In addition, the underassessment of agricultural land is the result, in most cases, of a misapplication of the income approach to property assessment. Under normal circumstances, the market value of a property, that is, the amount of money a well-informed investor would pay for the property, equals the present value of the stream of earnings from owning it, so that the income approach to property assessment should give the same result as an approach based on comparable sales. The only exception arises when property is used for some activity other than the activity that generates the highest possible income. At the edges of an urban area, for example, land currently used for farming might generate a higher stream of earnings if the farmers were replaced by housing or shopping centers. This exception is covered by Nebraska's so-called Greenbelt Amendment, which allows agricultural land on the urban fringe to be assessed at its value in agricultural use, even if its value is higher in some other use.<sup>13</sup> In most parts of Nebraska, however, farming is the so-called "highest and best use" for land, so the income approach and the comparable-sales approach should yield the same assessed values for agricultural land.

The reason these two methods often lead to different assessed values is that assessors do not properly account for inflation in the income approach. The standard method is to take the current net income from the property and divide it by a capitalization rate that reflects current borrowing costs, depreciation, and perhaps some other factors. The problem with this method is that the net income in the numerator is implicitly assumed to remain constant over time (that is,

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<sup>13</sup>The Greenbelt Amendment also discourages land speculation, appropriately in our view, by rescinding this preferential assessment for the *previous* seven years whenever land changes from agricultural to some other use.

not to increase with inflation) whereas the capitalization rate in the denominator is based on a borrowing rate that reflects anticipated inflation. In other words, the numerator is expressed in real terms and the denominator is expressed in nominal terms, and the two parts of the calculation simply are not comparable. The best way to solve this problem is to subtract the rate of anticipated inflation from the capitalization rate. This correction translates the capitalization rate into real terms and therefore makes it comparable to the real net income flow. If the current borrowing rate is 9 percent, for example, and anticipated inflation is 4 percent, then the correct capitalization rate (ignoring depreciation and other factors) is  $(9 - 4) = 5$  percent. This correction can have a large impact on assessed values. Consider a piece of farm land that yields a net annual income of \$10,000. Then the value of this property using a 9 percent capitalization rate is  $\$10,000/.09 = \$111,111$ , and its value using a 5 percent rate is  $\$10,000/.05 = \$200,000$ . Ignoring anticipated inflation, in other words, leads to a severe understatement of the value of the property.<sup>14</sup>

Although we have not examined assessing practices in Nebraska in detail, we see no reason to believe that the income-approach, with a correct capitalization rate, would lead to substantially different assessed values for agricultural land than the comparable-sales approach. Thus, the issue is not really which assessing method is appropriate, but whether the method used leads to accurate assessments, as measured by assessment-sales ratios.

Although preferential assessments for agricultural land are unfair, it also should be recognized that eliminating this longstanding preferential treatment will result in capital losses for some of the current owners of agricultural land. These capital losses reflect a common dilemma in property tax policy: reforming the property tax often leads to one-time arbitrary

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<sup>14</sup>For a detailed discussion of the importance of using the right capitalization rate, see Yinger *et al.*, *Property Taxes and House Values*.

gains or losses for particular taxpayers.<sup>15</sup> For two reasons, however, we believe that these capital losses should not stand in the way of assessment reform in Nebraska. First, agricultural land makes up most of the tax base in many jurisdictions, particularly school districts, which collect most of the property taxes in the state. In two-thirds of the state's school districts, for example, agricultural land constitutes more than 75 percent of the tax base.<sup>16</sup> In these jurisdictions, increases in assessed values on agricultural land can be accompanied by significant decreases in nominal tax rates so that the tax *payments* on agricultural land may not change at all. With no changes in tax payments, there will be no capital losses.

Second, we believe that the long-term gains from assessment reform, both in the fairness of the tax and from the elimination of economic distortions, are worth the short-run costs imposed on some owners of farm land. It might be worthwhile to mitigate these short-term losses by phasing them in over a period of several years. We see no harm, in other words, from gradually moving the assessment-sales ratio for agricultural land up to the ratios for other types of property. But once assessments on agricultural land (or on any other type of property) have been raised to market values, great care should be taken to prevent these assessments from falling below market values in the future; any such decline in assessment-sales ratios would generate arbitrary and unfair capital gains for the owners of agricultural land.

### **Public Utility Property**

Nebraska is unique among the states in the extent to which electric power is provided by public enterprises. Public power companies do not pay property taxes. Instead, they make payments to local governments based on their gross sales within those governments' boundaries.

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<sup>15</sup>For a detailed discussion of this dilemma, see H. J. Aaron, *Who Pays the Property Tax? A New View* (Washington, DC: The Brookings Institution, 1975), or Yinger *et al.*, *Property Taxes and House Values*.

<sup>16</sup>This information comes from Lock, "Ag Land Valuation."

Some people have argued that public utility property should be subject to the property tax. We see no reason for such a change in policy. The value of public utility property is difficult to determine so a payment based on gross sales is less arbitrary and cheaper to administer than a property tax payment. Moreover, questions of distortion and fairness are fundamentally different for publicly owned property than for private property. Because public officials, not the market place, control prices and other economic features of public utilities, differences in property tax treatment between public utility property and private property need not imply economic distortions. In addition, voters may prefer to receive "compensation" from the public utility in the form of lower electricity prices instead of in the form of property tax payments by the utility.

### **Exemptions**

Any analysis of property tax exemptions must begin with the widely accepted principle that, to avoid distortions in economic choices and to treat all taxpayers equally, all forms of property should be taxed at an equal effective rate. Two exceptions to this principle are usually recognized. First, exemptions from property taxation can be justified if they give tax relief to particularly deserving low-income groups, such as the elderly or the disabled. Second, some forms of property can reasonably be exempt from property taxation if the administrative cost of determining their market values is prohibitive.

In this section we analyze property tax exemptions in Nebraska on the basis of this principle and its recognized exceptions.

#### **Farm Equipment**

Farm equipment, unlike other business equipment, is exempt from the property tax in Nebraska. In our judgment, this exemption is not appropriate. It deviates from the basic principle of property tax design, and therefore leads to distortions in economic decisions and to

unequal treatment of taxpayers. Moreover, it cannot be justified on the grounds of fairness or of administrative cost. Many owners of farm equipment have high incomes and low-income owners of farm equipment are no more deserving of assistance than low-income owners of farm land. In addition, we know of no evidence to suggest that the administrative cost of assessing farm equipment is significantly different from the administrative cost of assessing business equipment. Thus, neither exception applies and farm equipment should not receive an exemption.

An analysis of the property-tax exemption for farm equipment is complicated by the existence of the sales tax on farm equipment. Some people argue that this sales tax creates a rationale for this exemption. There may be a little truth to this argument; the sales tax may help to lessen the distortions in economic choices that arise because farm equipment is exempt from the property tax. For two reasons, however, we believe that the current arrangement is not at all satisfactory. First, the sales tax applies to both farm and business equipment, whereas the property tax exemption applies only to farm equipment. Thus, business equipment is subject to double taxation. Second, a state sales tax cannot be equivalent to local property taxes with rates that carry from one jurisdiction to the next. Purchases of farm equipment in jurisdictions with relatively high property tax rates benefit from the current arrangement, whereas purchasers of farm equipment in jurisdictions with relatively low tax rates may be hurt by it. Moreover, the state sales tax (which is levied only once at the time of sale) is much lower than the average property tax (which is levied every year), so the current treatment amounts to a large tax break for farm equipment.

In effect, the current arrangement violates principles of good sales tax design and good property tax design. The property tax would be fairer and less distortionary if farm equipment were not exempt from the property tax, and as explained in detail in another chapter, the sales tax

would be fairer and less distortionary if neither farm nor business equipment were subject to the state sales tax.<sup>17</sup> Thus, we recommend that the exemption for farm equipment be eliminated.<sup>18</sup>

Finally, it should be pointed out that eliminating the exemptions for farm equipment would not place an unacceptable burden on particular taxpayers. Adding farm equipment to the property tax base would enable jurisdictions to lower their nominal property tax rates, that is, to lower the tax payments on other types of property. Farm equipment obviously accompanies farm land which, as pointed out earlier, makes up most of the tax base in a majority of school districts. In effect, therefore, eliminating the exemption for farm equipment redistributes the burden of the property tax from the owners of farm land to the owners of farm equipment--who are the same people! In short, this reform would eliminate economic distortions without any significant redistribution of the tax burden between the owners of farm property and the owners of nonfarm property. This reform would cause a modest redistribution of the tax burden away from farmers with relatively little equipment per acre of land and toward farmers with a great deal of equipment. Although we have no data on the relationship between the ownership of equipment and income, we suspect that higher-income farmers own more equipment, so that this redistribution is likely to add modestly to the progressivity of the property tax.

### **Other Personal Property**

In Nebraska, as in many other states, several other kinds of personal property, including motor vehicles, airplanes, and motorboats, are subject to the property tax, whereas several other

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<sup>17</sup>See M. Wasylenko and D. Mullins, "Tax Expenditure Concepts and an Analysis of Sales and Property Tax Expenditures," Chapter 8 in this volume.

<sup>18</sup>Eliminating the exemption for farm equipment would also undermine the claim currently being made by some owners of railroad equipment that, to be fair, property taxes on railroad equipment should be lowered. We believe that lowering property taxes on railroad equipment, either through preferential assessment or through an exemption, is not appropriate even if the exemption for farm equipment is retained. Such property tax breaks would pull the property tax farther away from its ideal form. In addition, the owners of railroad equipment knew at the time of purchase that their property would be assessed at its market value; lowering their property taxes at this stage would simply give them an unfair capital gain on this property.

kinds of personal property, including inventories, intangible property (such as stocks and bonds), and household goods (such as furniture), are exempt from the tax. The principal justification for exempting these types of property is that they are difficult to assess. The exemptions therefore save the state money by avoiding large administrative costs, and contribute to the fairness of the tax by avoiding arbitrary assessments. These exemptions may result in small economic distortions between taxed and untaxed types of personal property and to some degree they confer an unfair advantage on owners of untaxed personal property. We believe, however, that these exemptions are sensible; their advantages, in terms of administrative costs saved and arbitrary assessments avoided, outweigh their relatively modest costs.<sup>19</sup>

### **Homestead Exemptions**

Nebraska currently allows homestead exemptions for low-income elderly homeowners and certain totally disabled people. The state reimburses local governments for the property taxes lost through these exemptions. In 1987 the cost of these exemptions was about \$33 million. In our judgment, these exemptions serve legitimate equity objectives by lowering the property tax burden on groups that the state legislature views as particularly needy groups. Thus, we recommend that these exemptions be retained.

The state legislature has considered proposals to extent homestead exemptions to all homeowners, to low-income homeowners, and even to all households, including renters. Proposals such as these, which have been implemented in several other states, help make the property tax more progressive, particularly if they are limited to low-income households. In

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<sup>19</sup>Livestock are also exempt from the property tax. This exemption is more difficult to evaluate. The cost of assessing livestock does not appear to be prohibitive. moreover, if one thinks of livestock as a kind of farm "equipment" then it is appropriate to treat it the same way as other equipment--that is, to tax it. on the other hand, if one thinks of livestock as a kind of farm "inventory" then it makes sense to treat it the same way as other inventories--that is, to exempt it. While we do not find either case compelling, we lean toward viewing livestock as inventory or product rather than as equipment and do not recommend a change in current practice.

order to be fair, any additional homestead exemptions implemented in Nebraska should apply to both farm and nonfarm households.

Homestead exemptions cannot be evaluated without considering how they would be funded. They would not be desirable if local governments were forced to fund them, that is, if local governments were forced to raise their property tax rates to cover the revenue lost from the new exemptions. They might be desirable, however, if, like current homestead exemptions, they were financed by the state. In effect, such proposals would lower the burden of property taxes and raise the burden of state taxes. The desirability of this switch would depend on the source of the required state funds. Paying for homestead exemptions by raising the state income tax, for example, would improve both the fairness and the efficiency of the state tax system.

The major disadvantage of this approach to lowering property taxes is that it does not enable the state to direct its assistance to the jurisdictions in the poorest fiscal condition.<sup>20</sup> If it is implemented, therefore, a general homestead exemption should be complemented by a new program of state aid to needy jurisdictions.

### **Differences in Tax Rates across Jurisdictions**

Even with accurate assessments across all types of property and all counties, effective property tax rates can vary from one jurisdiction to another because different jurisdictions set different nominal tax rates. Differences in effective property tax rates across jurisdictions can cause market distortions and, under some circumstances, can be a source of inequity. In this section we examine the causes and consequences of tax differences across local governments in

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<sup>20</sup>For detailed discussions of the fiscal condition of local governments in Nebraska, and of the need for state aid programs to help the neediest jurisdictions, see J. Yinger, "The Fiscal Condition of County governments in Nebraska," Chapter 9 in this volume; J. Yinger, "The Fiscal Condition of Municipal Governments in Nebraska," Chapter 10 in this volume; and K. Ratcliffe, B. Riddle, and J. Yinger, "The Fiscal Condition of School Districts in Nebraska: Is Small Beautiful?" Chapter 11 in this volume.



Nebraska and suggest some policy responses for the state government.

### **Causes of Existing Differences**

Tax rates vary across local governments for three reasons: economic and social constraints, local preferences, and management quality. These three reasons, all recognized in the literature, are discussed in this section.<sup>21</sup>

Different local governments face widely different fiscal constraints, as determined by economic and social factors outside their control. These constraints are examined in detail in our chapters on counties, municipalities, and school districts in Nebraska.<sup>22</sup> As explained in those chapters, some local governments have a high revenue-raising capacity, in the sense that they can raise a higher-than-average amount of revenue per capita at an average tax burden on their residents. In addition, some local governments have high expenditure needs, in the sense that they must spend more than average per capita in order to provide public services of average quality. A local government's overall fiscal condition is determined by the balance between its revenue-raising capacity and its expenditure need. A local government in relatively good fiscal condition is forced, through no fault of its own, either to levy higher-than-average tax rates or to accept lower-than-average service quality or both.

A local government's property tax base has a significant impact on its revenue-raising capacity. As explained in our chapters on local government finance, revenue-raising capacity has two components. Jurisdictions with higher incomes or with an ability to export some of their tax burden to nonresidents can raise more money per capita at a given tax burden on their

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<sup>21</sup>For more on these three reasons, see Yinger, "The Fiscal Condition of County Governments in Nebraska"; Yinger, "The Fiscal Condition of Municipal Governments in Nebraska"; Ratcliffe, Riddle and Yinger, "The Fiscal Condition of School Districts in Nebraska: Is Small Beautiful?"; or H. F. Ladd and J. Yinger, *The Fiscal Health of U.S. Central Cities* (Baltimore, MD: Johns Hopkins Press, forthcoming).

<sup>22</sup>See Yinger, "The Fiscal Condition of County Governments in Nebraska"; Yinger, "The Fiscal Condition of Municipal Governments in Nebraska"; and Ratcliffe, Riddle, and Yinger, "The Fiscal Condition of School Districts in Nebraska: Is Small Beautiful?".

residents. Because a large share of commercial and industrial property is owned by national corporations, a large share of a local government's taxes on such property are paid by nonresident national shareholders.<sup>23</sup> In other words, the presence of commercial and industrial property raises a jurisdiction's revenue-raising capacity and therefore enables it, all else equal, to lower its property tax rate.

Revenue-raising capacity through the property tax varies widely from one local government to another. Consider, for example, municipalities' revenue-raising capacity through the property tax.<sup>24</sup> Expressing this capacity in index form with a value of 100 in the average municipality, we find that the index ranges from a minimum of 50 to a maximum of 169. With an average tax burden on its residents, in other words, the municipality with the lowest capacity can only raise half as much revenue per capita as the average municipality, and the municipality with the highest capacity can raise 69 percent more revenue per capita than average. In addition, large cities tend to have a higher concentration of commercial and industrial property and hence a higher capacity than small cities. The average index for cities with populations above 10,000 is 137, and no large city has a below-average capacity, whereas the average index for cities with populations below 1,000 is only 96.

The second reason that property tax rates vary from one local government to another is that different local governments have different preferences for public services. For example, voters with high incomes tend to prefer high-quality public services so that, all else equal, jurisdictions with high average incomes spend more on public services.

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<sup>23</sup>The burden of property taxes on some other kinds of property, such as private utility property and rental housing, also may be exported to some degree. We also argue that none of the property taxes on farm property can be exported. See Yinger, "The Fiscal Condition of County Governments in Nebraska."

<sup>24</sup>The figures in the text are from Yinger, "The Fiscal Condition of Municipal Governments in Nebraska." For similar results for counties, see Yinger, "The Fiscal Condition of County Governments in Nebraska," and for schools see Ratcliffe, Riddle, and Yinger, "The Fiscal Condition of School Districts in Nebraska: Is Small Beautiful?"

The third reason for property tax rate variation is that some public officials are more efficient than others. Good management skills and practices lower the amount that a jurisdiction must spend to obtain public services of any given quality level.

### **Consequences of Existing Differences**

Differences in property tax rates across jurisdictions cause distortions in economic decisions and can be a source of inequity.

A basic principle of public finance is that economic choices are distorted whenever they are influenced by tax considerations instead of just by underlying economic factors. In the case of property taxes, business firms' decisions about where to locate may be influenced by, and hence distorted by, differences in property tax rates across jurisdictions. However, the magnitude of this distortion is difficult to determine. Some studies find that property taxes have a significant impact on the location decisions of a firm within a metropolitan area, other studies find that they do not.<sup>25</sup>

One of the key reasons that the impact of property taxes on firms' location decisions has been difficult to determine is that firms also care about service quality; in some cases, firms are attracted to locations with good police and fire protection or with a good educational system for their employees' children. The effects of taxes and services often are difficult to untangle because high taxes (which repel firms) may be accompanied by high service quality (which attracts firms). Thus, high property tax rates distort economic decisions only to the extent that they are not used to finance public services that firms care about.

Differences in tax rates across local governments also can be a source of inequity, as the residents in some jurisdictions face a much higher tax burden than the residents of other

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<sup>25</sup>For a review of this evidence, see M. Wasylenko, "The Effect of Business Climate on Employment Growth: A Review of the Evidence," in N. Walzer and D. Chicoine, eds., *Financing Economic Development in the 1980s* (New York: Praeger, 1986).

jurisdictions. However, it is important to remember that, to some degree, property tax rates vary because of choices made by voters and their elected officials. It makes no sense to say that the voters in one jurisdiction are treated unfairly because they freely decided to finance high-quality public services through a higher-than-average property tax rate. In fact, inequity only arises to the extent that differences in property tax rates are due to differences in economic and social factors outside the control of voters and local officials--that is, differences in jurisdictions' fiscal condition. Another way to put this is that a system of local governments treats some taxpayers unfairly if it leaves them in a position in which they must, through no fault of their own, levy higher-than-average higher property tax rates in order to obtain public services of average quality.

Reliance on a property tax contributes to this inequity because all jurisdictions do not have the same revenue-raising capacity through the property tax.<sup>26</sup> As noted earlier, jurisdictions with high concentrations of commercial and industrial property have relatively high revenue-raising capacity through the property tax, all else equal. Lowering reliance on the property tax, therefore, has the potential for improving the equity of the system of local governments in Nebraska.

### **Policies to Minimize Differences**

To minimize the economic distortions and inequity caused by differences in property tax rates across local governments in Nebraska, the state may want to implement policies that, to some degree, replace property tax revenues with revenues from sources that do not vary so much across jurisdictions. In this section we consider three such policies: granting local governments

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<sup>26</sup>Reliance on the property tax is not the only source of inequity, however. Some jurisdictions are in relatively poor fiscal condition because of low revenue-raising capacity through other sources, because of extensive service responsibilities, or because of high public service costs. See Yinger, "The Fiscal Condition of County Governments in Nebraska"; Yinger, "The Fiscal Condition of Municipal Governments in Nebraska"; and Ratcliffe, Riddle and Yinger, "The Fiscal Condition of School Districts in Nebraska: Is Small Beautiful?"

access to other broad-based taxes, instituting general homestead exemptions for the property tax, and increasing state aid to local governments,

One way to cut local property tax rates is to grant local governments access to another broad-based tax. In fact, municipalities in Nebraska are allowed to levy a general sales tax, although only 16 municipalities currently do so. Unfortunately, however, this approach has little promise for eliminating either the distortions or inequity that accompany property tax rate differences. First, this approach is likely to replace property tax rate differences across jurisdictions with differences in other tax rates, which also distort economic choices. For example, municipal sales taxes may induce people to shop outside municipalities or in municipalities that do not levy the tax. The only way to prevent such distortions is to require that the new tax be levied at the same rate in all locations in the state, an approach that would severely undercut local freedom of choice.

More importantly, another broad-based local tax would do little to improve the fiscal capacity of the neediest jurisdictions, and therefore would do little to improve the equity of the system of financing local governments. Remember that a jurisdiction's revenue-raising capacity depends on its income and its ability to export taxes to nonresidents. If a local government cannot export any of its tax burden, then giving it access to another tax source does not add anything to its capacity; regardless of whether it uses a property, sales, or earnings tax, the revenue it collects must all come out of the pockets of its own residents. Moreover, a local government's ability to export its tax burden to nonresidents may be very similar through any broad-based tax. In Nebraska, jurisdictions with a relatively high concentration of commercial and industrial property, which leads to exporting through the property tax, are likely to have relatively high sales to nonresident consumers, which leads to exporting through a local sales tax, and a relatively high share of commuters, which leads to exporting through a local earnings tax.

As a result, access to another broad-based tax is likely to have only a modest effect, or even no effect at all, on the revenue-raising capacity of most local governments in Nebraska.

A second approach is to implement a general homestead exemption. As pointed out earlier, this approach would lead to lower property taxes as long as the state government reimbursed local governments for the homestead exemptions received by their residents. By cutting reliance on the property tax, this approach would lessen differences in property tax rates across jurisdictions and would therefore lessen distortions in economic behavior associated with those differences. Moreover, this approach would lessen the inequity caused by reliance on local property taxes because it would replace some portion of local property taxes on homeowners (and perhaps renters) with a state payment financed by a broad-based state tax.

Although financing homestead exemptions through state taxes would reduce inequity, the ability of the state to help troubled jurisdictions through homestead exemptions is severely limited. After all, reimbursements for homestead exemptions granted would be the same for every homeowner and would not be directed toward jurisdictions in poor fiscal condition. This point is not intended to be a criticism of homestead exemptions: because they are designed to help individuals, these exemptions cannot be expected to channel assistance to needy jurisdictions.<sup>27</sup>

The third approach is to increase state aid to local governments. Increases in state aid would enable local governments to cut property taxes without sacrificing service quality and thereby to lessen the economic distortions caused by property tax differences. Moreover, as explained in detail in other chapters, state aid can be directed toward the jurisdictions in the poorest fiscal condition and therefore can lessen the inequity caused by reliance on the property

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<sup>27</sup>For more on this point, see Yinger, "The Fiscal Condition of County Governments in Nebraska."

tax, as well as the inequity caused by other factors that contribute to a jurisdiction's fiscal condition.<sup>28</sup>

The only disadvantage of this approach is that it does not, by itself, guarantee that local governments actually will lower their property tax rates. One possible solution to this problem is to require local governments, as a precondition to receiving aid, to cut their property tax levy in the year they receive the new aid by the amount of the new aid (less an adjustment for inflation). After the first year of the new program, local voters should be allowed to decide whether they want to raise their property tax rates. To make certain that voters have good information and are given a chance to participate in any decision to raise property tax rates, the state should pass a full disclosure law.<sup>29</sup>

Finally, some people have suggested that the best way for Nebraska to lower property taxes and the distortions and inequity they cause is to implement more stringent property tax limitations. We emphatically disagree with this suggestion. Because they do not replace lost property tax revenue with revenue from some other source, strict property tax limitations impose a severe hardship on certain jurisdictions, particularly jurisdictions in poor fiscal condition, which must levy higher-than-average property tax rates in order to provide services of average quality. Moreover, tax limitations represent an arbitrary restriction on voters' choices. We believe a far preferable strategy is to use a full disclosure law, which insures that property tax rates cannot be raised unless voters are well informed and still agree to a rate increase.<sup>30</sup>

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<sup>28</sup>Again, see Yinger, "The Fiscal Condition of County Governments in Nebraska"; Yinger, "The Fiscal Condition of Municipal Governments in Nebraska"; and Ratcliffe, Riddle, and Yinger, "The Fiscal condition of School Districts in Nebraska: Is Small Beautiful?"

<sup>29</sup>For a detailed discussion of this type of law, see B. Jump, Jr., "Tax and Expenditure Limitations," Chapter 12 in this volume.

<sup>30</sup>For a more detailed discussion of property tax limitations, see Jump, "Tax and Expenditure Limitations."

## Conclusions

The property tax in Nebraska is relatively well designed, but far too high, and the administrative process needs improvement. Nebraska should study ways to improve its property tax administration.

The administrative structure for the tax and most of the state-determined features of the tax should be retained. The recent Nebraska Supreme Court decision eliminating preferential assessment of farm land was a step in the right direction; this preferential assessment should not be reinstated through a new constitutional amendment. Moreover, the exemption for farm equipment is the one major flaw in Nebraska's property tax design and it should be eliminated. Both the preferential assessment of farm land and the exemption for farm equipment are unfair, distort economic behavior, and ironically probably do almost nothing to help farmers. In contrast, the existing homestead exemptions meet legitimate equity objectives and should be retained.

Nebraska's heavy reliance on the property tax contributes to the poor fiscal condition of many of the state's local governments. Jurisdictions with low incomes or low concentrations of commercial and industrial property (and hence a low ability to export their property tax burden to nonresidents) are in poor fiscal condition, all else equal, because they cannot raise an average amount of revenue per capita without imposing a much higher-than-average property tax burden on their residents. Thus, the fairness of Nebraska's state-local revenue system would be greatly enhanced by cutting local governments' reliance on local property taxes.

One way to cut property taxes is to implement more general homestead exemptions and fund them out of state taxes. Although this policy would help lessen the burden of high property taxes on individual taxpayers, it would not provide relatively more assistance to local governments in relatively poor fiscal condition and therefore would not alleviate the fundamental unfairness of the current heavy reliance on property taxes. Another way to cut property taxes is



through state-imposed property tax limitations. Even if these limitations could be made effective, which is unlikely, they would primarily serve to limit local choice and would be particularly hard on the local governments in the poorest fiscal condition.

We conclude that new, equalizing state aid programs are the fairest and most cost-effective way to reduce Nebraska's heavy reliance on local property taxes. Increases in state aid would allow local governments to cut property taxes, and state aid programs could be designed to provide more assistance to local governments that are, through no fault of their own, in relatively poor fiscal condition.



## CHAPTER 7

### THE DISTRIBUTION OF TAX BURDENS IN NEBRASKA FOR THE STATE PERSONAL INCOME, SALES EXCISE AND PROPERTY TAXES<sup>1</sup>

by Sally Wallace-Moore

#### Introduction

In this chapter I develop a comprehensive measure of the tax burden in the State of Nebraska for the state's major taxes: property, personal income, general sales and selective sales and excise taxes on alcohol, cigarettes, and motor vehicles fuels.<sup>2</sup> These taxes constitute almost 60 percent of the state and local tax revenues in Nebraska and have a significant impact on Nebraska taxpayers. As a percent of state and local tax revenue the property tax comprised 29 percent, the personal income 12 percent, general sales 13 percent and motor fuel 4 percent in 1985.

This analysis estimates aggregate tax burdens using data from the 1984 Consumer Expenditure Survey and the IRS Individual Tax Model File. I am most interested in the distribution of the tax burden by population decile and these samples provide us with good estimates of the state's income and expenditure distributions. In this chapter I estimate the burden by population decile based on comprehensive income. I also estimate the tax burdens associated with the institution of a 4 percent sales tax on food, selected services, and gasoline.

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<sup>1</sup>The author is grateful to Deborah Thomas and Eric Will from the Office of Nebraska Senator Vard Johnson for their comments on a previous draft of this paper. This chapter is based on Sally Wallace-Moore, "The Distribution of Tax Burdens in Nebraska for the State Personal Income, Sales, Excise and Property Taxes," Nebraska Comprehensive Tax Study Staff Paper No. 9, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, January 1988).

<sup>2</sup>Tax burden, as defined in a companion chapter, S. Wallace-Moore and B. Riddle, "Who Pays Nebraska State Personal Income Taxes Before and After Reform?" Chapter 4 in this volume, is the ratio of taxes paid to comprehensive income.

Section one outlines the methodology used in this analysis. The methodology is based on a number of previous tax studies, which are referred to in this section. Section two provides a summary of the data used for the burden estimates.

Sections three reports the estimates of the distribution of tax burdens for the personal income tax, general sales, excise, and property taxes. This section outlines the assumptions made to estimate the tax burdens and uses tables to show the distribution of the effective tax rates.

Section four reports the distribution of effective tax rates from a 4 percent sales tax on food, selected services, and motor vehicles fuel. The final section summarizes the findings and the alternatives available to the state. A set of appendices provide further information regarding methodology and the use and manipulation of the data.

### **Methodology**

The methods used to calculate the tax burdens for each type of tax are straightforward. Once I have decided which taxes to investigate based upon data availability and the importance of the tax as a revenue source, I do three things. First, I determine the incidence or shifting of the tax. Incidence refers to who legally pays a tax and it also considers the possibility that the tax is shifted forward in the form of higher prices of goods, or backward in the form of lower wages. I utilize a number of well known studies to determine the incidence assumptions for each tax.<sup>3</sup>

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<sup>3</sup>These studies include: J. Peckman and B. Okner, *Who Bears the Tax Burden* (Washington, DC: The Brookings Institution, 1974); Wisconsin Department of Revenue, *Wisconsin Tax Burden Study* (Lincoln: Wisconsin Department of Revenue, 1979); H. Aaron, *Who Pays the Property Tax* (Washington, DC: The Brookings Institution, 1975); D. Phares, *Who Pays State and Local Taxes?* (Cambridge: Oelgeschlager, Gunn and Hain, 1980); and J. Pechman, *Who Paid the Taxes, 1966-85?* (Washington, DC: The Brookings Institution, 1985).

Secondly, I estimate the amount of the tax that is exported.<sup>4</sup> I use the "minimum requirements approach" to estimate the percent of output that is exported from the state.<sup>5</sup> Basically, this approach estimates exports by comparing levels of production for states of similar size. I use estimates made by Mutti and Morgan<sup>6</sup> to estimate the amount of tax exportation due to the economic activity of tourists.

Finally, I allocate the tax revenue reported by the Department of Revenue based upon the incidence assumptions made.<sup>7</sup> In many cases, the allocation of the tax is based upon consumption expenditures. I use the *Consumer Expenditure Survey* to estimate the expenditures by income group. Table 7-1 summarizes the incidence and allocation assumptions used for all of the taxes included in this chapter. Detailed information regarding the incidence assumptions for each tax is provided in section three.

Once I estimate how much of the tax is paid by each income group, I calculate the tax burdens. "Tax burden" (or effective tax rate) is defined as the ratio of taxes paid to comprehensive income. I use the following definition of comprehensive income based on annual

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<sup>4</sup>By exporting we mean two things: (1) tourists may come into the state and buy goods, paying sales or other specific taxes on items, and return to their own states. They are in effect carrying some of the tax with them; (2) certain items produced in Nebraska are transported across state lines. Some of these goods may have incurred intermediate taxes and therefore they "carry" some of the tax burden out of the state if the intermediate taxes have affected the price of the good.

<sup>5</sup>For a discussion of the minimum requirements technique see A. Isserman, "Estimating Export Activity in a Regional Economy: A Theoretical and Empirical Analysis of Alternative Models," *International Regional Science Review*, Vol. 5, No. 2 (Winter 1980): 155-184.

<sup>6</sup>J. Mutti and W. Morgan, "The Exportation of State and Local Taxes in a Multilateral Framework: The Case of Household Type Taxes," *National Tax Journal*, Vol. 36, No. 4 (September 1983): 459-475.

<sup>7</sup>Tax revenues are reported in the Nebraska Department of Revenue's *1984 Annual Report*.

TABLE 7-1

INCIDENCE ASSUMPTIONS AND ALLOCATION OF  
INCOME, SALES AND PROPERTY TAXES

Tax	Incidence	Allocation
State personal income tax	Income earners	Income tax paid
General sales tax on goods sold to households	Consumers of taxed items	Consumption of taxed items
General sales tax on intermediate goods:		
Agricultural	Borne by farmers	Permanent farm income
Nonagricultural	Passed forward to consumers of final product	Consumption of final products
Specific taxes:		
Alcohol	Consumers of alcohol	Consumption of alcohol at home and at restaurants/bars
Cigarettes	Consumers of cigarettes	Consumption of cigarettes
Motor Vehicle Fuels:		
Households (84%)	Consumers of motor vehicle fuel	Consumption of motor vehicle fuel
Business owners (14%)	50% to business owners for personal use 50% passed forward to all consumers	Permanent business income
Farmers (2%)	Borne by farmers	All consumption expenditures Permanent farm income
Property taxes:		
Personal property:		
Households	Property owners	Imputed value of personal property
Business owners	20% to dividend earners (50% in Nebraska) 50% to all consumers 30% to business owners	Dividend income All consumption expenditures Permanent business income
Residential property:		
Owner-occupied	Property owners	Market value of property
Rental	50% landlords 50% tenants	Imputed market value of property Imputed market value of property
Commercial property	20% to dividend earners (50% in Nebraska) 50% to all consumers 30% to business owners	Dividend income All consumption expenditures Permanent business income
Farm property	Borne by farmers	Permanent farm income

measures of income:<sup>8</sup>

Wage and salary income  
Interest and dividend income  
Rental income  
Farm income/loss  
Business income/loss  
Pensions and annuities

Since comprehensive income is the measure of ability to pay it should include all family income, including imputed rent and realized and unrealized appreciation of assets.<sup>9</sup> Tax burdens are calculated by adding total taxes paid by income group and dividing by total income for each group. I could not calculate tax burdens by individual observations due to the sampling procedure used in the Consumer Expenditure Survey. Since burdens are measured for each income group I cannot measure horizontal equity because there is no variation within income groups.

### Measuring Income

A more complete measure of income is "permanent income," which refers to the income level that families expect to have over their lifetime. If families consume based on permanent income, they will tend to maintain a given level of consumption from year to year although their annual income fluctuates.<sup>10</sup> Therefore, the consumption to income ratio may vary from year to year. This is especially true for young consumers who expect a larger lifetime or permanent

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<sup>8</sup>This definition of income differs slightly from that used in the study on the personal income tax because the Consumer Expenditure Survey and the IRS Individual Tax Model File do not contain all of the same income information. Since we use both data sets to develop tax burdens we needed to create an income measure that was the same for both samples.

<sup>9</sup>For a discussion of comprehensive income see D. Phares, *Who Pays State and Local Taxes?*; or R. Musgrave and P. Musgrave, *Public Finance in Theory and Practice* (New York: McGraw-Hill, 1984), p. 233.

<sup>10</sup>For a more complete description of the permanent income hypothesis see M. Friedman, *A Theory of the Consumption Function* (Princeton: Princeton University Press, 1957).

income than their present income and therefore consume by borrowing on future income. Also, farmers and business owners with one or two "bad" years (loss of profits) will consume according to their expected lifetime income. They too will tend to borrow to maintain consumption in these "bad" years. As people grow older they also typically have a larger consumption to annual income ratio since they spend out of savings.

I do not have data to measure permanent income for all individuals. To do so requires panel data--survey data on individuals over a number of years--from which a measure of permanent income could be derived. I am forced to use annual income as a measure of ability to pay, which results in misleading burden calculations for the lowest income group (this group includes young families, older families and families with farm and business income losses) due to the spending behavior described above.<sup>11</sup> The tax burdens for the lowest income group are typically extremely high when tax burdens are based on annual income. These high tax burdens do not accurately reflect the real tax burden for the people in the lowest income group, as many families in this group continue their permanent level of consumption, and therefore pay high taxes, although their income is temporarily low. Other well-known studies encounter the same misleading estimate of the tax burden in the lowest income group and therefore ignore the lowest income group. For example, Pechman (1985) and Pechman and Okner (1974) report the distribution of the tax burden without the lowest income earners. Therefore, while burdens are reported for this first decile, I direct the reader's attention to the distribution of the tax burdens for the second through tenth deciles.

### **Why Not Urban and Rural Tax Burdens?**

Although a breakdown of consumer groups by region (or other factors) is helpful in analyzing the distribution of the tax burden, it is not possible with existing data. For the sales

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<sup>11</sup>Musgrave and Musgrave, in *Public Finance in Theory and Practice*, pp. 447-448, also describe this bias in the lowest income group.



tax, the CES data is categorized by region of the country so that I cannot estimate expenditures by urban/rural location. The sales tax data that is collected by the Department of Revenue is reported by location of retail merchant, not by resident location. Thus, if I buy clothing in Douglas County but live in Dodge County, the sales tax that I pay is reported by Douglas County. I cannot accurately allocate the sales tax paid by a county to the residents of that county to estimate the amount of tax paid by urban versus rural residents. Even the sales tax revenue reported for motor vehicle sales does not allow us to estimate urban/rural expenditure patterns. Although sales tax revenues from motor vehicle sales are reported by county of residence, I have no strong evidence to suggest that the pattern of motor vehicle expenditures is related to the pattern of any other consumer expenditure. It is therefore misleading to allocate taxes to urban/rural consumers based on this limited information.

I also do not have an accurate "picture" of rural versus urban families for the personal income tax. Data could not be obtained on the distribution of family income, family size, and composition of income for urban versus rural families in Nebraska. This information is crucial in determining taxes paid and income levels and therefore tax burdens.

### Data

This study uses the Bureau of Labor Statistics *Consumer Expenditure Survey (CES)*, 1984: *Interview and Diary Surveys* and the IRS 1984 Individual Tax Model File.<sup>12</sup> The CES interview survey is a panel data set which contains demographic information for families in the United States and detailed information on expenses and income. The diary component contains demographic and income information and detailed information on day-to-day types of

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<sup>12</sup>For a detailed description of the 1984 Tax Model File see Wallace-Moore and Riddle, "Who Pays the Nebraska State Personal Income Tax Before and After State Reform?" Chapter 4 in this volume.

expenditures. For instance, the interview survey has expenditure information on motor vehicles and appliances while the diary survey has information on grocery expenditures and car repairs.

The observations in the CES data set are coded by geographic region: Nebraska is part of the "Midwest" designation. Once the weights are applied to the sample observations the sample represents the total Midwest population. I therefore used observations from the Midwest as an approximation for Nebraska consumers.<sup>13</sup> As suggested by the BLS, I only included observations which fully reported income since the income measure is an integral part of the tax burden estimate. More detailed information regarding the CES is available from the U.S. Department of Labor, Bureau of the Census in *Consumer Expenditure Survey: Interview Survey 1984*, Bulletin 2267 and *Consumer Expenditure Survey: Diary Survey 1982-83*, Bulletin 2245.

The IRS 1984 Tax Model File consists of 74,556 taxpayer returns designed to represent the total U.S. tax filing population. A state identification code is included for all tax returns with an adjusted gross income less than \$200,000. As explained in Wallace-Moore and Riddle, these data were used to construct a sample that is representative of the Nebraska tax paying population. These data were used to calculate the distribution of the state personal income tax burden.<sup>14</sup>

### State Personal Income Tax

I assume that the state personal income tax is borne by income earners and is not shifted to other economic agents. I utilize a sample derived from the IRS Individual Tax Model File to determine the amount of the state personal income tax paid for 1987 and 1991 under the State

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<sup>13</sup>We used a scale factor to decrease the Midwest expenditures to a level which represents Nebraska. The scale factor is number of families in Nebraska divided by the number of weighted observations in the sample.

<sup>14</sup>For more information regarding the IRS data see Wallace-Moore and Riddle, "Who Pays the Nebraska State Personal Income Tax Before and After State Reform?" Chapter 4 in this volume.

Tax Reform of 1986.<sup>15</sup> The calculation of tax burdens by income group for several other taxes necessitates a consistent definition of income for all taxes. Because of this consistency, the definition of income used in this chapter differs slightly from the definition of income used in Chapter 4. Thus, the personal income tax burdens are somewhat different between Chapter 4 and those reported here, although the distribution of the burden is about the same in both cases.

Table 7-2 reports the distribution of the burden of the State Personal Income Tax. In both 1987 and 1991 the tax is progressive, the effective tax rate (or tax burden) increases as income increases. Concentrating on the second through tenth deciles, the burden ranges from .2 percent to 3.34 percent of income in 1987 and .19 percent to 3.45 percent of income in 1991. The largest change in the effective rate comes between the second and third decile, reflecting the phase-out of the zero-bracket amount and personal exemptions. In 1991 the effective tax rates increase due to the additional revenue generated.

## **General Sales Tax and Excise Taxes**

### **General Sales**

Most portions of the general sales and excise tax are assumed to be passed forward to consumers of final products. This is appropriate since the state sales tax rate in neighboring states is similar to that in Nebraska, so none of the neighboring states has an "edge" on any other in terms of lower prices. If one state did not have a sales tax, the prices of goods in that state would be lower than in other states where the tax is passed forward. If consumers were willing to travel to the lower-taxed state to buy goods, the retailers in the higher-taxed states would have to absorb the tax or lose their business to retailers in the lower-taxed state. If all states have a

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<sup>15</sup>For a complete description of the sample used see Wallace-Moore and Riddle, "Who Pays the Nebraska State Personal Income Tax Before and After State Reform?" Chapter 4 in this volume.

TABLE 7-2

**EFFECTIVE STATE PERSONAL INCOME TAX RATES,  
1987 AND 1991: BY POPULATION DECILE  
(in percentages)**

Decile	Income	Effective Tax Rate	
		1987	1991
1	Less than \$2,618	0.98	0.99
2	2,618 - 5,187	0.20	0.19
3	5,188 - 8,411	0.95	0.92
4	8,412 - 11,684	1.48	1.46
5	11,685 - 15,820	1.69	1.71
6	15,821 - 20,009	1.81	1.81
7	20,010 - 25,014	2.02	2.04
8	25,015 - 31,206	2.15	2.16
9	31,207 - 41,348	2.38	2.43
10	Greater than \$41,348	3.34	3.45
Average <sup>a</sup>		1.78	1.80

<sup>a</sup>The average effective tax rate is calculated based on the effective tax rates for the second through tenth deciles.

SOURCE: Nebraska Comprehensive Tax Study.

similar tax rate, the tax can be shifted forward to consumers without a loss of business since consumers have to travel very far to find a low (or no) tax state.<sup>16</sup> Since Nebraska's neighboring states have similar rates, the tax will be paid by consumers. Also, locally produced goods face little or no competition and therefore the tax can be shifted to the consumer. Since most goods that are taxed are fairly inexpensive it is not worthwhile for the consumer to purchase goods outside of the state. Therefore, most retailers face little competition and can shift the sales tax forward.

The incidence of the sales tax on agricultural products, specifically livestock and crops, is treated differently from the general sales tax on other goods. Since the prices for these goods are set in a highly competitive national market, any shifting of the tax through increased prices would result in a loss of demand for the products. The tax is therefore assumed to be borne by farmers and is allocated based on the distribution of permanent farm income.<sup>17</sup>

There is also an issue of allocating sales taxes on intermediate products to consumers. I utilize the Nebraska input-output table to allocate sales taxes on intermediate and final demand for each of the 46 industries listed in the input-output table. Appendix 7-A contains the actual methodology used. Basically, by using the input-output table, I am able to trace a sales tax on intermediate commodities through to the final product. For instance, some of the sales tax revenue reported by the agricultural chemical industry is paid by households directly when they purchase agricultural chemicals from the manufacturer in the form of gardening supplies, etc.

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<sup>16</sup>For a theoretical discussion of regional tax incidence, see C. McLure, "An Analysis of Regional Tax Incidence, with Estimation of Interstate Incidence of State and Local Taxes," Ph.D. dissertation, Princeton University, 1966.

<sup>17</sup>The calculation of permanent farm and business income is derived from the relationship between income and total expenditures. The actual method is described in Appendix 7-B.

However, some of the same tax is paid by the livestock industry when they make agricultural chemical purchases to produce livestock. The livestock industry therefore incurs some of the sales tax burden since I assume that the sales tax is shifted forward. This industry may then pass the burden forward to consumers in the form of higher prices for their output or they may absorb the tax in the form of decreased profits. Using the input-output table I can estimate the sales tax per unit of final demand by households taking into account the interactions between industries.

In addition to the complexity introduced by taxation of intermediate products, some of the sales and excise taxes are exported by tourist payment of the taxes and by exportation of output that has incorporated into its price the taxes that were paid on its intermediate components. Since tourists "take home" part of the tax, I do not want to allocate that portion of the tax to Nebraska residents. I estimate the amount exported by tourists traveling in the state to be 3 percent.<sup>18</sup> With the exception of sales tax revenue from lodging and agricultural products, 3 percent of each sales tax is allocated to out-of-state tourists. Based on data from the U.S. Travel Center, I calculate that 23 percent of lodging sales are made by out-of-state visitors and therefore allocate this percentage to tourists based on lodging expenses.<sup>19</sup> As is shown and detailed in Table 7-A1, the range of exported output is between 0 and 96 percent of total output. The most exporting is estimated to be done by the grain products industry.

Column 3 of Table 7-3 shows that, overall the general sales tax is regressive--as income increases, a smaller percentage of income is paid in sales taxes. (This result is similar to the findings in most studies including Pechman and Okner (1974) and Wisconsin (1979).) The

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<sup>18</sup>Mutti and Morgan, "The Exportation of State and Local Taxes in a Multilateral Framework: The Case of Household Type Taxes." This is based on United States Travel Center data which estimate travel dollars spent by tourists in each state.

<sup>19</sup>Mutti and Morgan report that out of state visitors pay approximately \$8 million in revenue in 1980. *Travel Trends in U.S. and Canada* reports that lodging constitutes approximately 20 percent of total expenditures. I therefore estimated that out of state visitors paid approximately \$1.6 million in taxes on lodging out of approximately \$7 million, or 23 percent.

TABLE 7-3

**EFFECTIVE TAX RATE, GENERAL SALES TAX  
AND SPECIFIC TAXES  
(in percentages)**

Decile	Income	Effective Tax Rate			
		General Sales Tax	Alcoholic Beverages Tax	Cigarette Tax	Motor Fuels Tax
1	Less than \$2,618	112.26	3.35	13.32	48.26
2	2,618 - 5,187	3.89	0.21	1.06	1.77
3	5,188 - 8,411	2.51	0.12	0.49	1.32
4	8,412 - 11,684	1.91	0.11	0.52	1.02
5	11,685 - 15,820	1.69	0.10	0.41	1.10
6	15,821 - 20,009	1.43	0.10	0.32	0.85
7	20,010 - 25,014	1.35	0.12	0.27	0.71
8	25,015 - 31,206	1.21	0.10	0.17	0.70
9	31,207 - 41,348	1.17	0.09	0.19	0.67
10	Greater than \$41,348	1.19	0.08	0.08	0.49
Average <sup>a</sup>		1.82	0.11	0.39	0.96

<sup>a</sup>The average effective tax rate is calculated based on the effective tax rates for the second through tenth deciles.

SOURCE: Nebraska Comprehensive Tax Study

burden ranges from 3.89 percent in the second decile to 1.19 percent of income in the highest income decile. The largest amount of regressivity occurs between the second and fifth deciles, with only mild regressivity in the top five income deciles.

### **Specific Sales and Excise Taxes**

In this section, I estimated the tax burdens of the per unit taxes on alcoholic beverages, cigarettes, and motor vehicles fuel. Table 7-3 presents the distribution of the selective taxes on alcohol, cigarettes, and motor vehicle fuels.

**Tax on Alcoholic Beverages.** The tax per gallon charged on alcoholic beverages is assumed to be passed forward to consumers. With the exception of the exportation of 3 percent of the tax to tourists, all of the tax revenue was allocated to consumers of alcoholic beverages at home and at restaurants. Column 5 of Table 7-3 shows that under this set of assumptions, this tax is regressive and it ranges from .21 percent in the second income decile to .08 percent of income in the tenth income decile. However, the difference in the burden between the second and third deciles is large compared to the burden in the remaining groups which suggests the poorer households spend a much larger percent of income on alcohol consumption. Due to the narrow scope of this tax, it imposes less of a burden on families than the general sales tax.

**Tax on Cigarettes.** The per unit tax on cigarettes is also assumed to be passed forward to consumers of cigarettes, with the exception of the 3 percent exportation to tourists. This tax is also basically regressive, with a slight increase in the tax burden for the highest income decile. The range of the cigarette tax is much wider than that for alcohol, from 1.06 percent in the second decile to .08 percent of income in the tenth decile.

Cigarette and alcohol taxes are generally referred to as "sin taxes"--that is, they are taxes on non-necessary (potentially harmful) consumption. The regressivity of such a tax may therefore be less important to policy makers than taxes on essential consumption.



**Tax on Motor Vehicle Fuels.** The tax on motor vehicles fuel is assumed to be passed forward due to a lack of competition and is distributed based on consumption by households, farmers, and business owners. I first estimate expenditures on gasoline by households, farmers, and business owners from the Consumer Expenditure Survey.<sup>20</sup> As discussed above, half of the consumption by business owners and farmers was assumed to be for personal use and that portion of the tax is distributed to business owners and farmers based on their consumption. Business owners are assumed to pass the remaining portion of the tax forward. This burden is distributed to all consumers based on total consumption expenditures. For consumption by farmers, it is assumed that half of the fuel is purchased for personal use. Farmers are assumed to bear the burden of the tax associated with fuel for business and personal use. Under these assumptions, the tax is regressive as is seen from column six of Table 7-3. The tax rate ranges from 1.77 percent in the second income decile to 0.49 percent in the tenth income decile.

### Property Taxes

Property tax revenues of \$950,426,265 were broken into five groups, residential, commercial, farm, personal property, and utilities based on data from the State and the Census.<sup>21</sup> Homestead tax credits of \$26,531,000 are also allocated to homeowners as described below.<sup>22</sup> In this section I discuss the distribution of the tax burden from residential, commercial, farm and

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<sup>20</sup>I estimate that 22 percent is exported out of the state and in the state households consume 84 percent, farmers consume 2 percent and business owners 14 percent.

<sup>21</sup>Residential constituted 36.1 percent, commercial 15.26 percent, farm 24.66 percent, and personal property 18.832 percent. The remaining 5.2 percent is from utilities.

<sup>22</sup>The homestead credit is a property tax credit for elderly, low income homeowners. To qualify for the credit in 1984, a homeowner must be 65 or older, with an adjusted gross income of less than \$10,400. The credit is allowed for a portion of property taxes paid based on a market value of not more than \$35,000. For more detailed information regarding the credit, see Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism*, (Washington, DC: ACIR, 1985).

personal property.

### **Personal Property Tax**

Since personal property value is mostly due to the value of motor vehicles, I used data on the number of motor vehicles purchased by households to estimate the percent of personal property value from households versus business. I estimate that 70 percent of the value of personal property is from households and 30 percent is from business.

The tax allocated to business is subsequently broken down into the tax on incorporated and unincorporated businesses. Using data from the City County Data Book and the Nebraska Statistical Handbook, I estimate that 40 percent of firms are incorporated and 60 percent are unincorporated.

Personal property value was estimated by income group using the relationship between income and assessed value of personal property derived from Census data.<sup>23</sup>

The tax paid by households is assumed to be borne by those same households, or no shifting of the tax occurs. The tax paid by business is assumed to be borne partly by business owners and part of the tax is assumed to be passed forward to consumers (through higher prices). The portion that is borne by business owners is allocated to households based on business income and that borne by consumers is allocated based on total consumption expenditures. Table 7-4 shows that the tax is generally regressive, ranging from 1.74 percent of income in the second income decile to 1.26 percent of income for the highest income group.

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<sup>23</sup>The regression estimated the coefficient on income to be .403. This result was used to estimate the assessed value of personal property. A property tax rate of 2.2 percent was then used to estimate personal property taxes paid by income group.

TABLE 7-4

**EFFECTIVE PROPERTY TAX RATE BY TYPE OF PROPERTY**  
(in percentages)

Decile	Income	Effective Tax Rate				
		Personal Property	Residential Property	Commercial Property	Farm Property	Total Property
1	Less than \$2,618	20.67	169.20	54.70	35.50	280.11
2	2,618 - 5,187	1.74	7.35	2.09	12.08	23.26
3	5,188 - 8,411	1.41	3.75	1.26	2.27	8.68
4	8,412 - 11,684	1.36	2.70	1.11	2.52	8.70
5	11,685 - 15,820	1.43	3.45	1.22	1.75	7.85
6	15,821 - 20,009	1.33	2.29	1.04	2.86	7.53
7	20,010 - 25,014	1.26	2.18	0.83	1.76	5.99
8	25,015 - 31,206	1.34	2.08	0.90	2.04	6.44
9	31,207 - 41,348	1.31	2.00	0.95	1.96	6.22
10	Greater than \$41,348	1.26	1.99	0.84	0.88	4.97
Average <sup>a</sup>		1.38	3.08	1.14	3.12	8.84

<sup>a</sup> The average effective tax rate is calculated based on the effective tax rates for the second through tenth deciles.

SOURCE: Nebraska Comprehensive Tax Study.

## Residential Property

The residential property tax was divided between owners and renters.<sup>24</sup> The owners of owner-occupied property are assumed to bear the full burden of the tax while the property tax on rental property is assumed to be shared by owners and renters.<sup>25</sup> The homestead credit is allocated to homeowners, aged 65 or older, based on the market value of their home, and the guidelines of the program.

Column 4 of Table 7-4 shows that this tax is also regressive but the range of the burden is much larger than it is for personal property, from 9.17 percent of income in the second decile to 1.99 percent of income in the tenth decile. The regressivity of the tax is most apparent in the second through fifth income deciles, reflecting that the percentage of housing costs to income for low income earners is substantial. The homestead credit decreases the burden for the first through sixth deciles. The largest impact of the credit is found in the second, third, fourth and fifth deciles. The credit only slightly decreases the overall burden for the first deciles because this group has fewer homeowners.<sup>26</sup>

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<sup>24</sup>Data from the Consumer Expenditure Survey allowed me to calculate market value of dwellings and the percentage of owners versus renters. I estimate that 64.5 percent own and 35.5 percent rent. For owner occupied dwellings I use the market value reported by survey participants. For renters, I calculate market value of rented dwellings as rent paid (1.07, representing the discount rate). For those receiving income from rented dwellings we made the same calculation. This gave us, by income group, the distribution of market value of property for renters and owners. Based on this, we could distribute property tax revenues by income group.

<sup>25</sup>The literature on property taxes and capitalization suggests that immobile factors will absorb the tax, reducing the return to the factor. Capitalization may or may not be complete. Since housing is fixed in the short run, less the competition for rental housing is very high, some of the tax burden may be shifted to renters.

<sup>26</sup>The residential property tax burden before the homestead credit is 9.17 percent of income versus 7.35 percent after the homestead credit for the second decile, 5.0 percent of income versus 3.75 for the third decile, 4.2 percent of income versus 2.70 for the fourth decile, 4.08 percent of income versus 3.45 for the fifth decile, 2.60 percent of income versus 2.29 for the sixth decile and 2.21 percent of income versus 2.18 for the seventh decile.

### **Commercial Property**

Commercial property tax paid is split between incorporated and unincorporated firms. The 40 percent allocated to incorporated firms is partially allocated to dividend earners (I assume that 50 percent of these are in Nebraska) and to all consumers based on total consumption. Of the 60 percent allocated to unincorporated firms, 50 percent is allocated to business owners based on business income, and 50 percent is allocated to all consumers based on total consumption.

Column 5 of Table 7-4 shows the distribution of the tax on commercial property. This tax imposes less of a burden on all taxpayers than the property tax on residential and personal property. The tax burden ranges from a high of 2.09 percent in the second income decile to a low of .84 percent in the tenth decile. Except for the second decile, this tax imposes less of a burden on consumers than the property tax on personal or residential property.

### **Property Tax on Farms**

The property tax allocated to farmers is based on an imputed assessed valuation of farms.<sup>27</sup> From column 6 of Table 7-4 I see that this tax appears more regressive in terms of the range (12.08 to .88 percent of income) than the other property taxes. In particular, the burden in the second income decile is 12.08 percent and it falls to 2.27 percent of income in the third income decile. The burden stays at about 2 percent until the tenth income decile where it falls to 0.88 percent of income. The income received by the agricultural sector is especially variable year-by-year. Since the tax is allocated based on imputed permanent farm income, that is, consumption expenditure, families reporting farm losses are allocated part of the tax. For a one year period, the burden on this low income group is therefore probably overstated, and the burdens in the third through tenth income deciles are more indicative of the regressivity pattern

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<sup>27</sup>Appendix 7-B outlines the method used to impute assessed value.

of the tax.

### **Overall Tax Burden**

As a summary, the system of Nebraska state taxes as examined here is regressive. This is true for the property, general sales, and excise taxes. The state personal income tax is an exception as it is a progressive tax over all income groups.

Table 7-5 compares the distributions of the tax burdens of each of the major taxes. Figure 7-1 graphically shows the distribution of the tax burdens (the first decile was dropped due to a scale problem). The overall burden is between 32.18 percent of total income in the second decile to 10.10 percent of total income in the tenth income decile. The property tax imposes the largest burden on all taxpayers while the excise taxes studied here impose the smallest burden on taxpayers. The overall tax burden decreases by 50 percent when moving from the second to third decile. Although this dramatic change is due largely to the property tax burden, the general sales and excise tax burdens also demonstrate large percentage changes in the tax burden between the second and third deciles.

Due to the interaction of the progressivity of the income tax and regressivity of all other taxes, the overall tax burden is similar for the seventh through tenth deciles. Therefore, the overall system is not as regressive as any of the individual taxes studied.

### **Alternative Tax Schemes**

Policy makers often are confronted with expanding tax bases to raise more revenue. Typical base expansion involves extending the general sales tax to food, gasoline, and services. Because of these proposals, I use data from the Consumer Expenditure Survey, and estimate the distribution of the tax burden on these commodities.

TABLE 7-5

**EFFECTIVE TAX RATES, SELECTED TAXES  
BY POPULATION DECILE  
(in percentages)**

Decile	Income	Effective Tax Rate				
		General Sales	Excise <sup>b</sup>	All Property	State Personal Income	Total
1	Less than \$2,618	112.26	64.93	280.11	0.98	458.28
2	2,618 - 5,187	3.89	3.04	23.26	0.20	30.39
3	5,188 - 8,411	2.51	1.93	8.68	0.95	14.07
4	8,412 - 11,684	1.91	1.65	8.70	1.48	13.74
5	11,685 - 15,820	1.69	1.61	7.85	1.69	12.84
6	15,821 - 20,009	1.43	1.27	7.53	1.81	12.03
7	20,010 - 25,014	1.35	1.10	5.99	2.02	10.45
8	25,015 - 31,206	1.21	0.97	6.44	2.15	10.77
9	31,207 - 41,348	1.17	0.95	6.22	2.38	10.72
10	Greater than \$41,348	1.19	0.65	4.97	3.34	10.15
Average <sup>a</sup>		1.82	1.46	8.84	1.78	13.91

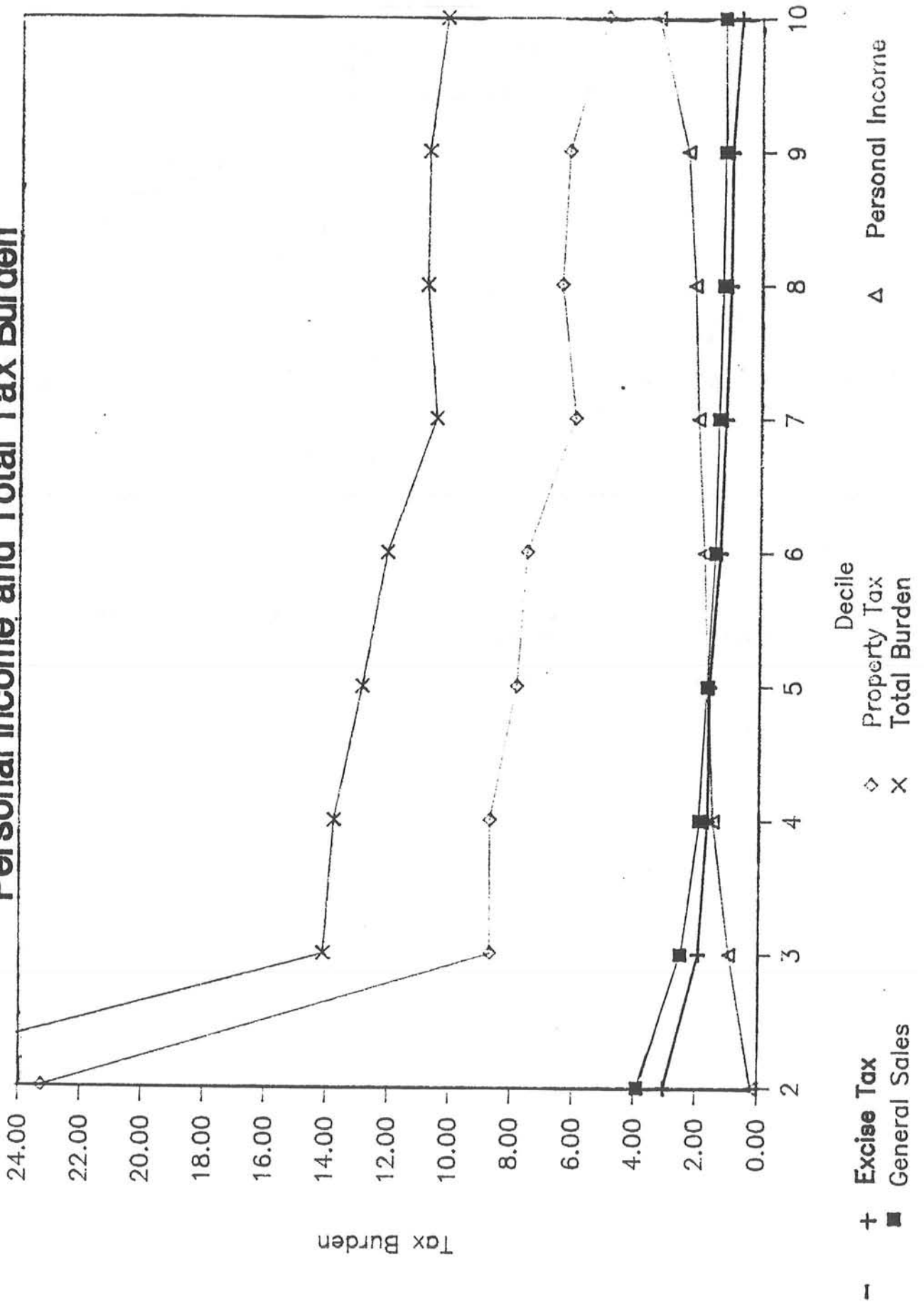
<sup>a</sup>The average effective tax rate is calculated based on the effective tax rates for the second through tenth deciles.

<sup>b</sup>Alcohol, motor vehicle fuels, cigarettes.

SOURCE: Nebraska Comprehensive Tax Study.

FIGURE 7-1

# General Sales, Excise, Property, Personal Income and Total Tax Burden





### **Sales Tax on Food**

As shown in Table 7-6 the sales tax on food is regressive, as expected. In most income groups, there is also a pattern of increased tax burden as family size increases (see Table 7-6). We expect that as family size increases, holding income constant, so too do food expenditures. As family size increases, the regressivity of the tax also increases. For families with one person, the tax burden varies from a high of .70 percent of income in the second income group to .05 percent of income in the highest income group. For a family size of four, the spread is 2.51 to .29 percent of income. The burden pattern for the first income group and the third income group with a family size of seven in Table 7-6 is irregular, possibly due to families growing their own food, (this leads to smaller than normal burdens), farm or business losses (leading to a larger consumption to income ratio) or a sampling problem since the number of observations for large family sizes is small.

A sales tax on food would generally be introduced along with an income tax credit for low income families to offset the regressivity of the food sales tax. Table 7-7 compares the average effective state personal income tax rates by income group and the food sales tax burden. The evidence in this table suggests that in the first and second income groups, tax credits exceed personal income tax payments and the state would have to reimburse households for the sales tax paid.

Table 7-8 shows the amount of tax paid by income group and family size under the 4 percent food sales tax. This table may serve as a basis for developing a system of credits. It gives an estimate of the amount of tax paid. Depending upon the equity criteria determined by the state, a percent of the tax paid could be returned as a tax credit for any or all income groups.

An income tax credit scheme to compensate for the regressivity of the sales tax requires several things to be put into place. Policy makers need to estimate the size of the tax credit by family size and by income. Second, the size of the credit should be indexed with food prices and

TABLE 7-6

EFFECTIVE TAX RATE FOR FOOD SALES  
 BY INCOME AND FAMILY SIZE:  
 4 PERCENT TAX RATE ON FOOD  
 (in percentages)

Decile	Income	Family Size <sup>a</sup>										
		1	2	3	4	5	6	7	8	9	10	14
1	Less than \$2,618	1.58	7.07	5.24	4.30	14.0	9.34	9.34	30.17	2.51		
2	2,618 - 5,187	.70	1.11	1.90	2.51					2.82		
3	5,188 - 8,411	.50	.83	1.01	1.34	1.00		4.90			2.80	
4	8,412 - 11,684	.48	.83	.65	.73	1.13	1.79					1.83
5	11,685 - 15,820	.27	.55	.61	.66	1.18	1.15					
6	15,821 - 20,009	.21	.39	.53	.68	.72	.77	1.06				
7	20,010 - 25,014	.13	.28	.37	.31	.57	.55	.42	1.21			
8	25,015 - 31,206	.13	.25	.37	.39	.39	.54	.80				
9	31,207 - 41,348	.10	.23	.22	.32	.40	.42	.61				
10	Greater than \$41,348	.05	.15	.18	.29	.26	.26	.41				

<sup>a</sup>The tax burden for decile 1 and decile 3 (family size 7) may be biased due to sampling procedures, or income and consumption variation. For more explanation see text.

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 7-7

**EFFECTIVE SALES TAX RATE ON FOOD AND EFFECTIVE  
STATE PERSONAL INCOME TAX RATE BY INCOME  
DECILE FOR 1987: 4 PERCENT  
NOMINAL TAX RATE ON FOOD  
(in percentages)**

Decile	Income	Effective Tax Rate	
		Food Sales Tax	State Personal Income Tax
1	Less than \$2,618	14.40	0.98
2	2,618 - 5,187	0.98	0.20
3	5,188 - 8,411	0.74	0.95
4	8,412 - 11,684	0.73	1.48
5	11,685 - 15,820	0.48	1.69
6	15,821 - 20,009	0.43	1.81
7	20,010 - 25,014	0.30	2.02
8	25,015 - 31,206	0.32	2.15
9	31,207 - 41,348	0.25	2.38
10	Greater than \$41,348	0.19	3.34
Average <sup>a</sup>		0.49	1.78

<sup>a</sup>The average effective tax rate is calculated based on the effective tax rates for the second through tenth deciles.

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 7-8

FOOD SALES TAX PAID/FOOD SALES TAX CREDIT<sup>a</sup>  
 BY INCOME AND FAMILY SIZE:  
 4 PERCENT NOMINAL TAX  
 RATE ON FOOD

Decile	Income	Family Size				
		1	2	3	4	5
1	Less than \$2,618	\$460,844	\$ 438,844	\$ 485,598	\$ 892,862	\$ 193,639
2	2,618 - 5,187	595,193	183,028	136,959	165,900	
3	5,188 - 8,411	831,117	1,027,189	358,773	213,469	57,375
4	8,412 - 11,684	639,178	1,450,467	408,225	329,923	367,978
5	11,685 - 15,820	984,975	1,447,908	587,640	432,378	422,220
6	15,821 - 20,009	579,020	1,077,042	762,086	531,482	258,020
7	20,010 - 25,014	539,755	1,037,931	890,436	241,764	585,570
8	25,015 - 31,206	121,967	717,706	896,136	2,081,757	504,226
9	31,207 - 41,348	236,454	1,661,179	1,340,634	2,249,026	1,081,655
10	Greater than \$41,348	47,138	2,106,195	1,790,237	1,711,464	1,027,455

		6	7	8	9	10	14
1	Less than \$2,618	\$127,925	\$ 23,270	\$144,903	\$6,789		
2	2,618 - 5,187		98,438				
3	5,188 - 8,411		246,050			\$ 5,715	
4	8,412 - 11,684	69,854				69,834	
5	11,685 - 15,820	177,103					
6	15,821 - 20,009	450,769	204,523				
7	20,010 - 25,014	316,057	86,550	287,647			
8	25,015 - 31,206	290,237	89,575				
9	31,207 - 41,348	242,614	17,294				
10	Greater than \$41,348	231,648	385,749				

<sup>a</sup>This assumes tax paid = tax credit.

SOURCE: Nebraska Comprehensive Tax Study.

the consumption data used to estimate the tax credits should be updated periodically to update the food consumption patterns. Third, policy makers must be willing to pay households that have allow negative income tax credits. Fourth, families eligible for the credit will have to file state income tax returns and compliance would have to be very high to avoid regressivity in sales tax on food.

#### **Four Percent Tax on Motor Vehicle Fuels**

The tax on motor vehicle fuels is regressive, as is shown by Table 7-9. The revenues realized from a 4 percent sales tax on motor vehicle fuels are approximately \$22 million based on our CES sample. The burden of a tax on motor vehicle fuels is not as high as one on food and it ranges from a high of 0.42 percent of income for the second income decile to a low of 0.11 percent of income for the tenth decile.

#### **Four Percent Sales Tax on Selected Services**

The sales tax on new services would yield approximately \$33 million in revenues as shown by Table 7-10.<sup>28</sup> These services are basically all but medical and business services, but include such services as cable services, personal services, and veterinarian services.<sup>29</sup> The distribution of this tax burden is regressive in the second decile through fifth decile. In the last five income deciles, the burden changes very little and actually increases between the ninth and tenth deciles. It therefore has a roughly proportional tax burden in these top five income deciles, in contrast to sales taxes on food or motor vehicle fuels, for the higher income earners.

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<sup>28</sup>The justification for taxing new services is explained in J. Due and L. Fairchild, "The Nebraska State and Local Sales and Use Taxes," Chapter 3 in this volume.

<sup>29</sup>The full list of newly taxed services is as follows (from Due): activity relating to tangible personal property; all repair, cleaning, dry cleaning, laundry, painting, rebuilding, work on motor vehicles, parking, storage, repair and maintenance of real property, personal services, commercial schools, nonfarm veterinary services, athletic instruction, commercial recreation, cable TV. Those services not taxed are professional services; hospitals; education and public transportation; and farm machinery repair.

TABLE 7-9

**TAX PAID AND EFFECTIVE TAX RATE FOR A  
FOUR PERCENT SALES TAX ON MOTOR  
VEHICLE FUEL**

<u>Decile</u>	<u>Income</u>	<u>Tax Paid</u>	<u>Effective Tax Rate (percent)</u>
1	Less than \$2,618	\$ 1,071,002	11.68
2	2,618 - 5,187	594,524	0.42
3	5,188 - 8,411	1,063,863	0.31
4	8,412 - 11,684	1,028,203	0.24
5	11,685 - 15,820	2,191,966	0.25
6	15,821 - 20,009	1,894,482	0.20
7	20,010 - 25,014	1,987,067	0.17
8	25,015 - 31,206	2,750,489	0.16
9	31,207 - 41,348	3,617,999	0.15
10	Greater than \$41,348	<u>5,826,761</u>	0.11
Total		\$22,026,360	
Average <sup>a</sup>			0.22

<sup>a</sup>The average effective tax rate is calculated based on the effective tax rates for the second through tenth deciles.

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 7-10

**TAX PAID AND EFFECTIVE TAX RATE FOR FOUR  
PERCENT SALES TAX ON SELECTED SERVICES**

<u>Decile</u>	<u>Income</u>	<u>Tax Paid</u>	<u>Effective Tax Rate (percent)</u>
1	Less than \$2,618	\$ 1,804,084	19.68
2	2,618 - 5,187	750,760	0.54
3	5,188 - 8,411	1,364,112	0.40
4	8,412 - 11,684	13,646,900	0.31
5	11,685 - 15,820	2,498,251	0.29
6	15,821 - 20,009	2,331,879	0.25
7	20,010 - 25,014	2,538,828	0.21
8	25,015 - 31,206	3,259,595	0.19
9	31,207 - 41,348	5,030,588	0.21
10	Greater than \$41,348	<u>12,085,408</u>	0.23
Total		\$33,010,411	
Average <sup>a</sup>			0.29

<sup>a</sup>The average effective tax rate is calculated based on the effective tax rates for the second through tenth deciles.

SOURCE: Nebraska Comprehensive Tax Study.

## Conclusions

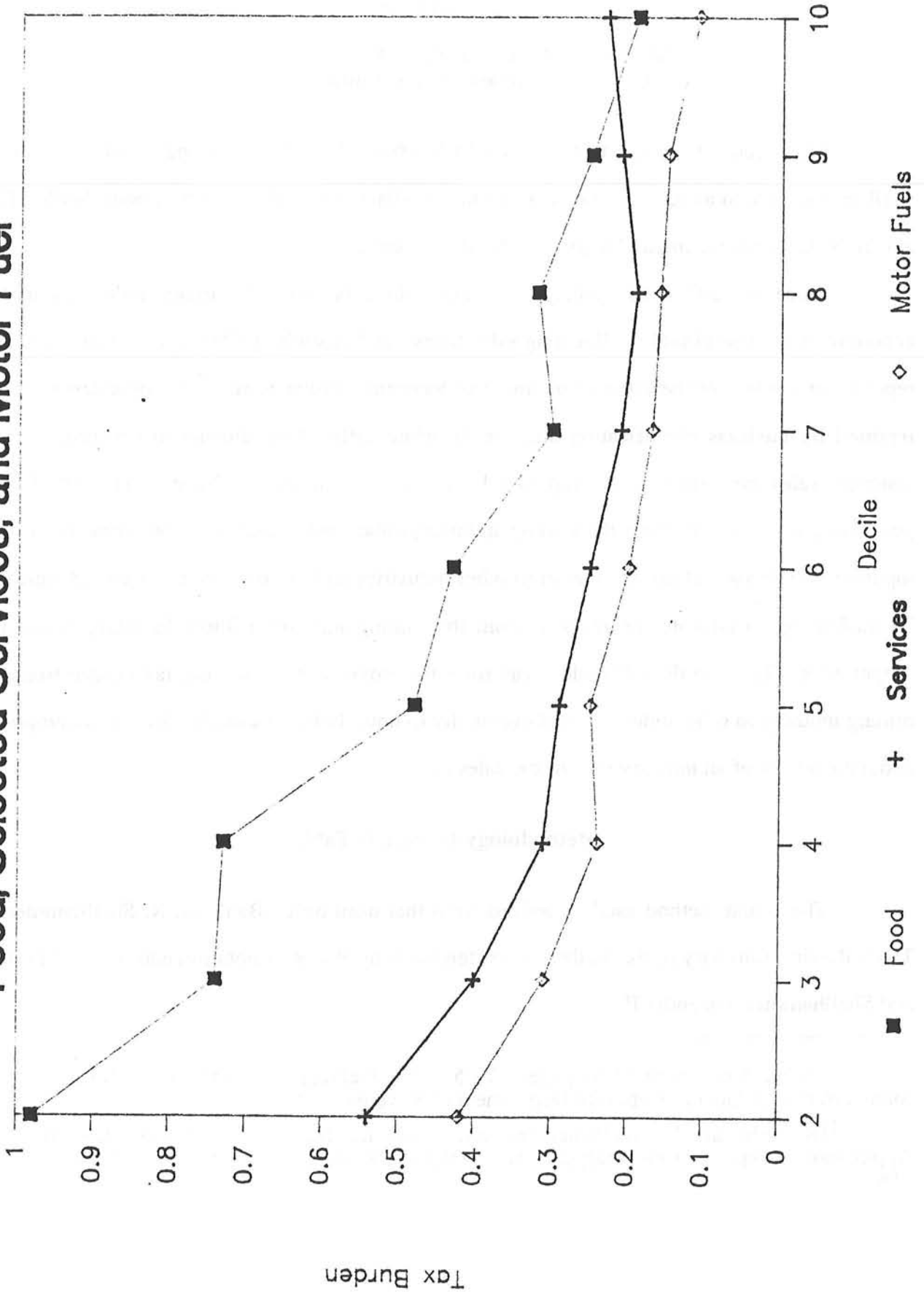
The overall burden of the general sales, property, state personal income, cigarette, motor vehicle fuels, and alcohol taxes is regressive in Nebraska. The state personal income tax is the only tax that is progressive. The property tax burdens are the highest of any single tax studied here.

The alternatives examined in this chapter include a 4 percent sales tax on food, selective services, and motor vehicle fuels. As shown in Figure 7-2, of these new taxes, the tax on motor vehicle fuels imposes the smallest increase in tax burdens. The sales tax on food increases tax burdens most for households in the second through ninth decile. The food sales tax would increase revenues the most but concerns about equity may have to be addressed through a credit system. These alternatives must be examined by the state and they must decide on the equity/revenue trade-off that they will accept.



FIGURE 7-2

# Effective Tax Rate from 4% Tax on Food, Selected Services, and Motor Fuel



## Appendix 7-A

### Allocation of General Sales Tax by Industry Using the Nebraska Input-Output Table

I received a 1976 Input-Output (I-O) table from the Nebraska Department of Revenue. I utilize this table to allocate the sales tax on intermediate and final products to households. This appendix discusses the methodology used for the allocation.

Since the I-O table contains the interactions between the major industries in the economy, it is a useful tool in allocating sales taxes. In this study, I allocated sales tax revenues reported in Table 3 of the 1984 Department of Revenue *Annual Report*.<sup>30</sup> These revenues are reported by business classification and are therefore difficult to allocate to consumers. For instance, sales tax revenues are reported by the mining industry. Most consumers do not purchase goods directly from the mining industry, rather, other industries purchase from their inputs from mining and sell the output to other industries and to households. It would therefore be misleading to allocate the revenue from the mining industry without knowing *where* the output goes. By using the I-O table, I can trace the movement of the sales tax burden from the mining industry to other industries and eventually to households. I can also include assumptions about the ability of an industry to shift the sales tax.

#### Methodology Using I-O Table

The actual method used is derived from that used by R. Bahl and K. Shellhammer.<sup>31</sup> The following summary of the method is written in terms of matrix notation and is found in Bahl and Shellhammer Appendix II.

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<sup>30</sup>Table 3 is contained on pages 39-45 of the Nebraska Department of Revenue, *1984 Annual Report* (Lincoln: Nebraska Department of Revenue, 1984).

<sup>31</sup>R. Bahl and K. Shellhammer, "Evaluating the State Business Tax Structure: An Application of Input-Output Analysis," *National Tax Journal*, Vol. 22, No. 2 (June 1969): 203-216.

$$X = AX + F \quad (1)$$

where

X: column vector of outputs (intermediate sales plus sales to households as final demand)

A: matrix of input-output coefficients [ $a_{ij} = (X_{ij})/(X_j)$ ] where

$X_{ij}$  = intermediate sales of industry i to industry j

$X_j$  = total output for industry j

F: column vector of final demand (by households)

Manipulating (1) yields:

$$\frac{T}{X} X \frac{T}{X} = (I-A)^{-1} F = T \quad (2)$$

where

T: column vector which contains tax payments by each industry

$\frac{T}{X}$ : nxn matrix with  $(T_i)/(X_i)$  on the main diagonal and 0's elsewhere

I: identity matrix with the same dimensions as A.

Taking the column sum of  $T/X(I-A)^{-1}$  yields a vector (Z) of the amount of tax payments per dollar of delivery to final demand by each industry j. Therefore the product of the elements of vector Z and the corresponding element of F is the tax by industry that is contained in household demand. These taxes can then be distributed to households based on demand for goods produced by industries. Table 7-A1 summarizes the allocation by industry.

Shifting of the taxes by industry can be incorporated through T/X. If an industry can shift a tax forward,  $T_i/X_i$  should include all of the sales that is reported by the industry. In our analysis I assume that all industries except agriculture can shift the tax forward. For agricultural

TABLE 7-A1

EXPORTATION OF OUTPUT AND SALES TAX AND ALLOCATION  
OF SALES TAX PAID, BY INDUSTRY

Industry, Department of Revenue Classification	Exportation of Output (percent)	Exportation of Sales Tax	Allocation Based on Consumption of:
Livestock	0	3% to tourists	Permanent farm income
Irrigated Crops	0	3% to tourists	Permanent farm income
Dryland Crops	0	3% to tourists	Permanent farm income
Meat Production	95	3% to tourists	Food eaten out, pet food
Dairy Production	45	3% to tourists	Food eaten out, pet food
Grain Production	96	3% to tourists	Food eaten out, pet food
All other foods	84	3% to tourists	Food eaten out, pet food
Publishing and Printing	50	3% to tourists	Newspapers and magazines
Agri. Chemicals - Production	90	3% to tourists	Gardening and pet supplies
Other Chemicals - Production	83	3% to tourists	Household, cleaning supplies
Metal Products	69	3% to tourists	Consumer durables
Farm Machinery and Equipment	80	3% to tourists	Lawn and garden supplies
Other Machinery	66	3% to tourists	Consumer durables
Trailers and Coaches	0	3% to tourists	Trailers and campers
Other Manufacturing	55	3% to tourists	All goods
General Merchandise and Food Stores	0	3% to tourists	Clothing, home furnishings, small appliances, personal products, drugs and supplies, household cleaning supplies
Farm and Garden Supplies	0	3% to tourists	Yard equipment, flowers and plants
Hardware and Farm Equipment	0	3% to tourists	Home construction supplies, yard equipment, tools
Automotive Supplies	0	3% to tourists	Car parts and vehicle rentals
Eating and Drinking Establishments	0	3% to tourists	Food eaten out, alcohol out
Other Retail	0	3% to tourists	Alcohol at home, medical and sports equipment, jewelry and rented home supplies
Wholesale Grocery and Related Products	0	3% to tourists	Housekeeping supplies, personal products and drugs and supplies
Other Wholesale	3	3% to tourists	All goods
Lodging	0	8% to tourists	Hotel, motel services
Personal Services	0	3% to tourists	Materials for personal services

TABLE 7-A1 (CONT.)

<u>Industry, Department of Revenue Classification</u>	<u>Exportation of Output (percent)</u>	<u>Exportation of Sales Tax</u>	<u>Allocation Based on Consumption of:</u>
Business Services	0	3% to tourists	All consumption
Medical Services	0	3% to tourists	Materials for medical services
Agricultural Services	0	3% to tourists	Pet and gardening goods
Educational Services	0	3% to tourists	Books and school supplies
Other Services	0	3% to tourists	Fees, rental of tangible goods, materials for vehicle service
Utilities and Communication	0	3% to tourists	Telephone and energy
Transportation and Warehousing	25	3% to tourists	All consumption
Building/Maintenance and Repair	0	3% to tourists	Home construction
Finance	35	3% to tourists	Income
Insurance	35	3% to tourists	Insurance
Real Estate	5	3% to tourists	Homeowners

SOURCE: Nebraska Comprehensive Tax Study.

industries,  $(T_i/X_i) = 0$  and the tax is allocated directly to farmers based on permanent farm income. The tax on agricultural final demand is therefore borne by and allocated to farmers.

Product exportation can also be accommodated in the final calculation of taxes to households by separating  $F$  into  $F^H$  and  $F^E$  where  $F^H$  = final demand by households in Nebraska and  $F^E$  = final demand exported from the state. Exports are estimated using the minimum requirements approach (explained below). Only the taxes due on  $F^H$  are allocated to Nebraska for calculating sales tax burdens.

I had to make one adjustment to the data since the I-O table is for 1976 and I use 1984 revenues. I scaled  $X_i$  <sup>76</sup> by a factor to approximate 1984 intermediate and final demand output. The scale factor is:

$$\frac{\text{total personal income by industry 1984}}{\text{total personal income by industry 1976}}$$

Total personal income is taken from the Bureau of Economic Analysis *Survey of Current Business* (August).

### Minimum Requirements Approach

The minimum requirements approach enables us to estimate the percent of output that is exported from the state.<sup>32</sup> The minimum requirements approach to estimating input activity is attributed to Ullman and Dacey.<sup>33</sup> Basically, exports are measured by comparing an activity indicator for the state in question to the same indicator, either value added or employment for

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<sup>32</sup>A comprehensive discussion is available in A. Isserman, "Estimating Export Activity in a Regional Economy: A Theoretical and Empirical Analysis of Alternative Methods," *International Regional Science Review*, Vol. 5, No. 2 (Winter 1980): 155-184.

<sup>33</sup>E. Ullman and M. Dacey, "The Minimum Requirements Approach to the Urban Economic Base," *Papers and Proceedings: Regional Science Association*, Vol. 6 (1960): 174-194.

similarly sized states. I use value added by industry from the U.S. Census, *Census of Manufacturers* as the activity indicator for most industries. When this was not available, total employment by industry was used.<sup>34</sup>

The actual calculation is as follows:

$$X_{ir} = [(E_{ir}/E_r) - (E_{im}/E_m)]E_r$$

where

$X_{ir}$ : Export by industry i for state r

E: Activity indicator

m: State with smallest activity indicator for state i

$E_{ir}$ : Activity in state r (Nebraska) for industry

$E_r$ : Total activity in state r

$E_{im}$ : Activity in state with smallest activity for industry i

$E_m$ : Total activity in state with smallest activity for industry i.

$X_{ir}$  therefore estimates the amount of export by industry. This is our estimate for exports and is found in column 2 of Table 7-A1.

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<sup>34</sup>Bureau of Labor Statistics *Employment, Hours, and Earnings: States and Areas* (Washington, DC: U.S. Government Printing Office, 1984).

## Appendix 7-B

### Data: Imputations and Limitations

#### Data Limitations

The Consumer Expenditure Survey (CES) is used in this analysis to estimate the distribution of expenditures by consumers in Nebraska. It is the best information that I have but nonetheless three limitations should be mentioned.

First, the best regional breakdown I can get from the CES is Census regions for urban consumers. Nebraska is contained in the Midwest region. Since I use observations from the Midwest I assume that Nebraska households are similar to others in the Midwest. To put the regional data on income and expenditures on a Nebraska scale, I use the number of families in Nebraska (from the Department of Revenue) divided by the total families in the Midwest (from the CES).

The second limitation comes from the sales tax data from the Department of Revenue. The data is reported by industry but the industry is self-classified by the proprietors. I have been warned by the Department of Revenue that misclassification can occur frequently under these circumstances. However, since it is our only option, I use the sales tax data as reported.

The third problem exists due to the negative income reported by some households (farmers and business owners) and the lack of information on permanent income. This yields tax burdens for the lowest income group that are grossly exaggerated, as has been noted in the text.

#### Property Value Imputation

Since I have very little information on farm and personal property from the CES, I had to impute property values to households to allocate property tax revenues. This was done in two steps.

First, a regression was run on assessed value of farm property as a function of farm income and assessed value of personal property as a function of total income by county using



data from the Census and the Department of Revenue. The second step uses this relationship between assessed value and income to estimate the assessed value of farm property and the assessed value of personal property for each observation in the Consumer Expenditure Survey data. The distribution of assessed value among income deciles is then used to allocate property tax revenues to income deciles.

The regression results are:

$$\text{Personal Property} = 2.7e+007 + .40 (\text{Income}) \quad (3)$$

$$\text{Assessed value of farms} = 1.3e+006 + 3.9 (\text{Farm income}) \quad (4)$$

### **Permanent Income Imputation**

In the case of farm and business owners, a measure of permanent income must be imputed to determine property values. A farm that has a bad year will report negative income. However, the farmer's property still has value. Using equation (4) may yield negative property values. I therefore impute a permanent income measure.

Permanent income is derived by regressing total income on total expenditures for all nonfarm and nonbusiness consumers. This regression yields:

$$\text{Total Income} = 17299 + .72 (\text{total expenditures}) \quad (5)$$

Equation 5 is then used to impute a measure of permanent income to farmers and business owners.



CHAPTER 8  
TAX EXPENDITURE CONCEPTS AND AN ANALYSIS OF  
SALES AND PROPERTY TAX EXPENDITURES<sup>1</sup>

by Michael Wasylenko and Daniel R. Mullins

**Introduction**

The "tax expenditure" concept was introduced and defined in the late 1960s by then Assistant Secretary of the Treasury for Tax Policy, Stanley S. Surrey, and was first applied in tax and expenditure analysis by the US Treasury Department in 1967-68.<sup>2</sup> Since its initial introduction at the federal level in the United States, the concept has been adopted internationally and by individual states.<sup>3</sup> The term was originally used to refer to the fact that many of the provisions of US income tax law, were enacted to advance economic and social policy through incentives (and sometimes penalties) for certain types of activity. In addition to the social efficiency that may be gained when particular activities are promoted through tax expenditures, they provide tax relief for low income groups, and also are used to reduce the administrative cost

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<sup>1</sup>The authors are grateful to Deborah Thomas and Eric Will from the Office of Nebraska Senator Vard Johnson for their comments on a previous draft of this chapter. This chapter is based on Michael Wasylenko and Daniel R. Mullins, "Tax Expenditure Concepts and an Analysis of Sales and Property Tax Expenditures, Nebraska Comprehensive Tax Study Staff Paper No. 13, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, March 1988).

<sup>2</sup>For a description of the initial development of the tax expenditure concept, see S. S. Surrey, *Pathways to Tax Reform* (Cambridge, Mass.: Harvard University Press, 1973).

<sup>3</sup>For a discussion of the international incidence of the application of the tax expenditure concept, see Organization for Economic Co-operation and Development (OECD), "Tax Expenditure: A Review of the Issues and Country Practices" (Paris: OECD, 1984); and P. R. McDaniel and S. S. Surrey (eds.), "International Aspects of Tax Expenditures: A Comparative Study," (New York: Kluner Law and Taxation Publishers, 1985). The State of California introduced tax expenditure analysis with the 1975-76 budget, while the technique has been more recently adopted in Colorado and Massachusetts, see W. M. Hildred, "Passive Tax Expenditures in State Income Taxes," reproduced in 123 Cong. Rec. 25121 (1977) and Commonwealth of Massachusetts, *The Tax Expenditure Budget* (1984).

associated with the taxation of certain types of income, consumption or property. Thus, tax expenditures can have both social efficiency and equity rationales.

Failure to incorporate analysis of tax expenditures into the budgetary process can yield some distortions in the scope and direction of public policy. The estimated federal outlay equivalence of tax expenditures reached nearly 1/2 trillion dollars in 1986.<sup>4</sup> Tax expenditures are controlled only indirectly and are not generally controlled by the same legislative review process as direct government expenditures. This lack of review can lead to results tolerated in tax expenditures that would not pass scrutiny if the same activities were subsidized using direct government expenditure.

For the income tax, this issue is particularly heightened in the context of state governments which use federal tax provisions (regarding the determination of taxable income and tax credits) as the basis for levying state income taxes. In effect, reliance on federal income tax definitions delegates major areas of state policy making to federal government officials. The result is a form of "passive tax expenditure" on the part of the state.<sup>5</sup> The resulting objectives pursued through state tax policy become those of the federal government rather than the state. The magnitude of this passive expenditure increases with the degree of coupling of the state's income tax to the federal structure. In the case of Nebraska, the implications were especially important before Nebraska decoupled from the federal income tax as its base was susceptible to virtually all federal tax expenditures.<sup>6</sup>

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<sup>4</sup>Executive Office of the President, Office of Management and Budget, *Special Analysis, Budget of the United States Government, Fiscal Year 1988* (Washington, D.C.: U.S. Government Printing Office, 1987).

<sup>5</sup>See W. M. Hildred and J. V. Pinto, "Passive Tax Expenditures: Estimates of States' Revenue Losses Attributable to Federal Tax Expenditures," *Journal of Economic Issues*, Vol. 20, No. 4 (December 1986): 941-952.

<sup>6</sup>For a discussion of this coupling, see S. Wallace-Moore, "The Distribution of Tax Burdens in Nebraska for the State Personal Income, Sales, Excise and Property Taxes," Chapter 7 in this volume; and S. Wallace-Moore and B. L. Riddle, "Who Pays the Nebraska State Income Tax Before and After State Reform?" Chapter 4 in this volume.

Tax reform at the federal level highlights the impact of alterations in federal tax provisions on state corporate and personal income tax bases and revenue. At the federal level, the rate of growth of tax expenditures over the past several decades has been faster than the rate of growth in appropriations. However, the 1986 Tax Reform Act reduced federal and, thus, passive state, tax expenditures \$473.5 billion in 1986 to \$328 billion in 1988.<sup>7</sup> Nevertheless, their potential effect at the state level remains great. Indeed, one study suggests that 1981 passive personal income tax expenditures in the State of Nebraska were equal to 120.9 percent of the states personal income tax revenue.<sup>8</sup> While methodological shortcomings might render the accuracy of this estimate suspect for 1981 let alone 1988 (considering the changed circumstances); it is still indicative of the potential magnitude of such passive expenditures.

In the next section of this paper, we discuss the conceptual underpinnings of the tax expenditure concept. As the tax expenditure idea was developed for the individual income tax, the conceptual discussion is to a large extent in terms of the personal income tax. The second section gives a brief overview of the tax expenditures that are estimated for various taxes in Nebraska. The third and fourth sections contain an analysis of the tax expenditures for sales and property taxes in Nebraska. Conclusions are drawn in the final section.

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<sup>7</sup>Executive Office of the President, Office of Management and Budget, *Special Analyses, Budget of the United States Government, Fiscal Year 1988* (Washington, D.C.: U.S. Government Printing Office, 1987). Outlay equivalence refers to the equivalent amount that would be required to be expended through direct means to deliver the same level of assistance for a given purpose. However, caution should be used in interpreting these figures in the aggregate, as significant problems emerge in attempts to add expenditures across categories and in making inferences as to the amount of revenue which would be collected if the provision were removed as will be explained below [Is the problem of adding across categories existent in the case of outlay equivalence or are the problems only in assuming that by removing the provision that an equivalent amount of additional revenue will be generated.]

<sup>8</sup>Hildred and Pinto, "Passive Tax Expenditures."

### Conceptual Issues in the Identification and Analysis of Tax Expenditures

The tax expenditure concept partitions the income tax into two distinct components: 1) Structural Provisions and 2) Special Preferences. The structural element means defining a baseline tax system that includes a definition of *normal income tax*, such as the definition of net income, the specification of accounting rules, the determination of the entities subject to tax [and] the determination of the tax rate schedule and exemption levels.<sup>9</sup> The special preferences, or tax expenditures, are departures from the *normal tax structure* and are designed to favor a particular industry, activity, or class of person. They take many forms, such as permanent exclusions from income, deductions, deferrals of tax liabilities, credits against tax, or special rates. Whatever their form, these departures from the *normative tax structure* represent indirect government spending for favored activities or groups.

While this definition of the tax expenditure concept may appear straightforward, the normative nature of designating a baseline tax structure and, therefore, what is and is not a tax expenditure, lead to problems in measuring the actual costs of tax expenditure. The construction of a tax expenditure budget is likely to be controversial. To the extent that the baseline tax structure is an abstraction, there is room for legitimate disagreement regarding its composition and, thus, whether certain provisions are properly characterized as tax expenditures.

#### **Tax Expenditure Defined**

At the federal level, tax expenditures are legislatively defined as "revenue losses attributable to provisions of the federal tax laws which allow special exclusion, exemption, or deduction from gross income or which provides a special credit, a preferential rate of tax, or a

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<sup>9</sup>S. S. Surrey and P. R. McDaniel, *Tax Expenditures* (Cambridge, Mass.: Harvard University Press, 1985), p. 3.

deferral of liability."<sup>10</sup> This definition is supported by a legislative history which suggests that tax expenditures are to be defined in reference to a "normal income tax structure." However, this general definition is lacking in specificity sufficient to operationalize fully the concept for practical application. "The word 'special' is not explicit enough to carry the definition..."<sup>11</sup> nor is the term 'normal' adequately defined. This has left the specifics of the operationalization largely to technicians.

While there are difficulties and normative judgments involved in separating "special" provisions from the "normal tax structure," the formulation followed has generally been that originally developed by the Treasury. This formulation has proven adequate to the complexities involved and is regarded as highly systematic and objective in its approach. Its employ has resulted in the independent replication of tax expenditure items and budgets by agencies as diverse as the US Department of the Treasury, the Office of Management and Budget (OMB), the Congressional Budget Office (CBO) and the Joint Committee on Taxation (JCT) of the U.S. Congress. The definitional guidelines supplied by this framework have proven extremely effective in consensually identifying items to be designated tax expenditures. Once agreement is reached on the components of the "normal structure" and aberrations from it, the most fundamental component in tax expenditure analysis has been completed.

### **Establishment of the Normative Tax Structure<sup>12</sup>**

Identification of the normative tax structure requires explicit consideration of six essential components of an income tax structure. Provisions which depart from the normative

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<sup>10</sup>Executive Office of the President, p. 3.

<sup>11</sup>Surrey and McDaniel, "The Tax Expenditure Concept: Current Developments and Emerging Issues," p. 231.

<sup>12</sup>Unless otherwise noted, material and presentation format for this section is drawn largely from Surrey and McDaniel, *Tax Expenditures*, pp. 186-222; and McDaniel and Surrey, *International Aspects of Tax Expenditures: A Comparative Study*, pp. 21-49.

definition of these components (i.e., are not intended to or do not advance them) are tax expenditures. These components are 1) the base of the tax, 2) the period of measurement of the base (accounting period), 3) the taxable units 4) the rate structure applied to the base of the each taxable unit, 5) treatment of international (or in the case of the states, inter-state) transactions, and 6) necessary administrative considerations/accommodations. These components will be discussed in more detail below and definitions will be presented as generally established for the federal income tax. It should be noted, however, that behind the definition of each component lies established policy decisions which transcend pure tax theory. Basic decisions regarding these components rely upon philosophy, history and socio-political factors. Once these decisions are made, however, technicians can use them to refine the normative structure and identify tax expenditures.

### **Tax Base**

The crucial structural task is to define exactly what constitutes the tax base, that is, in the case of an income tax: What constitutes income? How is the tax base to be measured (e.g., is a comprehensive conception of income to be utilized, including imputed rents)? What departures from that base are to be considered structural components?

### **Accounting Period**

Once the tax base is determined, the period over which the base is to be measured and the allocation of items of income to the appropriate accounting period is still left to be decided. The taxable period, therefore, relates to two sets of issues. First is the determination of the period itself and the treatment of deviations from it. In the case of the income tax, such deviations would include rules designed to ameliorate the overly rigid application of the period for income unevenly spread, such as income averaging and loss carryback/carryforward. The second set of issues concerns the rules regarding assignment of receipts and expenditures to the proper tax period and deviations from those rules, such as accelerated depreciation, installment reporting of



gains, and deferred compensation and retirement plans.

### **Taxable Unit**

Once establishing the tax base and accounting period (and methods), policymakers must address the issues involved in the specification of the taxable unit, i.e., who or what entity will be subject to the tax. Typical issues involved in the determination of the taxable unit for the personal income tax include whether it will be the individual or family (and how each is defined) and how individual trusts are to be treated. Accompanying issues involve how to treat single versus married persons versus single persons with dependents versus single persons living together and single versus multiple income households.

Such issues with respect to business income taxation include the treatment of partnerships, corporations, cooperatives, insurance and investment companies, nonprofit organizations and governmental units. Related issues include whether partnerships are to be treated as separate entities or as an aggregation of its individual partners, such treatment of corporations and shareholders, and transactions between affiliated corporations.

### **Rate Schedule**

The next series of issues to be decided involve the rate schedule to be used and, in the case of the personal income tax, the level of income at which it should be applied. Accompanying issues to be determined are: "Should the applied rates be progressive, proportional or regressive?" and "At what dollar level of income should the tax begin?" Again, there is no normative rate schedule or exemption level to guide tax analysts, these are matters for public policy makers to decide. Once a "general" rate schedule is chosen, however, a critical basis for tax expenditure analysis has been established by which to analyze provisions offering departures from the general rate schedule for specific activities or groups. Issues of significance for the personal income tax include the role of "basic" personal and dependent exemptions, different rates for different types of income, variations in rates for different taxable units, and

inflation adjusted tax brackets. The primary issues involved in the corporate income tax include, for example, the normative status of a flat rate tax and the role of selective rates for businesses of particular size and type.

### **Administration**

Problems associated with tax administration may force some departures from the "technical precision" of the normative structure. When departures are genuinely necessary as the best or only available method to apply the tax so as to reach as close an approximation of the normative structure as possible, a tax expenditure does not exist. However, should deliberate procedural departures take place to avoid administrative costs or complexity when alternative taxation means exist that would more closely reflect the normative structure of the tax system, a tax expenditure (or penalty) does exist and should be identified (if for no other reason than to estimate the cost of the procedure). Issues of tax administration potentially resulting in tax expenditures include special tax payment rules, preferential interest rates and special valuation schemes.

## **Tax Expenditure Reporting in Nebraska**

### **Basis Report Characteristics**

Nebraska is one of 19 states to issue annual or biannual tax expenditure reports.<sup>13</sup> This report is required under provisions of the Tax Expenditure Reporting Act, sections 77-397 through 77-385, R.R.S. 1943. It is produced biannually, during odd numbered years. The specific character of tax expenditure reporting in Nebraska is as follows:

**Tax Expenditures Defined:** a reduction in revenue occurring through: 1) an alteration in the base of a tax due to exemptions, deductions or exclusions; 2) tax deferrals; 3) credits; and 4) the introduction of preferential rates.

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<sup>13</sup>Legislative Commission on Public Private Cooperation.

**Level of Inclusion:** All tax programs generating state or local revenue in excess of \$2 million annually.

**Specific Tax Programs Included:**

- Sales and Use Taxes
- Property Taxes
- Individual, Fiduciary and Corporate Income Taxes
- Ad Valorem Franchise Tax
- Alcoholic Beverage Tax and Fees
- Bingo, Lottery, Raffle Tax
- Cigarette Tax
- Corporation Occupation Tax
- Estate Tax
- Inheritance Tax
- Insurance Premium Tax
- Local Occupation and License Tax
- Lodging Tax
- Fuel Taxes
- Motor Vehicle Registration and Licensing Fees
- Oil and Gas Severance Tax
- Parimutuel Wagering Tax
- Public Power and Irrigation Districts' Gross Revenue Tax

**Analysis of Nebraska Sales Tax Expenditures**

The normal base of the sales tax is total expenditure on goods and services produced for final consumption. This definition of the normal tax base excludes sales of intermediate products and machinery, equipment and structures that are used to produce both intermediate goods and final goods and services. Intermediate products are appropriately excluded from the sales tax base to avoid tax pyramiding, or multiple taxation of commodities and their components at various stages of production.

When final goods and services are omitted from the sales tax base, tax expenditures are positive. But when sales items other than final goods and services are included in the tax base, these are negative tax expenditures or the state is collecting revenues from a tax base outside of the normal sales tax base. To varying degrees, all states tax intermediate sales of commodities, and also do not record these tax receipts as negative tax expenditures.

Positive sales tax expenditures in Nebraska fall into three categories: exemptions, deductions and credits. The first category, exemptions, refers to items that are excluded from the sales tax base. Credits generally apply to situations where a sales tax payer is entitled to a sales tax refund because the payer is a tax exempt organization. Deductions are generally limited to collection fees that merchants, retailers and other sales tax collectors withhold from the sales tax collections that they pay to the state. In addition, the state takes a 3 percent administrative fee from the proceeds of local sales and use taxes that it collects on behalf of local governments. As the tax expenditure amounts for deductions and credits are small and the rationales for these tax expenditures are straightforward, they will not be discussed further in this chapter. We turn instead to tax expenditures due to exemptions of major items from sales taxes.

Sales tax expenditures are in some ways more complicated to analyze than income tax expenditures. While we begin with a comprehensive definition of the sales tax base, other taxes levied on that base may be a rationale for exempting a portion of the base from sales taxation. For example, if a commodity, such as motor fuel, is subject to an excise tax, is it appropriate to tax the same commodity under the sales tax? Depending on the answer to this question, we have or do not have a tax expenditure, if gasoline is not subject to the general sales tax.

Tax expenditures are grouped here into three categories: exemption for purchases made by tax exempt organizations, exemptions on sales of intermediate products, and exemptions of final goods and services (see Table 8-1).

### **Tax-Exempt Organizations**

Governmental, religious, community and some nonprofit organizations are traditionally exempt from sales taxation. In 1987, the Nebraska Department of Revenue estimates that the sales tax exemption cost about \$120 million (see Table 8-1). About \$81 million of the tax expenditure results either from direct state government purchases or from purchases made by its contractors. Exempting purchases of religious organizations, schools and hospitals from sales

TABLE 8-1

CATEGORIES AND AMOUNTS OF NEBRASKA SALES TAX EXPENDITURE  
DUE TO EXEMPTION OF SALES: 1987

Statutory Reference	Description	Amount
<u>Exempt Purchases Made by Organization</u>		
60-335.01	Municipally owned public transit	\$ 59,000
77-2704 (1) (a)	U.S. Government purchase of utility services	8,601,000
77-2704 (1) (g) (i)	Meals and food purchased by schools, etc.	2,215,000
77-2704 (1) (g) (ii)	Meals and food purchased by churches	200,000
77-2704 (1) (g) (iii)	Meals and food purchased by hospitals	2,344,000
77-2704 (1) (i)	Purchases made by religious organizations, schools, hospitals, etc.	20,643,000
---	or a contractor for these organizations	4,244,000
77-2704 (1) (l) (i)	Purchases by the state or its contractors	80,972,000
77-2704 (1) (m)	Purchase price of motor vehicles donated to VA or U.S. Department of Social Services	18,000
77-2704 (1) (r)	Tangible personal property sold by parent-booster clubs, etc.	343,000
Regulation 1-083	Meals furnished at fraternities, sororities, etc.	<u>181,000</u>
Total exemptions for organizations		\$ 119,990,000
<u>Exempt Purchases of Intermediate Commodities Counted as Tax Expenditures</u>		
77-2704 (1) (b) (i)	Fuel for aircraft	\$ 2,528,000
77-2704 (1) (b) (ii)	Minerals, oil, gas severed from ground	7,363,000
77-2704 (1) (j)	Sales of fuels used in manufacturing or farming	36,354,000
77-2704 (1) (o)	Semen for use in ranching, farming, etc.	216,000
77-2702 (4) (b) (iii)	Water for farm or industrial use	361,000
77-2702 (4) (b)	Gross receipts from telephone advertising	1,822,000
77-2702 (4) (c) (i)	Charges for training customers to use computer software	1,320,000
77-2702 (4) (c) (ii)	Gross income received from videotape and film rentals when tax is charged on admission	697,000
77-2702 (11) (a)	Tangible personal property used as an ingredient in manufacturing and processing for resale	479,210,000
1-056.02A	Artwork prepared by an advertising agency	92,000
77-2702 (11) (b) (ii)	Water for consumption by and care of animal life	37,812,000

TABLE 8-1 (CONT.)

Statutory Reference	Description	Amount
77-2702 (11) (b) (iii)	Seeds and annual plants sold to commercial producers	7,469,000
77-2702 (11) (b) (iv)	Agricultural chemical	20,748,000
77-2702 (11) (c)	Containers sold for filling and resale of contents	12,097,000
77-2702 (11) (f)	Materials and replacement parts when used in repair, maintenance and manufacture of railroad rolling stock.	11,402,000
77-2702 (11) (g)	Railroad rolling stock	4,852,000
77-2702 (12) (a) (ii)	Rentals of railroad rolling stock	473,000
1-80.01	Documents furnished by government agency	1,000
1-90.02	Blueprints, abstracts, etc.	74,000
77-2702 (14)	Sales of tangible personal property intended for resale or rental	829,229,000
1-056	Advertising services	5,820,000
1,057.3	Charges for postage, addressing and other preparation for mailing	1,924,000
77-2702 (17)	Tangible personal property to be shipped out of state	316,000
77-2702 (11) (b) (i)	Animal life whose products constitute food for human consumption	<u>207,221,000</u>
Total Exemptions for Intermediate Commodities		\$1,669,411,000
<u>Exempt Purchases of Final Goods and Services</u>		
77-2704 (1) (b) (iii)	Motor fuels such as gasoline	\$ 42,472,000
77-2704 (1) (d)	Newspapers	1,927,000
77-2704 (1) (f)	Prescription medicines	9,049,000
1-052.3	Florist deliveries made in Nebraska from orders received outside the state	280,000
77-2704 (1) (h)	Tangible personal property shipped outside the state pursuant to a sales contract from outside the state	1,455,000
77-2704 (1) (k)	Use of coin operated laundering and cleaning	372,000
77-2704 (1) (n)	Magazines and journals purchased through subscription	1,093,000
77-2704 (1) (q)	Food or food products for human consumption not including meals prepared for immediate consumption	64,756,000

TABLE 8-1 (CONT.)

Statutory Reference	Description	Amount
1-056.06	Interstate toll charges	2,506,000
77-2702 (4) (d) (i)	Cash discounts allowed and taken on sales including coupons issued and redeemed by retailers	38,823,000
77-2702 (4) (d) (iv)	Finance, carrying, service or interest charges under a deferred payment plan	121,000
1-066.09	A separately billed charge for the late payment of a utility bill	162,000
77-2704 (4) (d) (v)	Value of trade-ins taken in connection with a sale of tangible personal property	1,455,000
77-2702 (4) (d) (vi)	Value of motor vehicle taken as a trade-in on the sale of another motor vehicle	11,782,000
1-059.3	Charges for tire and tube repairing	49,000
1-001	Rental of safe deposit box	85,000
77-2702 (6) (b)	Garage sales at which household goods are sold	300,000
1-036.04	Purchase of a gift certificate	21,000
77-2702 (10) (d)	Admissions charged by public or private elementary or secondary schools	56,000
1-044.2	Membership dues	2,914,000
1-044.10	Receipts from coat or hat checkroom	21,000
1-087	Garden seeds, bulbs and plants that produce food	243,000
1-067.03	Charges for flying lessons, banner towing, crop dusting, etc.	291,000
77-2702 (12) (a) (iii)	Room rentals for less than 30 days by hospitals, nursing homes and other facilities licensed by the state	23,087,000
77-2702 (13) (f)	Lodging rented or leased for 30 days or longer	28,854,000
1-018.09	Rentals or leases of cabin trailers	346,000
1-037.03	Purchase of trading stamps or stamped redeemed for cost	80,000
Total Exempt Purchases of Final Goods and Services		\$ 235,220,000

SOURCE: Nebraska Department of Revenues, Tax Expenditure Report 1987 (Lincoln, NE: October 15, 1987), Section A.

taxation accounts for another \$20 million of the tax expenditure.

It clearly would not be a net gain in revenue if the government collected sales tax revenue from itself. In addition, given the tradition among states of exempting religious, community and other nonprofit institutions from sales taxation, it would not be useful to recommend a change in these exemptions. Of course, the taxation of religious bodies would be a violation of the separation of church and state, if not a violation of the State Constitution. While there is no argument here to terminate sales tax exemptions to these organizations, policymakers should monitor the growth in the size of these tax expenditures. Rapid growth in tax expenditures in this category might signal that some portion of these tax expenditures could be for purchases that are not legitimately in the tax exempt category.

#### **Sales Tax Expenditures on the Purchases of Intermediate Goods and Services**

The second part of Table 8-1 lists the tax expenditures that the Nebraska Department of Revenue attributes to exempt purchases of intermediate commodities. They estimate that these exemptions cost the State of Nebraska about \$1.7 billion, but sales tax principles would exclude transactions of intermediate commodities from the sales tax base. In fact, revenues that the State of Nebraska now receives on transactions on intermediate commodities should be listed as negative tax expenditures, as these revenues are collected on transactions that, in principle, do not belong in the normal sales tax base. Thus, the judgment on this issue is that exempting intermediate goods from the sales tax base does not represent a tax expenditure.

#### **Sales Tax Expenditures on Final Goods and Services**

This category of tax expenditures is listed in the third part of Table 8-1. The Nebraska Department of Revenue estimates that for 1987 these exemptions from sales taxation cost the State of Nebraska \$235 million in sales tax revenue. Seven of the 27 categories of exempt final goods and services account for \$215 million of the \$235 million total tax expenditure. These seven tax expenditures are discussed below in the order in which they appear in Table 8-1.



The exemption of motor fuels from the general sales tax reduces sales tax revenues by about \$42 million. The major reason for the exemption of motor fuels from general sales tax is that there is a separate excise tax levied on motor fuel sales. While, in principle, the State could levy both a sales and an excise tax on gasoline, as it does for alcohol, the high level of the excise tax on gasoline may preclude motor fuels from general sales taxation. To explain briefly, deciding on the optimal level of sales taxation for any commodity depends inversely on its price elasticity relative to that of other goods.<sup>14</sup> It seems that the price elasticity for fuel may be lower than most other goods, but without more empirical evidence on price elasticities, it is not clear that overall tax rates on motor fuels should equal the excise plus the general sales taxes. Given the existing level of excise taxes on gasoline and the considerations of optimal tax theory, it would be difficult to support a recommendation to levy the general sales tax on motor fuel.

The second major sales tax expenditure is the exemption of prescription medicines from general sales taxes, which cost the state \$9 million per year. However, 44 of the 46 states that levy a sales tax exempt prescription drugs from sales taxation. There are two rationales for this exemption: (1) equity, and (2) the exemption of purchases due to illness or calamity. The inequity of the sales tax on prescription drugs could be addressed through a personal income tax credit for filers with low incomes. Thus, the latter reason is more compelling for exempting prescription drugs. While tax principles alone would not, therefore, rule out taxation of sales of prescription drugs, the overwhelming majority of sales tax states apparently do not have the political will to tax purchases made as a result of illness, and no recommendation is made here to tax prescription medicines.

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<sup>14</sup>This result is limited to a particular set of assumptions and is known as the inverse elasticity rule. For discussion, see R. Boadway and D. Wildasin, *Public Sector Economics*, 2nd edition (Boston: Little Brown, 1984), pp. 243-245.

A third major sales tax expenditure is the exemption of food purchased in grocery stores. Twenty-nine of the 46 states that levy the sales tax exempt food bought in grocery stores from sales taxation. This exemption costs Nebraska about \$65 million in general sales tax revenue. The rationale for exempting food is tax equity. The taxation of food sales is clearly regressive over the entire income distribution.<sup>15</sup> If food were subject to sales taxation, the tax regressivity could be partially offset by giving low income households a reimbursable income tax credit for their sales tax paid on food purchases at grocery stores.

The income tax credit that would exactly offset the regressivity of the sales tax on food is complex, and not easily implemented. In addition to being reimbursable when no income tax is due, the ideal tax credit should vary with household size and income level.<sup>16</sup> The eight states that grant an income tax credit for food sales taxes reimburse households with incomes under \$15,000 and for some the maximum credit ranges between \$15 and \$25. Unless Nebraska was prepared to adopt a more sophisticated income tax credit than those that presently exist for food sales taxes, a simple credit would not relieve the regressivity of sales taxes on food, and we could not recommend a sales tax on all foods purchased in grocery stores.

There is a case to be made, however, for levying a sales tax on nonbasic food items and maintaining the sales tax exemption for basic food items. This former category certainly includes candy and soft drinks, and may be extended to most nonbasic food items. A list of basic food items would include milk, bread, fresh fruit and vegetables, cereals, flour, fresh meat, fish and many other basic foods. But levying the sales tax on spices, cookies, crackers, ice cream, so-called gourmet or fancy foods, such as specially blended imported coffees and cheeses, and a

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<sup>15</sup>See Wallace-Moore, "The Distribution of Tax Burdens in Nebraska for the Personal Income, Sales, Excise and Property Taxes," Chapter 7 in this volume.

<sup>16</sup>For estimates of sales tax paid by income level and family size, see Wallace-Moore, "The Distribution of Tax Burdens in Nebraska for the Personal Income, Sales, Excise and Property Taxes," Chapter 7 in this volume.

variety of other items would probably not imply tax regressivity, and would yield more than a small amount of revenue. Grocery stores would face certain administrative complications, but stores in several states have managed to overcome these complexities.<sup>17</sup>

A fourth major tax expenditure under final goods and services includes sales taxes not charged when cash discounts are granted on purchases or when coupons are used to purchase an item. In both cases, a reduction in the price of the item also implies that sales tax is not charged on the amount that the price is reduced. This exemption amounts to about \$39 million in 1987, but there seems little logic behind levying a sales tax on the list price when a sale is made at a discount to list price.

List prices are only suggested prices in most cases and levying sales taxes on list prices elevates them to more than a suggested price. In this case, the list prices become "correct" or "just" prices, and this notion of list prices has almost no defense. Moreover, the use of coupons amounts to a reduction in list price, but a reduction that discriminates according to the customer's time spent trying to seek lower prices by using coupons. Thus, instead of reducing prices of items to all items, manufacturers reduce prices selectively to consumers who will purchase the product when price reductions are allowed via coupons. Thus the sales tax applied to the list price of a commodity when the it is purchased using a coupon also implies a notion of a "correct" or "just" list price. But levying the sales tax on the full price of a coupon sale might be an area for revenue increase, but we find the logic behind counting this item as a tax expenditure somewhat dubious.

The fifth major sales tax expenditure involves the exemption of the value of a motor vehicle taken as a trade-in on the sale of another motor vehicle. The cost of this tax expenditure is estimated at about \$12 million in 1987. Economically, what has occurred in this situation is

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<sup>17</sup>For a more detailed discussion of a partial sales tax on food, see J. Due and L. Fairchild, "The Nebraska State and Local Sales and Use Taxes," Chapter 3 in this volume.

the sale of two vehicles. The customer has sold his existing vehicle to a dealer, and purchased another vehicle from the dealer. The sale of the existing vehicle is an intermediate product, as it is a sale to a business and the vehicle should be taxed when it is resold by the dealer to a final customer.<sup>18</sup> However, the retail sale of the vehicle by the dealer to a customer represents a final sale that should be subject to sales taxation at its total discounted price.

While charging a sales tax only on the net price of the two vehicles when one vehicle is sold and another vehicle is taken in trade represents standard practice among states, there is little rationale behind not charging the final customer the sales tax on the full price for the "new" vehicle. This tax would yield significant revenues and could not be easily avoided by purchasing a vehicle in another state, as the use tax could be collected on the sale when the vehicle is registered in the State of Nebraska. Moreover, the extra revenue would be realized from those household who trade relatively high valued vehicles to purchase newer or new vehicles. This practice is most likely among higher income households, and almost all of these extra revenues are likely to come from higher income households. Put another way, lower income households are likely to trade much lower priced vehicles when "new" vehicles are purchased and the low trade-in value of the vehicle means that very little sales tax is saved as a result of the trade-in. Thus, lower income households pay a sales tax close to the purchase price of the "new" vehicle.

The application of the sales tax to the purchase price of the new vehicle leaves room for dealers to discount artificially the price of the new vehicle (or deflate the value of the trade-in and give an extra discount on the new vehicle) and save the price to which the sales tax applies. In an audit, the State of Nebraska could use the "Blue Book" value of a used car to establish the maximum discount that the dealer could have applied to the new vehicle, and check this against the sale tax charged on the transaction.

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<sup>18</sup>If the dealer sold the vehicle to another dealer, then this would be another intermediate sale and should not be subject to sales tax.

While the tax expenditure is calculated for motor vehicles, the practice of excluding the value of a trade-in from the sales tax base extends to other durable goods as well. The trade-in value of a related commodity is subtracted from the sales price of the new purchase. Tax expenditure reform would also discontinue this practice for other commodities as well as motor vehicles.

The last two major exemptions for taxable sales apply to hospitals, nursing homes, and other facilities licensed by the state, which cost \$23 million in 1987, and to lodging rented or leased for 30 days or longer, which cost about \$29 million in 1987. The rationale for the former exemption is similar to that for the exemption of prescription drugs. The tax would fall on those persons who are ill and are without insurance to pay for hospital bills. These individuals are more likely low-income and the tax would surely be regressive. The exemption of nursing homes care charges from sale taxes is consistent with not taxing services that are used only under unfortunate circumstances.

The exemption of lodging rented for 30 days or longer is consistent with the exemption of shelter and in particular owner-occupied shelter from sales taxation. There is little or no case to be made on either social efficiency or equity grounds for taxing rents paid on rented property and exempting owner-occupied housing from sales taxation. As the exemption of the latter is not even listed as a tax expenditure, there seems to be little reason to expect that taxation of both rental and owner-occupied housing would be considered. Under these circumstances, there is no case for taxing rental property. However, the rental of vacation homes and other seasonal rentals could be subject to sales tax, whether the rental is less or more than 30 days. There is likely only a small base of vacation property in Nebraska, however.

In summary, with few exceptions the current list of major tax expenditures are largely justifiable. In the areas of food tax exemptions and the deduction of the trade-in value of vehicles from the sales tax base, several adjustments could be made. The sales tax exemption of

basic foods should be retained, but there is little rationale for not taxing candy, soda and other nonbasic food items. The deduction of the trade-in value of a vehicle from the sales tax has no economic rationale behind it.

But the list of tax expenditures excludes most consumer services, which according to principles of sales taxation should be included in the sales tax base. The taxation of services in Nebraska is addressed in another staff paper in this series, and we would recommend that a partial list of consumer services (and definitely not those services sold to businesses) should be taxed.<sup>19</sup> But the recommendation on tax expenditure is that the Department of Revenue begin to provide estimates of the revenue cost of exempting various types of consumer services from the sales tax.

### **Analysis of Nebraska Property Tax Expenditures**

As in the case of the sales tax, the concept of a property tax expenditure depends on the *normal* base of the property tax. The property tax is generally considered a tax on wealth, which includes real property and personal property. Real property includes land and buildings, and personal property includes both tangible property, such as household furniture, automobiles, business inventories and machinery and equipment, and intangible property, which includes stocks, bonds and cash held by households and the business sector.

The base of the property tax is the gross value of wealth and not the net wealth position of the household or firm. For example, the value of real property eligible for taxation is the selling price of the property regardless of the outstanding debt on the property. If net wealth were taxed, then the owner would pay a property tax on the equity portion of the property and the mortgage lender would pay a property tax on the balance of the asset as the value of the

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<sup>19</sup>For a discussion of sales taxation of consumer services, see Due and Fairchild, "The Nebraska State and Local Sales and Use Taxes," Chapter 3 in this volume.

mortgage represents intangible personal property. The fact that the "owner" of the property pays a property tax on the full market value of the property means that also levying the property tax on the intangible wealth that the mortgage represents to the mortgage holder would tax the debt portion of the real property twice. Thus, the fact that the property tax is levied on the gross value of the property introduces certain complications of double taxation that would be much more easily defined if the property tax were on net wealth.

In principle and without regard to double taxation the base of the property tax could be defined on the gross value of wealth in real and personal forms. To avoid double taxation of property one could exempt the value of intangible property held as loans from the tax base. For purposes here, we adopt the definition of the normal tax base that eliminates intangible personal property held as loans from the tax base. It should be recognized that a property tax on some forms of wealth and not others creates an incentive for individuals and businesses to shift their holdings of wealth from taxable forms of wealth to nontaxable forms of wealth.<sup>20</sup>

### **Property Tax Exemption Categories**

There are three major areas of property tax exemptions listed in Table 8-2: the value of exemptions of real property held by public or quasi-public authorities, the value of exemptions of personal property and the value of exemptions for real personal property. Real property held by public or quasi-public authorities is exempt from property taxation in all states. In most cases the authorities pay some grant-in-lieu of property taxes to the local governments in which the

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<sup>20</sup>While this is not of direct relevance here, a partial tax on some forms of property value or wealth could be borne by all types of wealth. Depending on the extent of the substitution among assets, the property tax on some forms of wealth would reduce the rate of return on all assets and to a large extent be borne by all assets. For a discussion, see D. Netzer, "The Incidence of the Property Tax Revisited," *National Tax Journal*, Vol. 26, No. 4 (December 1973): 515-535, and M. Feldstein, "The Surprising Incidence of a Tax on Pure Rent: A New Answer to an Old Question," *Journal of Political Economy*, Vol. 85, No. 2 (April 1977): 349-360.

TABLE 8-2

## CATEGORIES AND AMOUNTS OF NEBRASKA PROPERTY TAX EXPENDITURE: 1987

Statutory Reference	Description	Amount
<u>Exempt Public Real Property</u>		
3-4243	Conservation Corporation	NA
2-4526	Water Management Board	NA
3-209	Airport landing fields	NA
3-511, 3-621	Other airport property	NA
3-714	Joint airport authorities	NA
12-506	Cemetery associations	NA
12-517	Burial lots	NA
14-812	Metropolitan city property	NA
14-1721	Municipal parking authority property	NA
14-1810	Municipal transit authority property	NA
15-844	Primary class city property	NA
18-2137	Redevelopment authority property	NA
21-1903	Exempt property held in trust	NA
21-2311	Industrial development public corporation	NA
23-243.117	Hospital authority property	NA
41-267	Ditches, canals, etc., for irrigation	NA
51-512	Public museums	NA
58-268	Nebraska Finance Authority	NA
58-324	Small Business Development Authority	NA
77-202 (1) (a)	State property	NA
77-202 (1) (b)	Agricultural and horticultural society property	NA
77-202 (1) (c)	Education, religious, charitable property	NA
81-805	Property of Nebraska Game and Parks Commission	NA
<u>Personal Property Exemptions</u>		
77-202 (1) (d)	Household goods and personal effects	\$ 38,748,000
77-202.46	Earthmoving equipment for soil conservation	NA
77-202 (3)	Premiums received by insurance companies	53,967,000
77-202 (4)	Life insurance payments for annuity contracts	617,026,000
77-202 (5)	Motor vehicles paying a registration fee	NA
77-202 (6)	Agricultural machinery and equipment	79,742,000
77-202 (7)	Business inventories	74,577,000
77-202 (8)	Feed, fertilizer and farm inventory	6,825,000
77-202 (9)	Grain, seed, livestock, etc.	<u>79,914,000</u>
Total Personal Property Exemptions		\$950,799,000



TABLE 8-2 (CONT.)

Statutory Reference	Description	Amount
<u>Private Real Property Exemptions</u>		
7-202.24	Mobile home and one vehicle of blind or disabled veteran	NA
77-212	Space provided for supportive medical services	NA
77-3507 through 77-3509 ) and ) 77-3526 through 77-3528 )	Homestead exemptions for the elderly, the poor, or disabled veterans	\$ 31,252,084

SOURCE: Nebraska Department of Revenue, Tax Expenditure Report 1987 (Lincoln, NE: October 15, 1987), Section B.

property lies. These grants-in-lieu typically do not fully compensate the local governments for the revenues forgone from property taxes. As Nebraska is the only public power state, it probably has a greater value of real property per capita that is exempt from property taxes than the average state. Other than recognizing this fact, the State of Nebraska does not have estimates of the value of real property that is exempt, because there is no existing valuation of this tax exempt property. Recognizing that valuing this property is a monumental task and expense, there would be no reason to undertake a valuation of this property unless the political will existed to realign the grant-in-lieu of property taxes more closely with property taxes due.

The second panel in Table 8-2 lists the tax expenditures from the exemption of various types of personal property. The total valuation of the property tax exemption is about \$950 million. Of this amount, \$617 million is due to exemption of the stock value of assets in life insurance contracts in Nebraska, and another approximately \$54 million is due to the exemption of the stock of wealth accumulated from premiums received by life insurance companies. The exemption of these intangible assets is consistent with the nontaxation of household and other business holdings of intangible assets, such as stocks, bonds and cash. While household and other business holdings of intangible wealth are not listed as a tax expenditure, it would be inappropriate to tax some forms of intangible wealth (life insurance assets and premiums) and not others.

Another group of personal property tax exemptions include business inventories, farm inventories, and grain, seed and livestock inventories. Jointly these three tax expenditures amount to about \$160 million. Household goods and personal effects representing a loss of about \$39 million are also exempt from property tax. While the exemption of inventories and household personal property items represents asymmetric tax treatment of personal and real property, the exempt tax treatment of all inventories is consistent across the same assets held by

various groups within Nebraska. For example, all business and farm inventories are exempt from property taxation.

The remaining tax expenditure in the personal property category is agricultural machinery and equipment. Nonagricultural machinery and equipment is not exempt from the property tax. The agricultural nature of the State of Nebraska is well understood. But there seems to be no reason to exempt some machinery and equipment from property taxation and not other machinery and equipment. In light of the estimated \$80 million in revenue loss that exempting nonagricultural machinery and equipment entails, the recommendation here is to levy the property tax on agricultural machinery and equipment and avoid the discriminatory tax treatment between agricultural and nonagricultural machinery and equipment.

Moreover, the argument used under the sales tax that machinery and equipment should not be taxed as intermediate commodities does not apply with equal force to a property tax.<sup>21</sup> The sales tax levies a burden on the flow of new resources, which in most industries is passed on to consumers in the prices of final commodities and services. The property tax levies a burden on the stock of existing assets. The difference in the sales and the property tax treatment of machinery and equipment stems from the different nature of the two taxes. There is no reason under a property tax to tax land and buildings and machinery and equipment differently. Moreover, the property tax is not applied to final goods and services that businesses produce. Whereas under a sales tax there is good reason to avoid the taxation of intermediate commodities and services, because the sales tax on the price of final goods and services will reflect the value of intermediate goods and services. Thus, the latter will be taxed implicitly at the final sale of the good or service.

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<sup>21</sup>For a discussion of the exemption of machinery and equipment from the sale tax see M. Wasylenko, "Economic Development in Nebraska," Chapter 13 in this volume.

The third panel of Table 8-2 lists the exemptions of real property from the property tax. The exemptions include a mobile home and one vehicle of a blind or disabled person, space provided for supportive medical services, and Homestead exemptions for the elderly, the poor or disabled veterans. The tax expenditures seem reasonable, although no value is assigned to the first two tax expenditure categories. Homestead exemptions cost about \$31 million in property tax revenue. These exemptions are not extraordinary and no change in current policy is suggested here.

### Conclusions

The review of sales and property tax expenditures leads to four major conclusions about the state of sales taxation and one conclusion on property taxation. For the sales tax, the exemption of food means the loss of significant sales tax revenue. However, the taxation of food implies a significantly regressive sales tax burden, which can be ameliorated through the use of an income tax credit for low income families. But a personal income tax credit that offset sales tax regressivity on food would vary by family size and household income level. Moreover, the size of the credit would require annual revision to keep pace with inflation in food prices. Instead of adopting a complicated personal income tax credit, the recommendation here is a sales tax limited to nonbasic food items, such as candy, soft drinks, and a variety of nonbasic foods ranging from cookies, to specially blended coffees and gourmet cheeses and other fancy foods. Higher income households are more likely to purchase these items, and revenue can be gained without introducing more burden on the poor. We have no revenue estimate for this tax proposal, however.

The second recommendation is to not allow a sales tax exemption for the value of the vehicle trade-in against the selling price of the new or used vehicle. Current practice allows the buyer to pay a sales tax on the difference between the price of the "new" vehicle and the value of

the trade-in. This exemption benefits primarily higher income buyers, as they typically are the households that can afford to trade high value vehicles for new vehicles and benefit from the sales tax exemption. Low income purchasers of vehicles would more likely not trade a vehicle that has much value, and thus generally pay the sales tax on a high percentage of the selling price of the new vehicle. Eliminating this tax exemption would increase sales tax revenues by \$11 million.

Third, another paper done for this study suggests that a limited number of final or consumer (and not business) services be introduced into the sales tax base.<sup>22</sup> Revenue gains would be about \$37 million. Whether or not the taxation of services is adopted, final or consumer services should be considered part of the comprehensive sales tax base and their exclusion from the tax base should be considered a tax expenditure. As such the Nebraska Department of Revenue should include services in their calculations and report the size of the tax expenditures.

Along these same lines, the sales tax should not be levied on intermediate goods. Thus, rather than list sales taxes not collected on intermediate goods as a tax expenditure, the sales taxes that are collected on some intermediate goods should be listed as a negative tax expenditure, that is, sales tax revenues that are inappropriately collected on some intermediate commodities should be included as negative tax expenditures.

For the property tax, most of the tax expenditures are justifiable on equity grounds or on grounds of consistent treatment among various uses of any particular type of property or capital across different sectors of the economy. However, property taxes are not levied on machinery and equipment in the agricultural sector, but property taxes are levied on machinery and equipment in other sectors of the economy. This differential treatment can not be justified on

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<sup>22</sup>See Due and Fairchild, "The Nebraska State and Local Sales and Use Taxes," Chapter 3 in this volume.

economic grounds, and the recommendation here is to subject all machinery and equipment to personal property taxes and to exempt the purchase of machinery and equipment from sales taxes. This form of taxation is consistent with good tax practice for both sales and property taxes.

CHAPTER 9  
THE FISCAL CONDITION OF COUNTY GOVERNMENTS  
IN NEBRASKA<sup>1</sup>

by John Yinger

**Introduction**

County governments constitute an important component of the Nebraska fiscal system. This chapter summarizes the current state of county government finances in Nebraska, measures the fiscal condition of every county in the state, analyzes the determinants of county spending, and discusses the options for state policy toward counties. The fiscal conditions of municipalities and of school districts are examined in separate chapters.

**Overview**

This paper is built on the notion of a county government's fiscal condition, which is the impact of economic and social factors outside the control of county officials on the county's ability to deliver services to its residents. We find that counties in Nebraska vary widely in their fiscal condition. Counties in good fiscal condition tend to be urban or suburban counties in the eastern third of the state or counties with large cities (by Nebraska standards) along Interstate 80. For reasons explained below, these counties have relatively low responsibilities for providing

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<sup>1</sup>In preparing this paper, the author has received valuable assistance from numerous people in Nebraska. Deborah Thomas, the Revenue Committee Counsel, has answered innumerable questions and made many helpful suggestions. Useful information was provided by Eric Will, Senator Vard Johnson's Legislative Aide; Jack D. Mills, Executive Director, and Patrick Vuchetich, Legal Counsel, of the Nebraska Association of County Officials; Bob Hardin of the State Auditor's Office; Derald Kohles and Ron Disney of the Department of Roads; and Tim Kemper at the Bureau of Business Research, University of Nebraska at Lincoln. Bill Kehm, Donna Hersh, and Henry Wulf of the U.S. Bureau of the Census also provided helpful assistance. Finally, the author would like to thank his data collection team at Syracuse--Kerri Ratcliffe, Dan Mullins, Bruce Riddle, Seymour Sacks, and Mary Cahalan--without whom this analysis would not have been possible. This chapter is based on John Yinger, "The Fiscal Condition of County Governments in Nebraska," Nebraska Comprehensive Tax Study Staff Paper No. 5, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, December 1987).

services, relatively low public service costs, and relatively high capacity for raising revenue. Counties in poor fiscal condition tend to be rural counties in the central or western parts of the state. These counties have relatively high service responsibilities and relatively high costs for providing public services, although some of them also have relatively high revenue-raising capacity.

The principal source of state aid to counties in Nebraska is the governmental subdivision fund. The formula used to distribute this aid rewards counties that select high-quality public services and counties that are poorly managed, but it does little to assist the counties in the poorest fiscal condition. We provide an alternative formula that would not reward management inefficiency and that would direct some or all of this aid to the neediest counties. Counties in Nebraska also face a constitutional limit on their property tax rate. This limit discriminates against counties without townships and against counties in relatively poor fiscal condition. We recommend some changes in the tax limit and in other state policies to deal with these problems.

### **County Government Finance in Nebraska**

As shown in Table 9-1, which is based on the accounting system employed by the U.S. Bureau of the Census, the average county in Nebraska raised \$356 per capita in general revenue and spent \$342 per capita in general expenditure during FY 1986. (The small "surplus" in these numbers does not imply that counties run a surplus in their own budgetary accounts.) In the average Nebraska county, per capita income was \$7049 in 1983, so county revenue equals about 5 percent of income.

General revenue consists of intergovernmental assistance and own-source revenue from taxes and charges. Table 9-1 shows that state aid and federal general revenue sharing are the major sources of intergovernmental assistance, whereas property taxes and charges constitute most of own-source revenue. The property tax is the only broad-based tax employed by Nebraska counties. It accounts for about 52 percent of own-source revenue and about 40 percent



**TABLE 9-1**  
**SUMMARY OF COUNTY FINANCES IN NEBRASKA, FY 1986**

Category	Average Amount Per Capita	Percentage Breakdown
General Revenue	\$356	100.0
Intergovernmental Revenue	99	28.6
State Aid	77	77.1
Local Aid	5	9.3
Federal Categorical Aid	2	1.2
Federal General Revenue Sharing	15	12.4
Own-Source Revenue	257	71.4
Property Taxes	148	51.7
Sales Taxes	2	1.2
Other Taxes	13	5.1
Charges	71	28.4
Miscellaneous	24	13.5
General Expenditure	342	100.0
Intergovernmental Expenditure	10	4.3
Current Operating Expenditure	295	81.8
Public Welfare	8	4.1
Health and Hospitals	63	22.7
Highways	105	26.5
Police	16	6.2
Corrections	5	4.5
Miscellaneous	99	35.9
Capital Outlays	35	11.6
Interest on General Debt	2	2.3

SOURCE: Nebraska Comprehensive Tax Study.

of all general revenue. (The Census accounting system includes in "state" aid any federal aid to counties that is passed through the state. In a later section, where we examine state policy options, we switch to the state accounting system. In particular, we examine state grants provided through the governmental subdivision fund.)

General expenditure is divided among payments to other governments, which are called intergovernmental expenditure, current operating expenditure, capital expenditure, and interest payments on general county debt. As shown in Table 9-1, operating expenditure makes up by far the largest share, 82 percent, of general expenditure. Table 9-1 also reveals that the operating expenditure in Nebraska is devoted principally to health and hospitals (23 percent), highways (27 percent), and miscellaneous services (36 percent), which include record-keeping and general county administration.

The role of counties in Nebraska is fairly representative of their role in the nation as a whole. Because counties in Nebraska have relatively few people, about 17,000 on average, the most reasonable comparison is between counties in Nebraska and all counties with population below 100,000--the smallest category for which national data are available. (These data come from the Census publication, *County Government Finances*.) Among all U.S. counties with population below 100,000, average per capita general revenue in FY 1985 was \$386 and average per capita general expenditure was \$354, only slightly above the comparable averages for Nebraska.

In this same group of U.S. counties, own-source revenue accounted for 62 percent of general revenue, which is slightly below the share in Nebraska, and the property tax alone accounted for 40 percent of general revenue, which is exactly the same as the share in Nebraska. Operating spending in these U.S. counties constituted 78 percent of general spending, which is just below the 82 percent in Nebraska. Compared to counties in Nebraska, however, U.S. counties with populations below 100,000 devote a larger share of their operating spending to

education (26 percent) and to welfare (11 percent) and a smaller share to highways (15 percent). Finally, the share of operating spending devoted to health and hospitals is virtually the same in Nebraska counties (26 percent) and in these U.S. counties (24 percent). (The national figures for education, welfare, and hospitals, unlike the Nebraska figures, include small amounts of capital spending.)

### **County Fiscal Condition**

In this paper, we focus on the fiscal condition of county governments in Nebraska. We do not examine the fiscal condition of municipalities or townships, although we do determine the impact of these other local governments on county fiscal condition. One cannot apply our results for a county to the municipalities or townships within that county; a city can be in poor fiscal condition even if the government of the county in which it is located is in good fiscal condition (and visa-versa). Throughout this paper, the term county is used to refer to a geographic area or to a county government but is never used to refer to all the local governments in a county.

#### **The Concept of Fiscal Condition**

As we use the term, a county government's fiscal condition is a measure of its ability to deliver public services to its residents, as determined by social and economic factors that are outside the control of county officials. This concept of fiscal condition is not the same thing as a county government's budgetary condition, which is heavily influenced by county officials' political and management decisions. A county's fiscal condition indicates the constraints imposed on county officials by economic and social factors, but it does not reflect their responses to those constraints. To put it another way, we want to determine the fiscal cards dealt to each county--not how well each county plays its fiscal hand.

Some illustrations may help to make this distinction more clearly. Some counties are in poor fiscal condition because their residents have low incomes and therefore have little capacity

to pay taxes. Other counties are in poor fiscal condition because they have relatively high responsibilities for service provision or because they face relatively high costs for providing public services. Low income, high responsibilities, and high costs represent structural factors outside the control of county officials and therefore are incorporated into our measure of a county's fiscal condition. In contrast, some counties run budget deficits because budget officials were unduly optimistic about county revenues. Moreover, some counties provide low-quality public services because voters prefer to spend their money on private goods or because the county's management practices are inefficient. Budgeting techniques, decisions about public service quality, and management practices are political or management factors that are largely determined by county officials and therefore are excluded from our measure of county fiscal condition.

One county's fiscal condition can readily be compared to another's. If County A has a better fiscal condition than County B, then we can say that economic and social factors make it easier for County A to provide public services to its residents. Compared to County B, County A can provide higher quality public services or impose a lower tax rate on its residents--or both. Because fiscal condition excludes political and management factors, it also can be an objective guide for state policy. In the next part of the paper, we determine whether grants from the State of Nebraska are directed toward the counties in the poorest fiscal condition, and we design cost-effective state grants for helping the neediest counties.

The revenue side of a county's fiscal condition is determined by its *revenue-raising capacity*; the expenditure side is determined by its *expenditure need*. The next two sections define these concepts and calculate them for all counties in Nebraska. A county's overall fiscal condition is measured by its *need-capacity gap*, which is the difference between its expenditure need and its revenue-raising capacity. The third section calculates the need-capacity gap in Nebraska's counties. The final section in this part of the paper shows how a county's operating

spending is influenced by the components of its fiscal condition and by several other factors. The technical details of our calculations are explained in an appendix to this paper.

### **Revenue-Raising Capacity**

One principal component of a county government's fiscal condition is its capacity to raise revenue. It is not appropriate, however, to measure a county's capacity to raise revenue by the amount of revenue it actually raises. One county may collect more revenue than another because it prefers to spend more on public services--not because its underlying capacity to raise revenue is greater. To make valid comparisons across counties, a measure of revenue-raising capacity must be based on the same tax burden in every county; that is, it must ask how much revenue the county could raise at a given tax burden on its residents.

Tax burden is a measure of sacrifice--of the extent to which taxes subtract from a household's ability to purchase private goods and services. The appropriate measure of tax burden, therefore, is taxes paid as a percentage of income. It follows that a county's property tax base, like the tax revenue it collects, is not a good measure of its revenue-raising capacity. Consider two counties with the same income but with different property tax bases. The county with the higher property tax base can raise more revenue than the other counties at any given property tax rate, but if all property taxes are paid by county residents, these higher property taxes translate into a higher tax burden on county residents. Holding the property tax rate constant, in other words, is not the same thing as holding the resident tax burden constant.

**Revenue-Raising Capacity: Analysis.** A county government's revenue-raising capacity, that is, the amount of revenue it can raise at a given tax burden on its residents, depends on three factors: resident income, the taxes collected by townships and municipalities within the county, and the county's ability to export its tax burden to nonresidents. Because tax burden is defined as a percentage of resident income, the higher is resident income, the higher is the amount of money that a county can raise at a given tax burden. Moreover, some counties have to

share taxable resources with townships and municipalities. The greater the share of capacity that is "used up" by townships and municipalities, the smaller is the share that is left over for the county government. Finally, to the extent that counties can shift some of their tax burden to nonresident property owners or nonresident shoppers, they can raise revenue without imposing any burden on their own residents. In other words, the greater is a county's ability to export tax burdens, the greater is its revenue-raising capacity, all else equal.

Our objective is to determine the revenue a county could raise at a given tax burden on its resident. In a fiscal system like Nebraska's in which counties, townships, and municipalities all play a role, we cannot make valid comparisons across counties unless we interpret this tax burden as the overall tax burden--that is, the tax burden imposed by county, township, and municipal governments combined. The government of a county in which most of the population pays municipal taxes does not have, all else equal, the same capacity to raise revenue as the government of another county in which no other general-purpose local government lays claim to taxable resources. (We do not consider school districts in this analysis because they blanket the state and therefore do not change the capacity of any one county relative to another.)

Thus, we employ a "net" measure of revenue-raising capacity in which the capacity used up by townships and municipalities is subtracted from capacity each county would have at the overall local tax burden. In the case of capacity through the property tax, a county's overall capacity is the amount of revenue it would raise if it imposed the statewide average burden of property taxes on its residents. The capacity used up by the townships and municipalities in a county is the revenue that they would collect if they imposed the state-wide average property tax burden for their type of jurisdiction. This approach insures that a county's net revenue-raising capacity does not depend on the actual revenue raised by townships and municipalities within its borders--just as it does not depend on the actual revenue raised by the county itself.

The principal problem that confronts anyone attempting to measure revenue-raising capacity through the property tax is that the ability to export this tax to nonresidents is difficult to measure. Indeed, this ability cannot be determined without information on the composition of the property tax base and on the residences of property owners along with a complex analysis of the incidence of county property taxes, that is, of whether capital owners, land owners, consumers, or workers ultimately bear the burden of these taxes.

Following standard practice, we assume that the property tax on single-family houses is borne by the owners and the the property tax on rental property is shared by landlords and tenants. In Nebraska, it is approximately true that all landlords live in the county in which they own property, so all three groups that bear the residential portion of the property tax are county residents and this portion of the tax does not involve any exporting.

Also following standard practice, we assume that the property tax on commercial and industrial property, including private utilities, is borne primarily by company owners and land owners. Using national average figures, we estimate that about half of these owners are corporate shareholders who live in other states, so that about half of the tax on commercial and industrial property is exported to nonresidents.

The same type of analysis indicates that the owners of farms and of farm land bear the burden of taxes on farm property. According to the Nebraska state constitution, corporations are not allowed to own farm property and it seems reasonable to suppose that most of the owners of farm property are residents of the county in which the property is located. As a result, we assume that none of the property taxes on farm property can be exported to nonresidents.

According to this approach, the 1987 *Banner* decision by the Nebraska Supreme Court will have no impact on the revenue-raising capacity of counties, although it will shift the burden of the property tax toward farm property. The *Banner* decision bans the assessment of farm property at its current use value instead of at its market value. Consequently, this decision will

result in higher assessed values for some farm property. Because little if any of the property tax burden on farm property can be exported, however, any increase in property taxes because of this decision will be paid by county residents. In other words, this change in assessment methods does not alter the amount of revenue a county can collect at a given tax burden on its residents.

Counties in Nebraska do not depend entirely on the property tax. Indeed, almost half of their revenue from own sources comes from other taxes or charges. Because these other revenue sources are not broad-based taxes, they have little export potential. Charges, for example, tend to be related to services provided directly to residents. (As explained in a later section, hospital charges, which may be paid by nonresidents, are excluded from the capacity analysis.) Thus, we assume that none of the burden of these other taxes and charges can be exported. In addition, a county's overall capacity to raise revenue through sources other than the property tax equals the amount of revenue it could raise at the statewide average tax burden for these sources. The county government's net revenue-raising capacity equals this overall capacity minus the capacity used up by municipal governments and townships through revenue sources other than the property tax. As in the case of the property tax, the capacity used up by these other jurisdictions is the revenue that they would collect if they imposed the state-wide average revenue burden for their type of jurisdiction.

A county government's total revenue-raising capacity equals the sum of its capacity through the property tax and its capacity through other revenue sources. Counties with a high revenue-raising capacity have a high per capita income, a high concentration of commercial and industrial property (which makes exporting possible), or a small role for township and municipal governments--or some combination of these three characteristics.

**Revenue-Raising Capacity: Findings.** For ease of interpretation, we convert all of our measures of revenue-raising capacity into indexes to reveal percentage deviations from the average county, which has an index of 100. A county with an index of 120, for example, has a



capacity that is 20 percent higher than that of the average county. Table 9-2 presents our indexes of revenue-raising capacity for all counties in Nebraska in 1986.

Our index of revenue-raising capacity through the property tax is presented in the first column of Table 9-2. By definition, the average value of this index is 100, but the value of the index varies widely from one county to another. A "standard deviation" is a measure of the typical variation in a variable; most counties will fall within one standard deviation of the average. The standard deviation for this index is about 23, so most counties fall between  $(100-23)=77$  and  $(100+23)=123$ .

The counties with the highest revenue-raising capacity through the property tax fall into three categories. Sarpy and Douglas are urban counties with relatively high per capita income, so that their net capacity is high despite the high share of capacity claimed by municipalities. Douglas County, which ranks sixth, also receives a capacity boost from its high concentration of commercial and industrial property and the attendant ability to export the property tax burden to nonresidents. (Lancaster County ranks 40th despite its relatively high income and commercial property because over 90 percent of its population lives in municipalities.) In contrast, Gosper, Stanton, and McPherson are rural counties with below-average income, but they also have few or no municipalities with which they must share their capacity. The other two counties in the top seven, Perkins and Cass, fall somewhere in between, with somewhat-above-average income and about half of their population in municipalities.

The counties with the lowest revenue-raising capacity through the property tax, namely Boyd, Sherman, Holt, Knox, and Dixon, have low per-capita income, a significant municipal population, townships, and virtually no ability to export their property tax burden. By using up a large share of overall capacity through the property tax, townships have a major impact on a county governments' capacity; indeed, 13 of the 14 counties with the lowest capacity have townships.

TABLE 9-2  
REVENUE-RAISING CAPACITY OF NEBRASKA COUNTIES, FY 1986

County	Capacity Through the Property Tax		Capacity Through Other Taxes		Overall Capacity	
	Index	Rank	Index	Rank	Index	Rank
Average	100.00		100.00		100.11	
Standard Deviation	22.57		29.81		22.84	
1 Adams	93.77	(58)	61.80	(87)	81.18	(75)
2 Antelope	69.77	(83)	93.65	(48)	79.17	(77)
3 Arthur	97.05	(50)	123.35	(21)	107.40	(36)
4 Banner	128.97	( 8)	163.96	( 4)	142.75	( 5)
5 Blaine	94.34	(57)	112.02	(29)	101.31	(44)
6 Boone	120.82	(19)	134.10	(13)	126.05	(11)
7 Box Butte	113.95	(28)	68.11	(83)	95.90	(52)
8 Boyd	39.72	(93)	54.47	(90)	45.53	(93)
9 Brown	96.40	(51)	87.73	(56)	92.99	(56)
10 Buffalo	89.25	(67)	67.07	(85)	80.52	(76)
11 Burt	85.81	(71)	101.33	(38)	91.92	(58)
12 Butler	91.01	(63)	123.40	(20)	103.76	(41)
13 Cass	137.98	( 5)	135.86	(11)	137.14	( 7)
14 Cedar	99.14	(48)	112.14	(28)	104.26	(40)
15 Chase	95.13	(53)	89.77	(53)	93.02	(55)
16 Cherry	99.94	(46)	104.69	(35)	101.81	(43)
17 Cheyenne	121.52	(17)	87.16	(57)	107.99	(34)
18 Clay	78.03	(78)	86.32	(59)	81.30	(74)
19 Colfax	90.94	(64)	82.63	(66)	87.67	(63)
20 Cuming	73.84	(80)	83.89	(65)	77.80	(79)
21 Custer	69.77	(82)	81.00	(67)	74.19	(83)
22 Dakota	110.39	(35)	86.85	(58)	101.12	(45)
23 Dawes	101.87	(42)	77.02	(72)	92.08	(57)
24 Dawson	109.12	(39)	86.25	(61)	100.11	(47)
25 Deuel	118.04	(24)	105.02	(34)	112.91	(26)
26 Dixon	59.54	(89)	73.54	(78)	65.05	(88)
27 Dodge	87.82	(69)	58.45	(88)	76.25	(82)
28 Douglas	132.58	( 6)	71.01	(81)	108.33	(33)
29 Dundy	123.66	(15)	132.02	(14)	126.96	(10)
30 Fillmore	68.78	(84)	89.66	(54)	77.01	(81)
31 Franklin	71.79	(81)	86.27	(60)	77.49	(80)
32 Frontier	110.34	(36)	118.33	(24)	113.49	(23)
33 Furnas	82.86	(74)	57.27	(89)	72.78	(85)
34 Gage	88.36	(68)	78.91	(70)	84.64	(67)
35 Garden	126.82	(11)	141.31	(10)	132.52	( 8)
36 Garfield	89.41	(66)	93.46	(49)	91.01	(60)
37 Gosper	141.91	( 2)	175.36	( 3)	155.08	( 3)
38 Grant	82.23	(76)	80.75	(68)	81.65	(71)
39 Greeley	82.74	(75)	85.77	(62)	83.93	(68)
40 Hall	96.05	(52)	51.52	(91)	78.51	(78)
41 Hamilton	124.53	(12)	127.81	(19)	125.83	(12)
42 Harlan	85.38	(72)	105.60	(33)	93.34	(54)
43 Hayes	118.39	(23)	153.56	( 5)	132.24	( 9)
44 Hitchcock	124.02	(14)	98.56	(40)	113.99	(22)
45 Holt	56.99	(91)	68.40	(82)	61.49	(90)
46 Hooker	66.05	(86)	48.83	(92)	59.27	(91)
47 Howard	111.17	(32)	122.57	(22)	115.66	(21)
48 Jefferson	115.85	(26)	101.33	(37)	110.13	(30)
49 Johnson	94.41	(56)	84.72	(64)	90.59	(61)
50 Kearney	94.68	(55)	135.31	(12)	110.68	(29)
51 Keith	122.66	(16)	98.46	(41)	113.13	(24)
52 Keya Paha	78.21	(77)	97.99	(44)	86.00	(64)
53 Kimball	121.18	(18)	93.09	(50)	110.12	(31)

TABLE 9-2 (CONT.)

County	Capacity Through the Property Tax		Capacity Through Other Taxes		Overall Capacity	
	Index	Rank	Index	Rank	Index	Rank
54 Knox	57.60	(90)	73.96	(77)	64.04	(89)
55 Lancaster	105.47	(40)	44.49	(93)	81.45	(72)
56 Lincoln	127.19	(10)	98.04	(43)	115.71	(20)
57 Logan	76.27	(79)	93.85	(47)	83.20	(69)
58 Loup	112.93	(30)	143.98	( 9)	125.16	(13)
59 McPherson	131.85	( 7)	192.97	( 1)	155.92	( 1)
60 Madison	105.08	(41)	66.29	(86)	89.80	(62)
61 Merrick	91.36	(61)	112.27	(27)	99.60	(48)
62 Morrill	84.77	(73)	76.03	(74)	81.33	(73)
63 Nance	68.22	(85)	73.50	(79)	70.30	(86)
64 Nemaha	113.19	(29)	102.95	(36)	109.16	(32)
65 Nuckolls	109.22	(38)	98.76	(39)	105.10	(39)
66 Otoe	24.22	(13)	108.31	(31)	117.95	(17)
67 Pawnee	92.33	(59)	96.03	(46)	93.79	(53)
68 Perkins	38.36	( 4)	144.28	( 7)	140.69	( 6)
69 Phelps	90.89	(65)	75.53	(76)	84.84	(66)
70 Pierce	100.31	(45)	106.27	(32)	102.66	(42)
71 Platte	91.56	(60)	76.75	(73)	85.73	(65)
72 Polk	120.20	(21)	130.52	(16)	124.27	(15)
73 Red Willow	111.96	(31)	72.01	(80)	96.23	(51)
74 Richardson	99.46	(47)	79.28	(69)	91.51	(59)
75 Rock	97.51	(49)	97.76	(45)	97.61	(49)
76 Saline	116.71	(25)	89.27	(55)	105.90	(38)
77 Sarpy	142.23	( 1)	146.69	( 6)	143.99	( 4)
78 Saunders	94.77	(54)	128.19	(18)	107.93	(35)
79 Scotts Bluff	110.22	(37)	85.01	(63)	100.29	(46)
80 Seward	120.00	(22)	109.40	(30)	115.82	(19)
81 Sheridan	114.16	(27)	118.93	(23)	116.04	(18)
82 Sherman	47.89	(92)	67.87	(84)	55.76	(92)
83 Sioux	101.38	(43)	130.75	(15)	112.95	(25)
84 Stanton	140.30	( 3)	178.02	( 2)	155.16	( 2)
85 Thayer	100.56	(44)	91.56	(51)	97.02	(50)
86 Thomas	128.57	( 9)	118.31	(25)	124.53	(14)
87 Thurston	62.37	(88)	90.94	(52)	73.62	(84)
88 Valley	64.83	(87)	77.80	(71)	69.94	(87)
89 Washington	91.05	(62)	130.22	(17)	106.48	(37)
90 Wayne	87.78	(70)	75.86	(75)	83.09	(70)
91 Webster	111.02	(33)	115.29	(26)	112.70	(27)
92 Wheeler	110.93	(34)	144.28	( 8)	124.06	(16)
93 York	120.28	(20)	98.34	(42)	111.63	(28)

SOURCE: Nebraska Comprehensive Tax Study.

Our index of revenue-raising capacity through other sources for Nebraska's counties is presented in the second column of Table 9-2. This index, which also has a average value of 100, exhibits slightly more variation across counties than does the index for capacity through the property tax. The standard deviation for this index is 30, which implies that most counties have indexes between 70 and 130.

Municipalities rely more heavily on revenue sources other than the property tax than do counties. As a result, a municipality uses up more of the available capacity from these other revenue sources than from the property tax, and counties with small municipal populations have a relatively higher capacity through these sources than they do through the property tax. Because the burden of these other revenue sources cannot be exported, counties with commercial or industrial centers have relatively less capacity through these other sources than through the property tax. Townships have relatively little impact on capacity through other sources because these sources supply only 17 percent of their own-source revenue, on average.

These conclusions are illustrated in the second column of Table 9-2. The five counties with the highest capacity through other revenue sources, McPherson, Stanton, Gosper, Banner, and Hayes, all have below-average incomes but small shares of their population in municipalities. Sarpy County drops to sixth on this capacity index because the share of its population in municipalities is higher than that of these other five counties. Three of the counties with the lowest capacity through other revenue sources, namely Lancaster, Hall, and Dodge, have above-average income, but far-above-average shares of their population in municipalities. Douglas county, which has these same characteristics, ranks 13th from the bottom. The other counties at the bottom of this capacity index, namely Hooker, Boyd, and Furnas, have below-average income and an above-average share of their population in municipalities.

Total revenue-raising capacity is the sum of capacity through the property tax and capacity through other sources. Our index for counties' total capacity is presented in the third column of Table 9-2. This index has an average value of 100 and a standard deviation of 23.

The four counties with the highest total revenue-raising capacity, namely McPherson, Stanton, Gosper, and Sarpy, also are among the counties with the highest capacity both through the property tax and through other revenue sources. Among the counties with the lowest overall capacity, Boyd, Sherman, Holt and Knox rank near the bottom on capacity through the property tax and Hooker has the second lowest capacity through other revenue sources. Because of its high capacity through the property tax, Douglas County ranks 33rd in overall capacity, whereas Lancaster County ranks 71st, largely because it has the lowest capacity through other revenue sources in the state.

### **Expenditure Need**

A county's expenditure need is the amount it must spend to provide a standardized quality of county services. This expenditure need depends on two factors: the county's service responsibilities and its costs for providing public services. Through no fault of their own, counties with relatively extensive service responsibilities and counties with relatively high costs must spend more than other counties to achieve any given quality of public services. As on the revenue side, a county's actual expenditure is a poor measure of its expenditure need. Some counties spend more than others because they are wealthier or because they have a stronger preference for public services. Valid comparisons across counties require, therefore, that service quality be held constant. In this section we examine service responsibilities, service costs, and expenditure need in Nebraska's counties.

**Service Responsibilities: Analysis.** At one level, the service responsibilities of Nebraska's counties are quite uniform; all counties must provide basic local public services, such as police protection, in areas not served by municipalities, they must maintain highways not

maintained by other jurisdictions, and they must provide certain administrative services to all county residents. Despite this common starting point, however, three factors lead to significant variation in service responsibilities across counties: the role of municipalities, the number of miles of county roads (which depends to a large degree on the roads provided by townships, municipalities, and the state and federal governments), and responsibility for hospitals.

Municipal governments provide basic services, such as police protection, and thereby relieve the county of responsibility for providing these services to people who live in municipalities. (In some cases, villages or small cities contract with their county for police protection. According to our terminology, these municipalities retain the responsibility for police protection, but they may purchase it from their county.) It follows that a county with a relatively large share of its population in municipalities is relieved of a large share of its spending responsibilities; that is, it does not have to spend as much per capita as other counties to provide the same quality public services. For services other than highways and hospitals, the average county in the state spends \$218 for each county resident outside a municipality and \$64 for each county resident within a municipality. A county's responsibility for these services is the amount it would have to spend to reach these statewide averages. In other words, a county's service responsibility per county resident equals \$218 multiplied by the share of its population outside municipalities plus \$64 multiplied by the share of its population within municipalities. (School districts are excluded from this analysis because the services they provide are not a substitute for county services.)

The second factor that influences a county's service responsibilities is the number of miles of highways for which it is responsible. Counties that must maintain relatively many miles of roads (per capita) must spend more (per capita) than other counties to maintain those roads at a given quality level. This factor is heavily influenced by the role of townships. In Nebraska, townships' principal responsibility is to maintain highways. In counties with townships,

therefore, much of the responsibility for highways is claimed by townships and the number of miles of county roads is relatively small. (In some cases, a township contracts with its county for road maintenance; that is, the county carries out the maintenance and is reimbursed by the township. In our terms, the township retains responsibility for its highways and the county is simply its agent.) Actions by other governments also may influence this factor; a county in which the state or federal government provides extensive highways may have fewer highways to maintain itself.

A county's responsibility for highways is the amount it would have to spend to maintain its highways at an average quality level. In FY 1986, the average county spent \$1,636 per mile on its highways. To calculate a county's responsibility for highways, therefore, we multiply this average spending per mile by the number of miles for which that county is responsible.

Twenty-six counties in Nebraska have responsibility for hospitals. (Two other counties have hospitals but spend so little on them that we set their hospital responsibility equal to zero. Several counties also are affiliated with hospital districts or hospital authorities; these special districts are excluded from county financial statements and are not considered here.) To a large degree, the services provided by county hospitals are paid for by the service recipients; that is, the outflow associated with responsibility for hospitals is largely offset by an inflow of hospital charges. Nevertheless, responsibility for a hospital may require some hospital spending that is not covered by hospital charges and it may require spending in other county departments, such as health or general administration. In our analysis of county spending, which is described in a later section, we estimate that, controlling for hospital charges, counties with responsibility for hospitals spend \$44 per capita more, on average, than counties without hospitals. For counties with hospitals, therefore, we add \$44 to our measure of county service responsibilities.

**Service Responsibilities: Findings.** A county's service responsibility is the amount it would have to spend per capita to provide basic and highway services of average quality. For

counties with county hospitals, overall service responsibilities also include average county hospital spending over and above hospital charges collected. For ease of interpretation, we present our measure of county service responsibilities in index form. The average county has a responsibility index equal to 100. A county with an index equal to 110 must, solely because of its service responsibilities, spend 10 percent more than the average county to achieve the average service quality in the state.

The service responsibility index for each county in Nebraska is presented in the first column of Table 9-3. This index has an average value of 100 and a standard deviation of 68. Its range is from 42 in Madison County to 602 in McPherson County. McPherson County is an extreme case. The county with the second highest responsibility, Arthur, has an index of only 231. McPherson County's index is so extreme because it has no municipalities with which to share service responsibilities and because it has twelve times as many miles of county roads per capita as the average county. Other counties with relatively high indexes, including Arthur, Banner, Hayes, and Keya Paha, also have a relatively low share of their population in municipalities and higher-than-average miles of county roads per capita (although always less than one third as many miles per capita as McPherson County). The counties with the lowest service responsibility indexes, namely Lancaster, Hall, Adams, Buffalo, and Madison, all have more than three quarters of their population within municipalities and only one tenth as many miles of roads per capita as the average county. Two other urban counties, Scotts Bluff and Douglas, also fall among the ten counties with the lowest service responsibilities, even though one of them, Douglas, has county hospitals.

**Public Service Costs.** The cost of providing public services varies from one county to another. Some counties must pay more than other counties to attract workers away from the private sector. Moreover, environmental factors can raise the cost of public services in some counties and lower it in others. Just as they do not have control over their service



**TABLE 9-3**  
**EXPENDITURE NEED OF NEBRASKA COUNTIES, FY 1986**

County	Service Responsibility		Service Cost		Expenditure Need	
	Index	Rank	Index	Rank	Index	Rank
Average	100.00		100.00		100.00	
Standard Deviation	67.56		23.98		86.35	
1 Adams	40.26	(91)	78.78	(79)	20.09	(89)
2 Antelope	67.06	(64)	110.34	(26)	76.89	(48)
3 Arthur	230.98	( 2)	166.03	( 2)	293.74	( 2)
4 Banner	229.36	( 3)	142.45	( 7)	269.72	( 3)
5 Blaine	160.73	( 8)	159.08	( 3)	216.88	( 7)
6 Boone	113.29	(22)	100.77	(41)	114.02	(26)
7 Box Butte	77.28	(54)	79.88	(74)	58.1	(67)
8 Boyd	70.89	(58)	120.44	(14)	90.32	(39)
9 Brown	107.34	(29)	115.49	(17)	122.07	(23)
10 Buffalo	41.84	(90)	80.79	(72)	23.58	(87)
11 Burt	54.11	(82)	86.83	(59)	41.59	(77)
12 Butler	81.65	(51)	78.69	(80)	61.39	(63)
13 Cass	61.62	(75)	65.95	(92)	29.25	(85)
14 Cedar	91.16	(41)	89.93	(57)	81.59	(43)
15 Chase	112.55	(26)	92.27	(54)	105.20	(35)
16 Cherry	145.50	(13)	133.98	( 9)	177.80	(10)
17 Cheyenne	81.94	(50)	93.38	(49)	75.65	(51)
18 Clay	67.48	(63)	84.01	(64)	52.28	(69)
19 Colfax	70.88	(59)	86.71	(60)	58.25	(66)
20 Cuming	61.52	(76)	80.55	(73)	43.03	(76)
21 Custer	68.39	(61)	101.87	(36)	70.17	(55)
22 Dakota	48.57	(87)	84.98	(62)	34.29	(81)
23 Dawes	65.42	(71)	103.28	(34)	68.53	(57)
24 Dawson	60.57	(77)	79.13	(78)	40.73	(78)
25 Deuel	117.17	(21)	101.04	(40)	118.16	(25)
26 Dixon	64.08	(73)	99.74	(45)	63.82	(61)
27 Dodge	56.61	(80)	74.60	(87)	32.46	(82)
28 Douglas	52.34	(84)	90.43	(56)	43.24	(75)
29 Dundy	125.20	(20)	120.16	(15)	144.36	(17)
30 Fillmore	96.88	(38)	81.02	(71)	78.84	(45)
31 Franklin	83.50	(49)	104.32	(31)	87.61	(40)
32 Frontier	128.87	(17)	114.98	(19)	143.11	(18)
33 Furnas	88.49	(44)	93.42	(48)	82.24	(42)
34 Gage	49.20	(86)	79.51	(77)	29.72	(84)
35 Garden	156.73	(11)	112.61	(23)	168.71	(13)
36 Garfield	89.97	(42)	104.45	(30)	94.19	(38)
37 Gosper	158.03	(10)	111.66	(24)	169.11	(12)
38 Grant	133.32	(16)	128.67	(10)	160.57	(15)
39 Greeley	105.41	(30)	124.09	(12)	128.30	(20)
40 Hall	38.66	(92)	76.48	(85)	16.31	(92)
41 Hamilton	85.58	(47)	83.38	(65)	69.78	(56)
42 Harlan	98.06	(37)	115.21	(18)	112.51	(27)
43 Hayes	208.69	( 4)	152.49	( 5)	258.58	( 4)
44 Hitchcock	102.07	(33)	104.17	(32)	106.03	(32)
45 Holt	68.34	(62)	100.03	(43)	68.38	(58)
46 Hooker	84.53	(48)	122.31	(13)	105.73	(33)
47 Howard	112.67	(25)	92.59	(51)	105.62	(34)
48 Jefferson	75.98	(56)	99.66	(46)	75.66	(50)
49 Johnson	107.79	(28)	101.50	(37)	109.22	(31)
50 Kearney	99.32	(36)	77.18	(83)	77.63	(47)
51 Keith	69.01	(60)	90.85	(55)	60.31	(65)
52 Keya Paha	204.86	( 5)	136.66	( 8)	239.71	( 6)
53 Kimball	112.81	(24)	110.52	(25)	122.80	(22)

TABLE 9-3 (CONT.)

County	Service Responsibility		Service Cost		Expenditure Need	
	Index	Rank	Index	Rank	Index	Rank
54 Knox	66.55	(67)	101.29	(38)	67.77	(59)
55 Lancaster	33.27	(93)	83.22	(66)	17.33	(91)
56 Lincoln	55.58	(81)	82.55	(68)	38.99	(79)
57 Logan	133.46	(15)	151.37	( 6)	182.29	( 9)
58 Loup	147.58	(12)	113.86	(22)	160.75	(14)
59 McPherson	601.78	( 1)	189.35	( 1)	686.72	( 1)
60 Madison	41.99	(89)	76.63	(84)	19.77	(90)
61 Merrick	89.60	(43)	81.86	(70)	72.36	(54)
62 Morrill	112.91	(23)	107.49	(29)	120.03	(24)
63 Nance	63.34	(74)	100.29	(42)	63.61	(62)
64 Nemaha	88.11	(46)	92.34	(53)	80.83	(44)
65 Nuckolls	92.45	(40)	84.58	(63)	77.79	(46)
66 Otoe	65.88	(70)	78.66	(81)	45.59	(73)
67 Pawnee	128.46	(18)	114.17	(21)	141.92	(19)
68 Perkins	158.26	( 9)	114.80	(20)	172.32	(11)
69 Phelps	66.49	(68)	79.54	(76)	47.04	(71)
70 Pierce	93.59	(39)	78.08	(82)	72.75	(53)
71 Platte	47.38	(88)	73.57	(88)	22.26	(88)
72 Polk	109.17	(27)	102.23	(35)	111.29	(29)
73 Red Willow	58.44	(78)	72.63	(90)	32.42	(83)
74 Richardson	66.82	(65)	93.32	(50)	60.47	(64)
75 Rock	145.41	(14)	103.62	(33)	148.85	(16)
76 Saline	66.81	(66)	82.53	(69)	50.20	(70)
77 Sarpy	52.81	(83)	54.77	(93)	9.81	(93)
78 Saunders	79.52	(53)	73.16	(89)	54.01	(68)
79 Scotts Bluff	50.09	(85)	87.41	(58)	38.13	(80)
80 Seward	66.43	(69)	76.12	(86)	43.73	(74)
81 Sheridan	102.37	(32)	109.44	(27)	111.34	(28)
82 Sherman	79.90	(52)	119.19	(16)	98.15	(37)
83 Sioux	195.01	( 6)	157.66	( 4)	249.82	( 5)
84 Stanton	100.93	(34)	82.74	(67)	84.53	(41)
85 Thayer	88.12	(45)	86.50	(61)	75.28	(52)
86 Thomas	103.45	(31)	108.22	(28)	111.26	(30)
87 Thurston	76.58	(55)	99.89	(44)	76.47	(49)
88 Valley	99.63	(35)	99.57	(47)	99.23	(36)
89 Washington	57.61	(79)	67.77	(91)	26.97	(86)
90 Wayne	73.05	(57)	92.44	(52)	65.86	(60)
91 Webster	125.86	(19)	101.29	(39)	127.08	(21)
92 Wheeler	165.71	( 7)	126.75	(11)	191.13	( 8)
93 York	65.13	(72)	79.79	(75)	45.92	(72)

SOURCE: Nebraska Comprehensive Tax Study.

responsibilities, county officials do not have control over the cost of public services. It is appropriate, therefore to incorporate public service costs into an analysis of county fiscal conditions.

An example from the private sector may help to clarify the concept of public service costs. Consider the private service called "home comfort" as measured by the temperature of a house. The cost of this service depends on the cost of the key input, namely heating fuel, and on the environment in which the service must be provided. People who live in states with harsh winters, for example, must spend more to keep the winter temperature at 68 degrees than people who live in states with mild climates. In this example, the service quality is held constant at 68 degrees. To obtain this given service quality, some people must pay a relatively high amount because they face high fuel costs and others must pay a relatively high amount because they face a harsh environment.

Although public service quality can be difficult to measure, the concept of service costs still applies. The quality of police services is the level of protection against crime, for example, and the quality of highway services is the level of protection from potholes, abrasive road surfaces, unsafe intersections, and icy road conditions. The cost of these services depends on the cost of inputs and on the environment in which they must be provided.

Public employees are the main input for public services, so the wage rate is a key component of public service costs. The appropriate wage rate here is the private sector wage, which indicates how much a county must pay to attract people away from the private sector, not the public sector wage, over which county officials have some control. Unfortunately, we do not have any data on private wage rates and therefore cannot measure this component of public service costs. We have no reason to believe, however, that the wage rate for a given job varies widely from one county to another.

Public service costs also depend on the harshness of the environment for providing public services, where environment is broadly defined to include all physical, social and economic characteristics that influence how much a county must spend to obtain services of a given quality. As explained in a later section, our analysis of the determinants of county spending provides estimates of the relationship between environmental factors and public service costs. We find that five environmental factors influence the cost of county services: total area per capita, the number of farms per capita, the share of population on farms, the poverty rate, and the crime rate.

The greater is a county's area per capita, that is, the lower is its population density, the greater are its per capita transportation costs for distributing services around the county. The average county has an area of 21.7 square miles per thousand people. The standard deviation of this area measure is 30.7. We estimate that a county with area per capita one standard deviation above the mean must pay \$38 more per capita to achieve the same service quality than a county with average area per capita.

Farming has a complex impact on the cost of public services in Nebraska's counties. Many county services, such as police protection, are directed toward farms, so public service costs (per capita) increase with the number of farms (per capita) in a county. However, county services provided to a farm are, to a large degree, provided to all the people who live on the farm, so adding people to a farm adds little to total county costs and lowers the per capita cost of county services. In short, the cost of county services per capita increases with the number of farms per capita and decreases with the share of the population that lives on farms.

The average county in Nebraska has 9.3 farms per 100 people and 26.5 percent of its population is classified by the Census as "rural, farm". The standard deviations of these two variables are 4.7 and 13.8, respectively. We estimate that a county with both farms per capita

and farm population one standard deviation above the average must pay \$19 per capita more than a county at the average to provide public services of the same quality.

As of 1984, the state, not the counties, became responsible for providing welfare programs in Nebraska. Nevertheless, counties provide a variety of social services to all county residents, even city residents. The cost of these services increases with the extent of poverty; that is, counties with relatively many poor people must spend more to achieve the same quality social services as other counties. Moreover, the cost of county police services depends on the county crime rate; the higher is the crime rate, the greater is the amount the county must spend to provide a given level of protection against crime. The average poverty and crime rates are both about 15 percent, but the standard deviation of the poverty rate, 5.0, is considerably smaller than the standard deviation of the crime rate, 14.3. We estimate that a county with poverty (crime) one standard deviation above the mean must pay \$25 (\$19) per capita more than a county at the mean to provide services of the same quality.

A county's costs equal the amount it must spend above the average amount (per capita) because of these cost factors. The second column of Table 9-3 presents costs for Nebraska's counties, expressed in index form. As with responsibilities, the average index is set to 100. The standard deviation of the index is 26, which implies that most counties have a cost index between 74 and 126.

The lowest cost index is 55 in Sarpy County and the highest index is 189 in McPherson County. The five counties with the lowest costs (Sarpy, Cass, Washington, Red Willow, and Saunders) have higher population densities than most Nebraska counties, have relatively few farms and small farm populations, have below average poverty rates, and have average (or slightly higher-than-average) crime rates. The five counties with the highest costs (McPherson, Arthur, Blaine, Sioux, and Hayes) all have relatively low population densities, along with many farms, a large farm population, above-average poverty, and virtually no crime. The three

remaining large urban counties (Douglas, Scotts Bluff, and Lancaster) all have slightly below-average costs; although they have relatively high densities and few farms, which imply low costs, they also have much-higher-than-average crime rates, which imply high costs.

**Expenditure Need.** A county's expenditure need is the amount it must spend to achieve the state-wide average service quality given its responsibilities and its costs. This need is outside the control of county officials; it does not depend on their preferences for public service quality or on their management skill. Expenditure need is the expenditure side of a county's fiscal condition. This amount is state-wide average spending (per capita) plus the difference between its service responsibilities and average responsibilities plus the difference between its costs and average costs.

Expenditure need for Nebraska's counties is described in the third column of Table 9-3. Like its components, expenditure need is presented in index form. This index has an average value of 100 and a standard deviation of 86, which indicates that counties differ significantly from each other in their expenditure need. The minimum need index is 10 in Sarpy County, and the maximum need index is 687 in McPherson County. The extreme need in McPherson County is driven by its extremely high service responsibilities. The second neediest county, Arthur, has a much lower index, namely 294. Thus, Sarpy County has to spend about one tenth as much as the average county, whereas Arthur County has to spend almost three times as much as the average county, to obtain services of average quality.

### **Need-Capacity Gap**

A county's overall fiscal condition is determined by the balance between the amount it has to spend to achieve the average service quality and the revenue it can raise at the average tax burden on its residents. The most straightforward way to measure this balance is with a county's need-capacity gap, which is the difference between its expenditure need (per capita) and its revenue-raising capacity (per capita). For ease of interpretation, we set the average need-

capacity gap equal to zero. If a county's need-capacity gap is positive, the county cannot provide the average service quality at the average tax burden; it either must lower its service quality below the average or raise its tax burden above the average--or both. A need-capacity gap of \$50, for example, indicates that a county would have to receive \$50 per capita from outside sources to be able to provide the same service quality at the same tax burden as the average county. In contrast, a need-capacity gap of \$-50 implies that a county could provide the average service quality at the average tax burden and still have \$50 per capita left over to finance higher service quality or to lower the tax burden on its residents.

**Need-Capacity Gap: Findings.** Table 9-4 presents need, capacity, and the need-capacity gap for each county in Nebraska. The entries in this table, unlike those in previous tables, are expressed in dollars per capita. By construction, the average need-capacity gap is zero. The standard deviation of the gap is 199, which implies that most counties have gaps between -199 and +199.

According to this measure of fiscal condition, the five healthiest counties are Sarpy, Cass, Washington, Lincoln and Otoe. These counties could provide the average service quality at the average tax burden and still have between \$179 (Otoe) and \$332 (Sarpy) per capita to provide better-than-average services or a lower-than-average tax burden. All of these counties have below-average expenditure need and above-average revenue-raising capacity. Indeed, Sarpy County's expenditure need is only about 10 percent of the average and its revenue-raising capacity is about 40 percent above average. The two major urban counties, Douglas and Lancaster, are among the eleven healthiest counties, with about average capacity but far-below-average expenditure need.

The five least healthy counties are McPherson, Arthur, Keya Paha, Sioux, and Banner. These counties would have to receive extensive revenue from outside sources to provide the average service quality and the average tax burden. Somewhat surprisingly, all of these counties

TABLE 9-4

## NEED-CAPACITY GAPS IN NEBRASKA COUNTIES, FY 1986

County	Need		Capacity		Gap	
	\$/Per Capita	Rank	\$/Per Capita	Rank	\$/Per Capita	Rank
Average	247.24		247.24		0.00	
Standard Deviation	213.49		56.47		198.97	
1 Adams	49.67	(89)	200.71	(75)	-151.04	(17)
2 Antelope	190.10	(48)	195.75	(77)	- 5.65	(53)
3 Arthur	726.26	( 2)	265.55	(36)	460.71	(92)
4 Banner	666.86	( 3)	352.93	( 5)	313.93	(89)
5 Blaine	536.23	( 7)	250.47	(44)	285.76	(87)
6 Boone	281.91	(26)	311.64	(11)	- 29.73	(47)
7 Box Butte	143.78	(67)	237.10	(52)	- 93.32	(29)
8 Boyd	223.31	(39)	112.58	(93)	110.73	(79)
9 Brown	301.80	(23)	229.90	(56)	71.90	(70)
10 Buffalo	58.31	(87)	199.07	(76)	-140.76	(19)
11 Burt	102.82	(77)	227.28	(58)	-124.46	(25)
12 Butler	151.78	(63)	256.55	(41)	-104.77	(27)
13 Cass	72.33	(85)	339.08	( 7)	-266.75	( 2)
14 Cedar	201.71	(43)	257.78	(40)	- 56.07	(42)
15 Chase	260.10	(35)	229.98	(55)	30.12	(63)
16 Cherry	439.59	(10)	251.73	(43)	187.87	(84)
17 Cheyenne	187.04	(51)	266.99	(34)	- 79.95	(33)
18 Clay	129.26	(69)	201.00	(74)	- 71.74	(37)
19 Colfax	144.01	(66)	216.75	(63)	- 72.74	(36)
20 Cuming	106.39	(76)	192.34	(79)	- 85.95	(30)
21 Custer	173.48	(55)	183.44	(83)	- 9.96	(52)
22 Dakota	84.79	(81)	250.01	(45)	-165.22	( 9)
23 Dawes	169.43	(57)	227.67	(57)	- 58.24	(41)
24 Dawson	100.69	(78)	247.52	(47)	-146.82	(18)
25 Deuel	292.15	(25)	279.17	(26)	12.98	(59)
26 Dixon	157.80	(61)	160.84	(88)	- 3.04	(54)
27 Dodge	80.26	(82)	188.53	(82)	-108.27	(26)
28 Douglas	106.90	(75)	267.85	(33)	-160.95	(11)
29 Dundy	356.92	(17)	313.89	(10)	43.03	(67)
30 Fillmore	194.93	(45)	190.39	(81)	4.53	(55)
31 Franklin	216.62	(40)	191.59	(80)	25.02	(62)
32 Frontier	353.82	(18)	280.59	(23)	73.23	(72)
33 Furnas	203.33	(42)	179.95	(85)	23.38	(61)
34 Gage	73.48	(84)	209.26	(67)	-135.78	(22)
35 Garden	417.12	(13)	327.66	( 8)	89.47	(75)
36 Garfield	232.88	(38)	225.01	(60)	7.88	(57)
37 Gosper	418.12	(12)	383.43	( 3)	34.68	(65)
38 Grant	396.99	(15)	201.86	(71)	195.12	(85)
39 Greeley	317.22	(20)	207.52	(68)	109.70	(78)
40 Hall	40.32	(92)	194.11	(78)	-153.79	(15)
41 Hamilton	172.53	(56)	311.09	(12)	-138.56	(20)
42 Harlan	278.18	(27)	230.78	(54)	47.40	(69)
43 Hayes	639.32	( 4)	326.95	( 9)	312.37	(88)
44 Hitchcock	262.15	(32)	281.83	(22)	- 19.68	(49)
45 Holt	169.06	(58)	152.02	(90)	17.03	(60)



TABLE 9-4 (CONT.)

County	Need		Capacity		Gap	
	\$/Per Capita	Rank	\$/Per Capita	Rank	\$/Per Capita	Rank
46 Hooker	261.41	(33)	146.54	(91)	114.87	(80)
47 Howard	261.15	(34)	285.96	(21)	- 24.81	(48)
48 Jefferson	187.07	(50)	272.29	(30)	- 85.23	(31)
49 Johnson	270.03	(31)	223.97	(61)	46.05	(68)
50 Kearney	191.92	(47)	273.65	(29)	- 81.73	(32)
51 Keith	149.12	(65)	279.70	(24)	-130.57	(24)
52 Keya Paha	592.66	( 6)	212.63	(64)	380.03	(91)
53 Kimball	303.62	(22)	272.26	(31)	31.36	(64)
54 Knox	167.55	(59)	158.35	(89)	9.21	(58)
55 Lancaster	42.84	(91)	201.39	(72)	-158.55	(12)
56 Lincoln	96.39	(79)	286.08	(20)	-189.68	( 4)
57 Logan	450.69	( 9)	205.70	(69)	244.99	(86)
58 Loup	397.44	(14)	309.45	(13)	87.99	(74)
59 McPherson	1697.86	( 1)	385.51	( 1)	1312.35	(93)
60 Madison	48.87	(90)	222.03	(62)	-173.16	( 8)
61 Merrick	178.91	(54)	246.25	(48)	- 67.34	(40)
62 Morrill	296.78	(24)	201.08	(73)	95.70	(76)
63 Nance	157.27	(62)	173.81	(86)	- 16.54	(50)
64 Nemaha	199.84	(44)	269.88	(32)	- 70.04	(38)
65 Nuckolls	192.32	(46)	259.84	(39)	- 67.52	(39)
66 Otoe	112.73	(73)	291.63	(17)	-178.90	( 5)
67 Pawnee	350.89	(19)	231.89	(53)	119.00	(81)
68 Perkins	426.05	(11)	347.85	( 6)	78.20	(73)
69 Phelps	116.31	(71)	209.76	(66)	- 93.45	(28)
70 Pierce	179.87	(53)	253.81	(42)	- 73.94	(35)
71 Platte	55.04	(88)	211.96	(65)	-156.92	(14)
72 Polk	275.17	(29)	307.25	(15)	- 32.08	(46)
73 Red Willow	80.17	(83)	237.92	(51)	-157.75	(13)
74 Richardson	149.50	(64)	226.26	(59)	- 76.75	(34)
75 Rock	368.03	(16)	241.33	(49)	126.70	(82)
76 Saline	124.12	(70)	261.83	(38)	-137.72	(21)
77 Sarpy	24.26	(93)	356.00	( 4)	-331.74	( 1)
78 Saunders	133.53	(68)	266.85	(35)	-133.33	(23)
79 Scotts Bluff	94.27	(80)	247.96	(46)	-153.69	(16)
80 Seward	108.11	(74)	286.37	(19)	-178.26	( 6)
81 Sheridan	275.28	(28)	286.90	(18)	- 11.62	(51)
82 Sherman	242.66	(37)	137.87	(92)	104.79	(77)
83 Sioux	617.67	( 5)	279.25	(25)	338.41	(90)
84 Stanton	208.99	(41)	383.62	( 2)	-174.63	( 7)
85 Thayer	186.12	(52)	239.87	(50)	- 53.75	(43)
86 Thomas	275.09	(30)	307.89	(14)	- 32.80	(45)
87 Thurston	189.07	(49)	182.03	(84)	7.04	(56)
88 Valley	245.33	(36)	172.91	(87)	72.42	(71)
89 Washington	66.69	(86)	263.26	(37)	-196.57	( 3)
90 Wayne	162.84	(60)	205.43	(70)	- 42.59	(44)
91 Webster	314.20	(21)	278.64	(27)	35.56	(66)
92 Wheeler	472.55	(72)	306.74	(28)	165.82	(83)
93 York	113.53	( 8)	276.01	(16)	-162.48	(10)

SOURCE: Nebraska Comprehensive Tax Study.

except for Keya Paha have above-average capacity, but they also have far-above-average expenditure need. The extremely high need in McPherson County, which reflects its extensive county roads per capita, already has been noted; despite the fact that McPherson County has the highest overall capacity in the state, this high need leads to a need-capacity gap of over \$1312 per capita.

**Conclusions.** Some broad patterns emerge from this analysis of county fiscal conditions in Nebraska. The counties with the best fiscal condition tend to be suburban counties near Douglas or Lancaster County or counties that contain a city that is relatively large by Nebraska standards, such as North Platte (in Lincoln County). Because of the large role played by municipal governments in these counties, the county governments tend to have extremely low service responsibilities, and because they contain relatively few farms and, in some cases, have relatively high population densities, these counties tend to have relatively low service costs. Moreover, despite the fact that municipalities use up a large share of the capacity in these counties, the county governments tend to have relatively high revenue-raising capacity because of high incomes in the counties and the presence of commercial property (on which some of the property tax burden is exported). Douglas and Lancaster Counties themselves rank 11th and 12th in overall fiscal condition. Even though these two counties have particularly high concentrations of commercial property, they fall somewhat behind the surrounding counties because they have somewhat higher public costs and because municipal governments claim a particularly large share of the available capacity.

In contrast, the counties with the poorest fiscal condition tend to be large, heavily rural counties, with low population densities and many farms. Because these counties do not have to share resources with municipalities, some of them have above-average revenue-raising capacity, but they all have far-above-average service responsibilities and relatively high public service costs, and their capacity falls far short of their expenditure need.

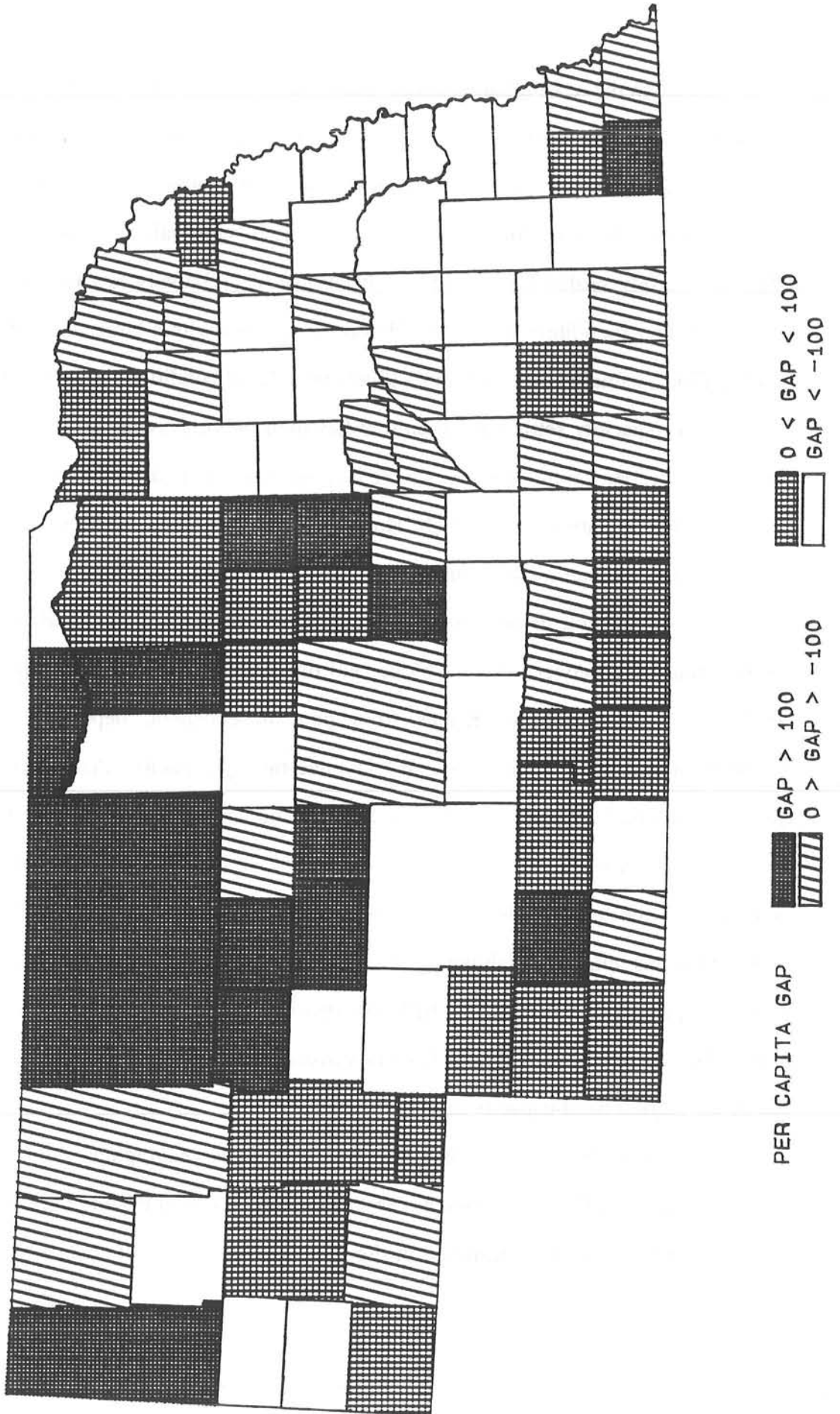
Although the most urban counties tend to have the best fiscal condition and the most rural counties tend to have the poorest fiscal condition, these tendencies do not tell the whole story. One rural county, Stanton, is among the healthiest seven counties. Because municipalities play a small role there, Stanton County has above-average revenue-raising capacity, and because it is relatively densely settled for a rural county, it also has relatively low public service costs and below-average expenditure need. In addition, one county with a large share of its population in municipalities, namely Hooker, is in relatively poor fiscal condition. This county has few farms, but it is very sparsely settled and therefore has high public service costs. Moreover, it has an extremely low per capita income, which it must share with the municipalities that serve 70 percent of its population. As a result, Hooker County has above-average expenditure need and below-average revenue-raising capacity, and only 13 counties have larger need-capacity gaps.

The urban-rural distinction also does not help to explain the fiscal condition of the 50 counties that have between 45 and 65 percent of their population in municipalities. The fiscal condition of these counties ranges from poor to excellent, depending on their service responsibilities, public service costs, and revenue-raising capacity. As explained earlier, Sarpy County, with about 59 percent of its population in municipalities, has the best fiscal condition in the state. In contrast, Cherry County, with about 52 percent of its population in municipalities, ranks among the ten counties with the poorest fiscal condition. Cherry County is sparsely settled, so it has relatively high public service costs, and it has above-average county roads and a county hospital, so it has relatively high service responsibilities. These relatively high costs and responsibilities overwhelm Cherry County's average revenue-raising capacity and leave it with one of the highest need-capacity gaps in the state.

Another pattern that emerges from this analysis is geographic: the vast majority of the counties in the best fiscal condition are east of the city of Grand Island or are along Interstate 80. This geographic pattern is illustrated in Figure 9-1. Among the 50 counties with the best fiscal

# Fiscal Condition of Nebraska Counties As Measured by the Need-Capacity Gap FY 1986

FIGURE 9-1



condition, only five do not fall into one of these two categories. Three of these five--Red Willow (ranked 13th), Scotts Bluff (ranked 16th) and Box Butte (ranked 29th)--contain cities that are relatively large by Nebraska standards, and only two--Thomas (ranked 45th) and Hitchcock (ranked 49th)--are rural counties in the western part of the state. Compared to the western counties, the eastern counties tend to be more densely settled and, because of their ties with the major commercial centers of Omaha and Lincoln, to have higher per capita income. As explained above, these characteristics strengthen a county's fiscal condition even if the county is predominantly rural. Moreover, many of the largest cities in the state outside of the east, including North Platte (in Lincoln County, ranked 4th), Grand Island (in Hall County, ranked 15th), and Kearney (in Buffalo County, ranked 19th), are clustered along Interstate 80. As explained earlier, these large cities tend to boost the fiscal condition of their county.

Not only are most of the top-ranked counties in the east, but 35 of the 41 counties east of Grand Island are among the 50 counties in the best fiscal condition. The only eastern counties that are not in the top 50 are poor, rural counties on or near the state border: Knox, Antelope, Dixon, and Thurston in the north; Fillmore, Johnson, and Pawnee in the south.

Finally, we discover that townships have little net impact on a county's fiscal condition. As noted earlier, townships have a large negative impact on a county's revenue-raising capacity, particularly through the property tax. Eighteen of the 20 counties with the lowest overall revenue-raising capacity have townships. At the same time, however, townships relieve counties of much of the responsibility for highways; that is, counties in which townships exist tend to be responsible for far fewer miles of highways than do other counties. Twenty-three of the 28 counties with townships have above-average service responsibilities. These two effects roughly offset each other. Only one of the counties with the smallest need-capacity gaps (Washington) and none of the 10 counties with the largest need-capacity gaps have townships, and the average

need-capacity gap for counties with townships is somewhat better than average, namely \$-50 per capita.

Townships' lack of impact on county fiscal condition is not surprising. Townships basically draw on the same incomes as counties to provide services, principally highway maintenance, that counties could provide at the same cost. In other words, townships simply take over some portion of a county's service responsibilities and the capacity needed to support it.

### **The Determinants of County Spending**

Our measure of county's fiscal condition is designed to be unaffected by that county government's actual behavior--that is, by its actual decisions about spending and taxation. Nevertheless, state policy makers may want to understand the fiscal behavior of county governments. Do counties with higher per capita income or larger tax bases spend more than other counties? Do counties with greater service responsibilities provide the same quality services as other counties? What is the impact of state and federal grants on county spending? This section addresses these and other questions about county fiscal behavior. The statistical support for our conclusions is presented in the appendix.

Following standard practice, our analysis of county operating spending per capita is built on the notion of voter demand for public services. Voters' demand for public services, like their demand for private goods and services, increases with their income and decreases with the "price" of those services. In the case of public services, the "price" is the amount a voter must pay in taxes for another unit of services. This so-called tax price is inversely related to the property tax base in the county; the greater the tax base, the lower the taxes each voter must pay to raise a given amount of revenue.

We find that both income and tax-price have a statistically significant impact on county spending. As noted earlier, a "standard deviation" is a measure of the typical variation in a variable across counties. A county with per capita income one standard deviation above the average spends about \$20 more per capita than a county with average income. In addition, a county with a tax price one standard deviation above the average spends about \$32 less per capita than a county with an average tax price.

Counties with greater service responsibilities also spend more than other counties. However, a \$1 increase in county service responsibilities leads to only a \$0.25 increase in county spending. Remember that our measure of service responsibilities is the amount a county would have to spend to obtain services of average quality. This result implies, therefore, that counties with relatively high responsibilities encounter a kind of fiscal overburden; in order to keep up with their high responsibilities, they cut back on the quality of services. A county with many miles of roads per capita, for example, will not spend as much per mile to maintain those roads as a county with few miles of roads per capita.

Not surprisingly, counties with hospitals spend more than other counties. We find that counties with hospitals spend about \$44 more per capita than other counties plus about \$0.82 for every dollar of hospital revenue. As noted earlier, the \$44 represents spending that is related to providing hospitals, including some general administration and perhaps some health spending, in addition to hospital spending that is not covered by charges.

Counties with harsher environments for providing public services have higher public service costs and must spend more than other counties to receive the same service quality. Thus, the impact of environmental factors on public service costs can be estimated by determining the link between these factors and county spending, controlling for the determinants of service quality. As explained earlier, we find that five environmental factors influence county spending

in Nebraska, namely population density, the number of farms per capita, the share of the population classified as "farm," the poverty rate, and the crime rate.

Aid from the state and from other local governments tends to stimulate county spending. For every \$1 of state aid (measured according to the Census accounting system), county spending increases by about \$0.18. This relatively small effect implies that most of each state aid dollar, namely \$0.82, goes toward reduced county taxes. This response to aid varies from county to county, however, and could be different for new state aid programs. For example, a state matching grant would undoubtedly stimulate county spending more than current state aid programs.

County spending also increases with payments received from other local governments. This result is to be expected because these payments primarily represent reimbursement to the counties for road maintenance contracts with other governments. In the case of townships, contracts of this kind appear to be common and county spending increases with the number of miles of township roads in the county. Somewhat surprisingly, however, we find no statistically significant connection between federal categorical grants or federal general revenue sharing and county spending.

## **Policy Options for the State**

### **Current State Aid Programs**

As explained earlier, the state aid figures in Table 9-1 follow Census accounting procedures which count federal aid "passed through" to the counties as "state" aid. This section breaks away from this accounting system to examine the two main programs in the Nebraska state budget for providing aid to counties. These two programs are the grants provided through the governmental subdivision fund and the reimbursement for the homestead exemption from the property tax.



In FY 1986, Nebraska distributed \$15.6 million to its counties through the governmental subdivision fund. This aid originated as a replacement for county property tax revenue that was lost as a result of state-mandated exemptions for various types of personal property, including business inventories and farm equipment. The connection between these exemptions and state aid has been severed, however, and would be very difficult to restore, largely because personal property is so hard to assess. The aid formula that has evolved is based on a county's property tax levy. Each county's share of the total aid budget equals its share of total county property taxes in the state.

Property taxes are the principal source of revenue for counties, so the property tax levy varies across counties for the same reasons that spending varies, such as population, income, service responsibilities, public service costs, preferences concerning service quality, and managerial efficiency. The current state aid formula rewards counties for higher property taxes regardless of the reason for these higher taxes. Thus, some counties are rewarded for higher taxes that arise because of managerial inefficiency or a preference for high-quality services, whereas other counties are rewarded for higher taxes that arise because of high service responsibilities or high public service costs.

In our judgement, this form of aid program is neither cost-effective nor fair. It is not cost effective because it rewards inefficiency; counties that collect more taxes but provide the same quality of services as other counties nevertheless receive more state aid. It is unfair because it does not distinguish between counties that collect more property taxes through their own choice and counties that collect more property taxes because of factors outside their control, such as service responsibilities or public service costs.

Another way to evaluate this state aid program is to determine the extent to which it gives more aid to counties in poorer fiscal condition, as measured by their need-capacity gaps. We find that grants from the governmental subdivision fund are directed, to a small degree, toward

counties in poorer fiscal condition. To be precise, if County A has a need-capacity gap (per capita) that is \$1.00 higher than the gap in County B, then county A can expect to receive \$0.015 more (per capita) in state grants than County B. Another way to express this result is that state grants offset about 1.5 percent of the differences in need-capacity gaps across counties.

The reason this small amount of equalization exists is that counties with higher responsibilities and higher costs must spend more than other counties--and therefore must levy higher property taxes. However, the extent of equalization remains modest because, as explained earlier, higher property taxes also reflect many factors other than these components of fiscal condition. In the next section, we show how Nebraska could design a grant program that would be much more highly targeted toward counties in poor fiscal condition.

The other major state aid program for counties in Nebraska is the homestead exemption distribution. In FY 1986, counties received \$28.1 million from the state under this program. Counties grant exemptions from the property tax to low-income elderly or disabled homeowners and are reimbursed by the state for these exemptions.

Nebraska's property tax exemptions are designed to lessen the burden of the property tax on low-income elderly and disabled people. The state reimbursement is designed to shift the cost of this program from the counties to the state. In our judgement, these objectives are reasonable and similar programs have been implemented in many other states.

Homestead exemptions and the accompanying state distributions are an appropriate way for the state to help certain disadvantaged individuals, but these distributions should not be regarded as a substitute for state assistance to disadvantaged counties. In fact, counties in poorer fiscal condition tend to receive slightly smaller homestead distributions than other counties. This finding reflects the fact that in Nebraska, as in other states, elderly and disabled people tend to concentrate in cities. As documented earlier, counties that contain relatively large cities are likely to be in good fiscal condition.

## Equalizing Grants

A key objective of grant programs in many states is to help jurisdictions that are, through no fault of their own, in poor fiscal condition. It would be a mistake to reward jurisdictions that were in fiscal trouble because of mismanagement or profligate spending, but many public officials believe that the state government should help jurisdictions that are in fiscal trouble because of their economic and social characteristics. The objective of this type of assistance is to insure that all citizens have access to an adequate level of public services, even if they live in a jurisdiction with a low revenue-raising capacity or a high expenditure need.

In this section, we present a type of grant program for Nebraska that is explicitly designed to help offset fiscal disparities across counties; that is, to help counties in relatively poor fiscal condition because of factors outside their control. Although we believe that offsetting fiscal disparities across counties is a legitimate and even compelling objective for the State, any decision about the extent to which fiscal disparities are offset must be made by Nebraska state officials. Our approach is to provide a general grant formula for offsetting fiscal disparities across counties and to show how state officials can increase or decrease the generosity of the program.

Our earlier analysis shows that state assistance to counties through the governmental subdivision fund already is directed toward counties in poor fiscal condition--but only to small degree. The general formula described below would allow the state to increase the degree to which its aid is targeted toward these counties.

In order to implement a grant program to offset fiscal disparities across counties, state officials must make two decisions. First, they must decide on the budget for the program. Second, they must decide whether the program will be directed toward all counties or will be limited to those counties in the poorest fiscal condition. These two decisions determine the percentage of existing fiscal disparities that can be offset by state aid. The greater is the

program's budget, the greater is the percentage of existing disparities that the program can offset. And the more counties are included in the program, the lower is the program's ability to offset the fiscal disparities among recipient counties.

These points are illustrated in Table 9-5. Based on the 1984 populations and FY 1986 need-capacity gaps in Nebraska's counties, we calculate the percentage of existing disparities that can be offset, called the offset percentage, for various state budget levels and various sets of counties. The first column of entries in the table lists the offset percentage for various state budgets when the aid program applies to all counties in the state. This column reveals that Nebraska can offset 0.31 percent of existing fiscal disparities for every million dollars it spends. With the FY 1986 budget for the governmental subdivision fund, \$15.6 million, the state could offset about 5 percent of the fiscal disparities among all counties--which is over three times the percentage in the current aid formula.

A program that gives grants to all counties is not a cost-effective way to help the counties in poorest fiscal condition, because it devotes a large share of its budget to small per capita grants to large counties, which tend to be in relatively good fiscal condition. One way to focus the aid on the neediest counties, therefore, is to set up a grant program limited to counties with a need-capacity gap above a selected cut-off point. The remaining three columns of Table 9-5 describe grant programs with three different cut-off points: a need-capacity gap above \$-50 per capita, a need-capacity gap above zero, and a need-capacity gap above \$50 per capita. Consider the third column, which describes a grant to all counties with above-average gaps--that is, with gaps above zero. For every \$1 million of budget, this program can offset 9 percent of the existing fiscal disparities among these counties. Thus, an \$11 million budget would eliminate these differences entirely.

These points are illustrated graphically in Figure 9-2. The four lines in this figure correspond to the four \$1 million aid programs in the first row of Table 9-5. As the cut-off point

TABLE 9-5

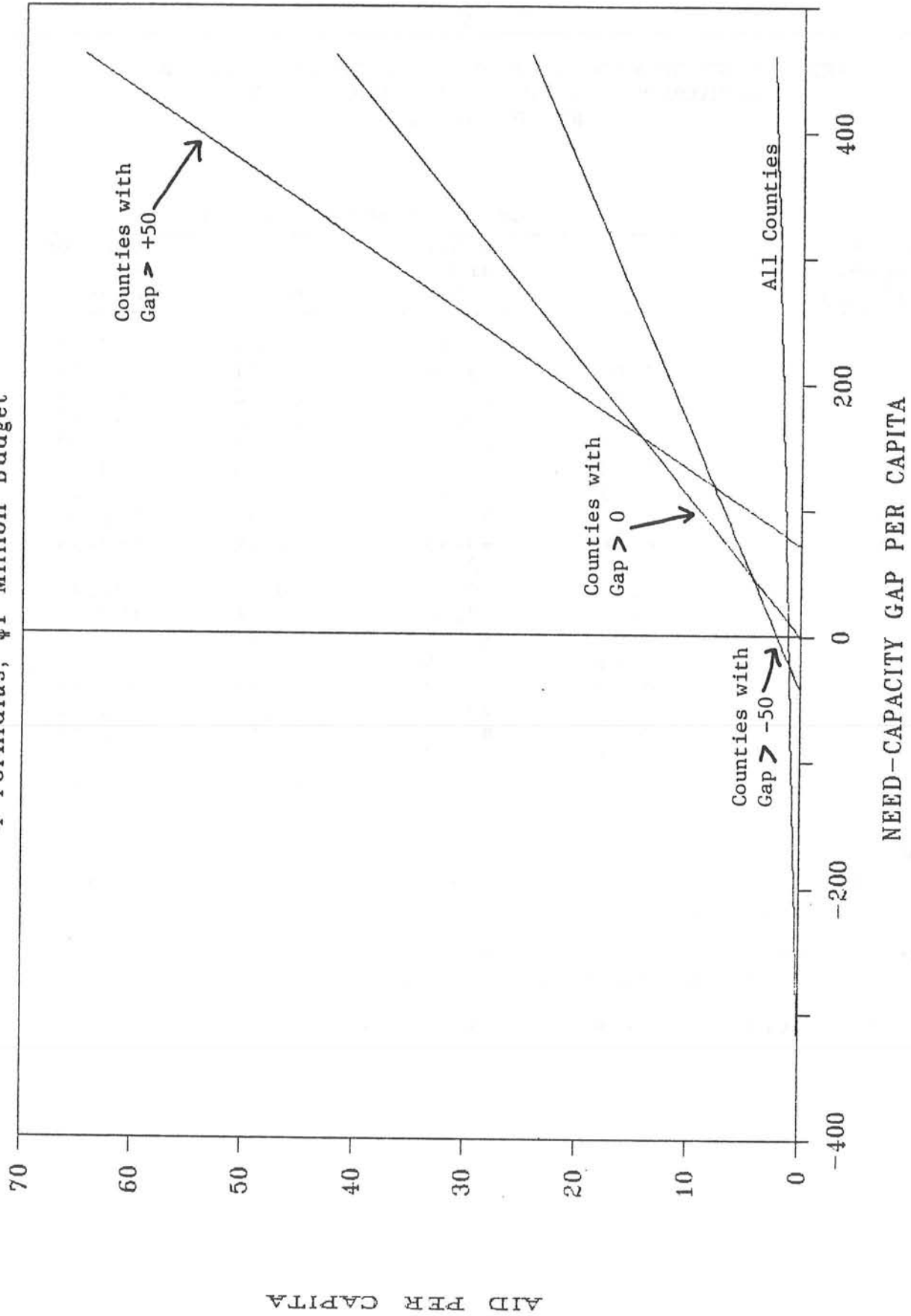
PERCENTAGE OF FISCAL DISPARITIES ACROSS COUNTIES  
ELIMINATED BY STATE AID, FOR VARIOUS  
AID PROGRAMS

State Aid Budget (millions)	Counties Receiving Aid			
	All Counties	Counties with Gap>-50	Counties with Gap>0	Counties with Gap>+50
1	0.31	4.83	9.11	16.62
2	0.63	9.66	18.21	33.23
3	0.94	14.50	27.32	49.85
4	1.25	19.33	36.43	66.46
5	1.57	24.16	45.53	83.08
6	1.88	28.99	54.64	99.69
7	2.19	33.82	63.74	116.31
8	2.51	38.66	72.85	132.92
9	2.82	43.49	81.96	149.54
10	3.13	48.32	91.06	166.15
11	3.45	53.15	100.17	182.77
12	3.76	57.99	109.28	199.38
13	4.07	62.82	118.38	216.00
14	4.39	67.65	127.49	232.61
15	4.70	72.48	136.59	249.23
16	5.01	77.31	145.70	265.84
17	5.33	82.15	154.81	282.46
18	5.64	86.98	163.91	299.07
19	5.95	91.81	173.02	315.69
20	6.27	96.64	182.13	332.30
Number of Counties	93	50	39	24

Note: Fiscal disparities are measured by a county's need-revenue gap, abbreviated as "gap."

SOURCE: Nebraska Comprehensive Tax Study.

FIGURE 9-2  
AID TO NEBRASKA COUNTIES  
4 Formulas, \$1 Million Budget



for receiving aid moves to the right, the offset percentage, which is represented by the steepness of the line, goes up. Hence, the counties in the poorest fiscal condition receive much more aid per capita when the cut-off point is a gap of \$50 per capita (which defines the aid program in column 4) than when all counties receive aid (as in column 1).

Although the grant programs in columns two through four do not give aid to counties in relatively good fiscal condition, they could easily be combined with a flat per capita grant to all counties. For example, the \$15.6 million from the governmental subdivision fund could be divided in half; \$7.8 million given to counties with need-capacity gaps above zero would offset about 71 percent of the fiscal disparities among these counties, and the remaining \$7.8 million would finance a grant of about \$5 per capita for all counties in the state. This two-part program would provide much more assistance to the neediest counties than a \$15.6 million equalizing grant program given to all counties; as noted earlier, this program would offset only about 5 percent of existing fiscal disparities.

One can also read Table 9-5 in another way: If one wants to offset a certain portion of fiscal disparities across counties, say 50 percent, then the table indicates the combinations of program budget and included counties that make it possible to achieve this objective. The table indicates, for example, that the 50 percent target could be obtained with a \$11 million grant program given to counties with need-capacity gaps above \$-50 or with a \$5.5 million grant program given only the counties with above-average gaps.

Given the wide range in need-capacity gaps across counties, and in particular the extremely high gaps in a few counties, we recommend that the state consider using some of its county-assistance budget for a grant program that is explicitly designed to offset fiscal disparities. Moreover, we recommend that to some degree this program be limited to the counties with the poorest fiscal condition so that it can provide assistance where it is most needed at a reasonable cost. (To implement this recommendation, the state must be able to

estimate and update each county's need-capacity gap. A method for doing so is presented in the appendix to this paper.)

### **County Tax Limits, and the Role of Townships**

The Nebraska constitution places a limit of 50 cents per \$100 of assessed value, or 0.5 percent, on county property tax rates. This limit is binding in a few counties and close-to-binding in several others. As of September 1987, 4 counties were at this limit, 14 counties had tax rates of 0.49 percent or above, and 27 counties had tax rates of 0.45 or above. Because counties do not have any other broad-based taxes on which they can draw, future increases in the cost of public services could push many more counties up to this limit.

The form of this tax limit is has two serious flaws. First, it does not recognize the role of townships. This neglect is both unfair and distortionary. Townships themselves face a statutory property tax limit of 0.28 percent, but this limit is independent of the limit placed on the county tax rate. Because the county limit does not apply to township property taxes, counties in which townships maintain a large share of the highways are less likely to be constrained by the county limit than are counties without townships. In fact, the sum of county and average township property tax rates exceeds 0.5 percent in 10 counties. These counties are, in effect, avoiding the tax limit by shifting some of the responsibility for highways onto townships. Thus, the county limit is much stricter for counties without townships than for counties with townships. This difference in treatment is unfair.

Furthermore, the current form of the county tax limit encourages counties to shift service responsibilities toward townships. Townships do not appear to have any fiscal advantages over counties. Indeed, some townships do not actually maintain highways themselves but merely contract with the county for this service; this arrangement simply adds an unnecessary administrative layer to highway service provision. Nevertheless, voters in some counties may for nonfiscal reasons prefer to have some services delivered by townships. Even so, we can



think of no justification for a policy that encourages the use of townships. Such a policy distorts voters' decisions; that is, it leads voters to make use of townships because of an artificial constraint, not because voters inherently prefer to receive certain services from townships instead of from counties. The potential for distortion is illustrated by the recent decision by voters in Hall County to retain townships even though the townships currently provide few services. Although Hall County's property tax rate is well below the constitutional limit, voters preserved their option to shift service responsibilities to townships in the future and thereby avoid the tax limit.

The second flaw in the current tax limit is that it does not recognize the fact that some counties must spend relatively large amounts (and hence levy relatively high property taxes) for reasons outside their control, such as high service responsibilities or high service costs. Thus, counties with relatively high responsibilities and costs are more likely to reach the the tax limit than other counties and are therefore more likely to be required to cut back on the quality of their public services. In fact, 2 of the counties currently at the limit are among the 5 counties with the poorest fiscal condition, and 10 of the 14 counties with tax rates above 0.49 are among the 25 least healthy counties. Unless it is offset by other state policies, the tax limit forces the counties in the poorest fiscal condition to accept lower quality public services than other counties.

We recommend that Nebraska move to correct these flaws in the current county tax limit.

First, a constitutional amendment should be passed either to eliminate the county tax limit or to modify it to account for the role of townships. The most straightforward modification would be to add the township tax limit to the county tax limit in counties without townships. This modification would set a limit of 0.78 percent on the sum of the county and township tax rates. By setting the same overall limit in counties with and without townships, this approach would eliminate both the current unfair treatment of counties without townships and the

inappropriate incentive for counties to shift service responsibilities toward townships. (A more comprehensive analysis of tax limits in Nebraska will be provided in a separate paper.)

If the county tax limit is retained, Nebraska also should provide some assistance for the counties with the poorest fiscal condition to insure that the county tax limit does not force them to accept public service quality that is far below the service quality in the average county. In our judgement, the most appropriate way to provide this assistance would be through an equalizing grant program, such as the one described in the previous section. Such a program would provide assistance to counties that are hard-hit by economic and social factors outside their control and would thereby enable those counties to keep their tax rates below the limit and to maintain their service quality. A less desirable alternative would be to give counties access to another broad-based tax, such as a sales tax. Because only a tiny portion of the sales tax burden could be exported to nonresidents, this alternative would not add to counties' revenue-raising capacity (that is, to the revenue they could raise at a given tax burden on their residents), but it would enable counties to avoid the cuts in service quality that a binding tax limit requires.

### Conclusions

In FY 1986, Counties in Nebraska spent an average of about \$300 per capita per for their basic operations. Most of this money was spend on highways, health and hospitals, and general governmental administration. Counties' principal source of revenue is the property tax, with significant contributions from state and federal aid and, particularly for hospitals, charges.

A county's revenue-raising capacity, which is the money it can raise at a given tax-burden on its residents, depends on resident income, the share of capacity used up by townships and municipalities, and on the county's ability to export its property tax burden to nonresidents. In Nebraska, some urban counties have a relatively high revenue-raising capacity despite the resources consumed by their cities because they have relatively high income and ability to export

the property tax burden. Some rural counties also have relatively high revenue-raising capacity because they do not have to share their resources with townships or municipalities. The counties with the lowest revenue-raising capacity tend to be low-income counties with a significant share of their population in municipalities.

A county's expenditure need, which is the amount it must spend to provide public services of average quality, depends on its public service responsibilities and on its public service costs. In Nebraska, rural counties tend to have relatively high expenditure need because they are responsible for relatively many miles of roads per capita and because their low population density and high number of farms per capita drive up the cost of providing public services. Urban counties, on the other hand, tend to have relatively low expenditure need because state, federal, and municipal governments maintain most of the highways and because high population density and a lack of farms hold down the cost of public services. Public service costs, but not service responsibilities, are about average in the largest urban counties; high poverty and crime rates largely offset the cost-lowering effects of high density and a lack of farms.

A county's need-capacity gap, which is our summary measure of its fiscal condition, is the difference between its expenditure need and its revenue-raising capacity. Because of their relatively low expenditure need and relatively high revenue-raising capacity, the urban and suburban counties in the eastern third of the state and the counties along Interstate 80 with large cities (by Nebraska standards), tend to have relatively low need-capacity gaps--that is, to be in the best fiscal condition. Although some of the rural counties in the central and western parts of the state have relatively high revenue-raising capacity, these counties have such high expenditure needs that most of them have relatively high need-capacity gaps.

The state's principal aid program for counties is the distribution of money from the governmental subdivision fund. This program gives more aid to counties with higher property

tax levies, regardless of whether the reason for high taxes is a preference for high-quality services, managerial inefficiency, extensive service responsibilities, or high service costs. Moreover, this program does little to help counties in poor fiscal condition. We provide an alternative grant formula that does not reward counties for fancy public services or inefficient management and that can be directed toward the neediest counties.

The Nebraska state constitution limits the county property-tax rate to 0.5 percent, whether or not the county contains townships. As a result, counties with townships can avoid the limit by shifting service responsibilities onto townships. The current limit therefore is much harsher for counties without townships and it provides an inappropriate incentive for counties with townships to shed service responsibilities. We recommend that the limit be changed (and raised) so that it applies to the sum of the county tax rate and the township tax rate (if any). The current tax limit also is much harsher for counties in poor fiscal condition. State grants directed toward these counties would go a long way toward eliminating this problem.

## Appendix 9-A

### Introduction

This appendix gives the technical details of the calculations described in the text of this paper. It follows the outline of the text.<sup>2</sup> Some of the discussion in this appendix assumes that the reader is familiar with basic statistical procedures, such as multiple regression analysis.

Many of the results in the text are expressed in index form. These indexes are a simple translation of the calculations in this appendix, which are in dollars per capita. Consider a variable for county  $i$ ,  $R_i$ , which is expressed in dollars per capita and let  $R_S$  be the average value of  $R$  across all counties in the state. The the index for  $R$  in county  $i$  is simply  $100(R_i)/(R_S)$ .

### County Fiscal Condition

A jurisdiction's fiscal condition is its ability to deliver public services to its residents given its economic and social characteristics. The distinction between a jurisdiction's fiscal condition (or structural fiscal condition) and its budgetary condition is discussed in Bradbury and in Ladd and Yinger.<sup>3</sup>

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<sup>2</sup>The methods employed here draw heavily on K.L. Bradbury, H.F. Ladd, M. Perrault, A. Reschovsky and J. Yinger, "State Aid to Offset Fiscal Disparities Across Communities," *National Tax Journal* (June 1983): 151-170; K.L. Bradbury and H.F. Ladd, "Changes in the Revenue-Raising Capacity of U.S. Cities, 1970-1982," *New England Economic Review* (March/April 1985): 20-36; and H.F. Ladd and J. Yinger, *The Fiscal Health of U.S. Central Cities* (Baltimore: Johns Hopkins Press, forthcoming).

<sup>3</sup>K.L. Bradbury, "Structural Fiscal Distress in Cities: Causes and Consequences," *New England Economic Review* (January/February 1983): 33-44; and Ladd and Yinger, *Are Cities Ailing? The Fiscal Health of U.S. Central Cities*.

## Revenue-Raising Capacity

The concept of revenue-raising capacity is discussed in detail in Bradbury and Ladd and in Ladd and Yinger.<sup>4</sup>

**Revenue-Raising Capacity Through the Property Tax.** Revenue-raising capacity through the property tax is calculated in five steps.

The **first step** is to calculate the average tax burden from local property taxes in the state, which is the sum of all county, town, and municipal property tax revenue divided by total state income. This calculation defines the baseline property tax burden that is held constant across counties.

The **second step** is to account for the portion of this tax burden that is used up by townships and municipalities in each county. The average township (municipal) tax burden equals total township (municipal) property taxes in the state divided by total income in townships (municipalities). (We do not have data on township incomes, so we assume that the per capita income in a township equals the per capita income in that townships' county.) In counties with townships, the capacity used up by townships equals the state-wide average township tax burden multiplied by the total income of township residents in that county. Similarly, the capacity used up by municipalities equals the state-wide average municipal tax burden multiplied by the total income of municipality residents in that county. A county's net revenue-raising capacity through the property tax before exporting equals the baseline property tax burden multiplied by total income in the county minus the capacity used up by townships and municipalities in that county.

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<sup>4</sup>Bradbury and Ladd, "Changes in the Revenue-Raising Capacity of U.S. Cities, 1970-1982"; and Ladd and Yinger, *The Fiscal Health of U.S. Central Cities*.

The **third step** is simply to express each county's pre-exporting capacity in per capita form by dividing this capacity by county population.

The **fourth step** is to calculate the export ratio for each county, which is the estimated ratio of the value of property owned by nonresidents to the value of property owned by residents. (Market values, which are somewhat greater than assessed values for some types of property, are used for this analysis.) According to the incidence analysis presented in the text, resident-owned property equals all residential, farm, and personal property and half of commercial, industrial, and utility property. (Note that payments by public utilities in lieu of taxes are not considered because they are based on electricity sales, which is closely related to county income, not on the location of utility property, which is concentrated in some counties.)

The export ratio indicates the dollars of property taxes paid by nonresidents for every dollar paid by residents. Thus, the **fifth step** is to account for exporting by multiplying capacity before exporting by one plus the export ratio.

The key assumption in calculating the export ratio is that 50 percent of the tax on commercial, industrial, and utility property is exported to nonresidents. This assumption is based on the standard conclusion that most of the burden of the property tax falls on the owners of land and capital and the national average figures that 65 percent of industrial property and 54 percent of commercial property are owned by corporations.<sup>5</sup> Of course, some shareholders in national corporations live in Nebraska (and in the same county as the corporate property), so we rounded both of these figures down to 50 percent to obtain a rough estimate of the share of this property in each Nebraska county that is owned by nonresidents. This estimate will be too high if many of the shareholders in county corporations live in the county, and it will be too low if businesses

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<sup>5</sup>These figures are reported in Bradbury and Ladd, "Changes in the Revenue-Raising Capacity of U.S. Cities, 1970-1982."

are able to shift a significant share of their property tax burden onto nonresident shoppers. The latter possibility can only arise if a county is a commercial center and nonresident shoppers cannot easily shift their purchasing into another county. These two possibilities do not appear likely, so we believe that 50 percent is a reasonable approximation. Moreover, the export ratios for Nebraska's counties are so small (7 percent on average) that even fairly substantial changes in this incidence assumption will have only a small impact on our results.

**Revenue-Raising Capacity through Other Sources.** Revenue-raising capacity through sources other than the property tax is calculated in a manner similar to capacity through the property tax. For reasons given in the text, however, exporting is assumed to be impossible, so only the first three steps are necessary.

The **first step** is to calculate the average tax burden from these other sources in the state, which is the sum of all these other local revenues divided by total state income. Specialized revenues, namely county hospital charges and all municipal charges, are excluded from this analysis. This calculation yields the baseline tax burden from other sources. A county's gross revenue-raising capacity from these sources, that is, its capacity before accounting for the role of townships and municipalities, equals this burden multiplied by its per capita income.

The **second step** is to account for the role of townships and municipalities in each county. The average township (municipal) tax burden from these sources equals total township (municipal) revenue from these sources divided by total income within townships (municipalities). A county's net revenue-raising capacity through other sources equals the baseline tax burden multiplied by county income minus the average township burden multiplied by township income (if any) and minus the average municipal burden multiplied by municipal income (if any).

The **third step** is to divide this net capacity by county population.



**Overall Revenue-Raising Capacity.** Overall revenue-raising capacity is the sum of capacity through the property tax and capacity through other sources.

### **Expenditure Need**

**Service Responsibilities.** The literature on service responsibilities is reviewed in Ladd and Yinger.<sup>6</sup> Our measure of service responsibilities has three parts.

**Part one** covers responsibility for services other than highways and hospitals. For the 93 counties in the state, per capita spending on these services is regressed on the share of county population outside municipalities and the share of county population inside municipalities (without a constant term). The coefficient of the first variable, 217.62 can be interpreted as the state-wide average spending by counties on these services per nonmunicipal resident. The coefficient of the second variable, 63.94, is average spending by counties per municipal resident. Both coefficients are estimated with great precision; the first has a t-statistic of 12, the second has a t-statistic of 4.5. Thus, a county's responsibility for these services is set equal to \$217.62 multiplied by the share of its population outside municipalities plus \$63.94 multiplied by the share of its population in municipalities.

In principle, the public services provided by military bases, such as Offutt Air Force Base in Sarpy County, or by Indian reservations, such as the Omaha and Winnebago Reservations in Thurston County, also may relieve a county of some service responsibilities. We have no data on the services these organizations provide, however, so we do not incorporate them into our service responsibility measure.

**Part two** covers highways. In the average county, total highway spending divided by total miles of roads for which the county is responsible equals \$1636.12. A county's responsibility for highways equals \$1636.12 multiplied by the number of miles of highways for

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<sup>6</sup>Ladd and Yinger, *The Fiscal Health of U.S. Central Cities*.

which it is responsible. This responsibility number, in per capita form, is adjusted, by the same percentage in every county, so that its average across counties is the same as average county spending on highways per capita.

**Part three** covers hospitals. Counties with hospitals spend \$43.72 more than other counties even after accounting for hospital revenues. The source of this estimate is described in the section on the determinants of county spending. So \$43.72 is added to the responsibility measure for counties with hospitals.

Our overall responsibility measure equals the sum of parts one, two, and three.

**Public Service Costs.** A jurisdiction's public service costs equal the amount it must spend per capita to provide average quality services. As explained by Bradbury *et al.* and by Ladd and Yinger, these costs depend on input costs and on the jurisdiction's social and economic environment.<sup>7</sup> Our measure of county public service costs is calculated in three steps.

In **step one** we calculate the impact of the five environmental factors (per capita area, per capita farms, percentage of population on farms, the poverty rate, and the crime rate) on county public service costs per capita. This step is discussed in the section on the determinants of county spending. The estimated impacts of these factors on costs are the coefficients of the cost variables in our analysis of city operating spending, as presented in Table 9-A2.

In **step two**, we calculate public service costs in each county. Let  $b_j$  be the estimated impact on costs of environmental factor  $j$  and let  $C_{ij}$  be the value of environmental factor  $j$  in county  $i$ . Then public service costs in county,  $SC_{j, j}$  equal the sum across all values of  $j$  of  $b_j C_{ij}$ .

**Step three** adjusts this sum so that it equals average per-capita spending (excluding hospitals) in a county with average costs; for each county, the state-wide average value of  $SC_j$  is

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<sup>7</sup>Bradbury, *et al.*, "State Aid to Offset Fiscal Disparities across Communities"; and Ladd and Yinger, *The Fiscal Health of U.S. Central Cities*.

TABLE 9-A1

## DEFINITIONS OF THE VARIABLES IN THE ANALYSIS OF COUNTY SPENDING

Dependent Variable

PCOPREXP Per capita operating expenditure, FY 1986

Demand and Voting Variables

PCINCOUT Per capita income outside municipalities, 1983  
 TAXPRI86 Tax price = inverse of property tax base per capita, FY 1986  
 CHNGEPOP Percentage change in population, 1980-1984  
 MUNPOP84 Municipal population, 1984  
 PCOTROAD Miles of municipal, state, and federal highways per capita

Service Responsibilities

SRI Service responsibility measure (excluding hospitals)  
 HOSRESP Dummy variable for hospitals (1 = county hospital present)  
 CHOSREV Hospital charge revenue per capita, FY 1986

Environmental Cost Variables

PCAREA Area (in square miles) per capita, 1984  
 PCFARMS Number of farms per capita, 1984  
 FARMPOP Share of population classified by Census as "rural farm," 1980  
 POVERTY Poverty rate, 1980  
 CRIMERA Crime rate, 1983

Miscellaneous Revenue and Intergovernmental Aid Variables

PCMSCREV Miscellaneous county own-source revenue per capita, FY 1986  
 PCCHARGE County charges per capita, excluding hospital, FY 1986  
 PCSTAAID State aid per capita (as defined by the Census), FY 1986 (includes grants and homestead reimbursement)  
 PCTWROAD Miles of township roads per capita  
 ROADPAY Grants from local governments (excluding townships) for highways, FY 1986  
 PCCATAID Categorical aid per capita from the federal government (as defined by the Census), FY 1986  
 PCGRSAID Federal general revenue sharing per capita, FY 1986

SOURCE: The financial data for FY 1986 were compiled by the staff of the Nebraska Comprehensive Tax Study on the basis of information provided by the State of Nebraska, following the accounting system of the U.S. Bureau of the Census. The property tax base was obtained from the Nebraska Department of Revenue. Socioeconomic variables were obtained from the U.S. Census, except for the number of farms, which was obtained from the Nebraska Department of Labor; highway data were obtained from the Nebraska Department of Roads.

**TABLE 9-A2**  
**REGRESSION RESULTS FOR COUNTY SPENDING**

Independent Variable	Estimated Coefficient	Standard Error	t-Statistic
Constant	26.46476	50.93560	0.51957
PCINCOUT	0.01193	0.00432	2.76425
TAXPRI86	-3407.96000	569.30100	-5.98623
CHNGEPOP	4.97561	1.20986	4.11256
MUNPOP84	- 0.00040	0.00011	-3.57954
PCOTROAD	- 869.31000	347.47800	-2.50177
SRI	0.24981	0.13097	1.90743
HOSRESP	43.72412	17.33908	2.52171
PCHOSREV	0.81717	0.07132	11.45747
FARMPop	- 1.86236	0.89201	-2.08783
PCAREA	1.24370	0.23616	5.26637
PCFARMS	9.40585	3.10852	3.02583
POVERTY	4.95902	1.13666	4.36281
CRIMERA	1.34464	0.44625	3.01320
PCMSCREV	0.22904	0.36526	0.62706
PCADJCGE	1.36813	0.16848	8.12028
PCSTAAID	0.17953	0.12558	1.42956
PCTWROAD	212.64900	141.14500	1.50660
ROADPAY	2.66526	1.46961	1.81358
PCCATAID	- 0.89368	0.83501	-1.07027
PCGRSAID	0.55183	0.64343	0.85763
Dependent Variable	PCOPREXP		
Mean of Dependent Variable	295.397		
Number of Observations	93		
R <sup>2</sup>	0.96799		
Corrected R <sup>2</sup>	0.95910		
Sum of Squared Residuals	73427.9		
Standard Error of the Regression	31.93481		

subtracted from  $SC_j$  and the average per-capita operating spending (excluding hospitals) is added to  $SC_j$ .

**Expenditure Need.** Expenditure need is the amount a county must spend to provide average quality services given its responsibilities and costs. Both our service responsibility measure and our service cost measure are standardized so that their average across counties is the same as average per capita operating spending (excluding hospitals) across counties. (To be precise, the average service responsibility measure also includes the spending on hospitals over and above hospital charges--averaged over all counties.) These two measures are combined to obtain our measure of expenditure need. We proceed in two steps. First, we add our measures of service responsibilities and costs. Second, we subtract state-wide average per capita operating spending from this sum. The second step is needed to insure that average expenditure need equals average per capita operating spending (excluding hospitals). (In Table 9-4, average expenditure need is \$247. This figure equals average operating expenditure, \$295, minus average hospital expenditure, \$60, plus average hospital-related expenditure over and above hospital charges, \$12.)

### **The Need-Capacity Gap**

The need-capacity gap is the difference between expenditure need and total revenue-raising capacity, adjusted so that the gap is zero in the average county. A county's expenditure need is the amount it must spend, given its responsibilities and costs, to provide services of average quality. To set the average gap equal to zero, we adjust total revenue-raising capacity, by the same proportion in all counties, so that, on average, it equals expenditure need. This procedure insures that the revenue-raising capacity of the average county is high enough to allow that county to provide services of average quality. Formally, revenue-raising capacity in every county (as calculated above) is multiplied by the sum of expenditure need across all counties and divided by the sum of revenue-raising capacity (as calculated above) across all counties. Each

county's need-capacity gap equals its expenditure need minus this adjusted revenue-raising capacity. (Need-capacity gaps are calculated for cities in Massachusetts by Bradbury *et al.* and for major U.S. central cities by Ladd and Yinger.)<sup>8</sup>

### **The Determinants of County Operating Spending**

Our analysis of county spending is based on a multiple regression analysis in which the 93 counties are the observations and the dependent variable is per capita operating spending in FY 1986. The independent variables are defined in Table 9-A1. This analysis draws on a large literature concerning the determinants of public spending. For reviews of this literature, see Inman or Rubinfeld.<sup>9</sup>

Following standard practice, our analysis begins by recognizing that public spending is influenced by voter demand for public services. A voter demand for services, in turn, depends on the voter income and "tax price," which is the cost to the voter of another unit of services. Because most county services in Nebraska are provided in rural areas, the income variable is the per capita income of county residents outside municipalities. (Virtually identical results are obtained using the per capita income of all county residents.) The tax-price variable is the inverse of the property tax base per capita; the larger the tax base, the less each resident must pay to increase services.

Three control variables are included to reflect other aspects of county voting. Because most county services are provided in rural areas, people in municipalities tend to prefer lower levels of county services than people outside municipalities, and county spending decreases with

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<sup>8</sup>Bradbury *et al.*, "State Aid to Offset Fiscal Disparities across Communities"; and Ladd and Yinger, *The Fiscal Health of U.S. Central Cities*.

<sup>9</sup>R.P. Inman, "The Fiscal Performance of Local Governments: An Interpretive Review," in *Current Issues in Urban Economics*, edited by P. Mieszkowski and M. Straszheim (Baltimore: Johns Hopkins Press, 1979); and D.L. Rubinfeld, "The Economics of the Local Public Sector," in *Handbook of Public Economics*, edited by A. Auerbach and M. Feldstein (New York: North-Holland, 1984).

county municipal population. In addition, voters tend to prefer less spending on county highways if their county already contains many miles of state and federal highways. Finally, counties cannot instantly adjust their spending in response to changes in their population, so per capita spending depends to some degree on the rate of population change.

County spending also depends on the level of a county's service responsibilities; the more extensive a county's responsibilities, the more it will spend. So our regressions include our service responsibility measure, excluding its hospital component. To determine the impact of hospitals on county spending, we include two variables: a dummy variable for counties with hospitals and hospital charges. The coefficient of this dummy variable indicates the impact of a hospital on county spending, controlling for hospital charges, and therefore provides a measure of the impact of a hospital on a county's budget over and above the resources that hospital charges provide. This coefficient is added to our service responsibility measure for counties with hospitals.

The regression also includes five environmental cost variables: per capita area, per capita farms, share of population in farms, the poverty rate, and the crime rate. By definition, spending equals the service level multiplied by the average cost per unit of services. By including these variables in our regression and controlling for the service level (through the other independent variables), we can estimate the average cost per unit of services. (One technical complication is that a higher cost might induce voters to select a lower level of services. To the extent that this response occurs, our approach understates variation in costs across counties. Many studies have found, however, that voter response to cost differences is very small.)<sup>10</sup>

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<sup>10</sup>For more of this issue, see Bradbury *et al.*, "State Aid to Offset Fiscal Disparities across Communities."

Finally, the regression includes variables to reflect a county's intergovernmental aid and access to miscellaneous revenue sources, both of which are likely to stimulate county spending. One source of intergovernmental assistance to counties is payments for highway services rendered to other levels of government. For counties without townships, we include the level of these payments. For counties with townships, however, we capture the impact of this type of payment by including the number of miles of township roads in the county; because payments of this type are common, the greater the number of township roads, the greater is county spending.

Our regression results are presented in Table 9-A2. Virtually all of the results are statistically significant at the 95 percent confidence level or better--with the expected sign. The only exceptions are a few of the aid and miscellaneous revenue variables. The coefficient of the state aid variable, for example, is significant at the 90 percent confidence level, and the coefficient of the two federal aid variables and the coefficient of miscellaneous county revenue are not significant at all.

### **Policy Options For the State**

**Current Aid Programs.** The results in the text are based on a bivariate regression of state aid (through the government subdivision fund) on the need-capacity gap. The 93 counties are the observations. The coefficient of the gap variable is 0.0154 and its t-statistic is 5.4. The R-squared for this regression is 0.24.

**Equalizing Grants.** The design of grants discussed in the text can be expressed in a simple equation. Per capita state grants to county  $j$ ,  $A_j$ , equals some constant amount,  $a$ , plus some fraction,  $b$ , of the county's need-capacity gap,  $G_j$ . Both  $a$  and  $b$  can be interpreted as policy parameters to be selected by state officials. The generosity of the grant program is defined by  $b$ . If  $b$  equals 0.10, for example, then the state offsets 10 percent of a county's need-capacity gap. In equation form, the grant formula is:

$$(A-1) \quad A = a_j + bG_j \quad .$$



No city can receive a negative grant, and the first policy parameter,  $a$ , must be selected to prevent this outcome. The most natural approach is to set  $a$  so that the per capita grant,  $A_j$ , equals zero in the county with the best fiscal condition of all the counties receiving grants (under this program). Let  $j^*$  stand for the county with the best fiscal condition, that is, with the largest negative value for  $G_j$ . Then we must select  $a$  so that

$$A_{j^*} = a + bG_{j^*} = 0$$

or

$$(A-2) \quad a = -bG_{j^*}$$

The size of the generosity parameter,  $b$ , is limited by the size of the program's overall budget and by the number of cities that receive grants. Suppose  $B$  is the overall budget for the program and  $N_j$  is the population of county  $j$ . The total grant to county  $j$  is  $A_j N_j$  and the sum of grants to all counties receiving grants must equal the total budget. The symbol  $\tilde{\Sigma}$  stands for a summation; a  $j$  under this symbol indicates that the summation is carried out over all possible values of  $j$ --that is, overall counties receiving grants. Thus,

$$B = \tilde{\Sigma}_j A_j N_j$$

or by (A-1)

$$= \tilde{\Sigma}_j N_j (a + bG_j) = a\tilde{\Sigma}_j N_j + b\tilde{\Sigma}_j N_j G_j$$

or by (A-2)

$$= (-bG_{j*}) \sum_j N_j + b \sum_j N_j G_j = b (\sum_j N_j G_j - G_{j*} \sum_j N_j)$$

Solving this equation for  $b$  yields

$$(A-3) \quad b = B / (\sum_j N_j G_j - G_{j*} \sum_j N_j)$$

This equation indicates the maximum generosity that is possible with a budget  $B$  and a set of counties in which the highest need-capacity gap is  $G_{j*}$ . As explained in the text, state officials must select  $B$  and  $G_{j*}$ .

One practical problem that arises in implementing this approach is that need-capacity gaps change over time. We provide estimates of these gaps for FY 1986, but what should the state do in future years? In the short run, say for the next decade, each county's need capacity gap can be approximated with the following formula, which is based on readily available information:

$$\begin{aligned} \text{GAP} = & 137.78 + 0.74*\text{PCAREA} + 792.69*\text{PCROADS} \\ & - 56.97*\text{PCINCOME} + 2.16*\text{MUNIPOP} + 52.47*\text{HOSRESP}, \end{aligned}$$

where

- GAP = Need-capacity gap per capita
- PCAREA = Area (in square miles) per 1000 people
- PCROADS = County roads per capita
- PCINCOME = Per capita income (in thousands)
- MUNIPOP = Percentage of county population in municipalities
- HOSRESP = 1 for counties with hospitals, = 0 otherwise.

This formula provides a very close approximation to each county's need-capacity gap in FY 1986. (Formally, this formula explains over 96 percent of the variation in the need-capacity gaps reported in Table 9-4 of the text.) The quality of this approximation is likely to decline over time, however. An update of this study every ten years or so would allow the state to check, and if necessary to revise, this formula.



## CHAPTER 10

### THE FISCAL CONDITION OF MUNICIPAL GOVERNMENTS IN NEBRASKA<sup>1</sup>

by John Yinger

#### **Introduction**

Municipal governments in Nebraska, which range in size from Omaha and Lincoln to tiny villages of less than 100 people, provide a wide range of important public services, including street and road maintenance, police and fire protection, and the operation of sewers and sanitation systems. In this paper, we describe the finances of Nebraska's municipal governments, examine the impact of social and economic factors on the fiscal condition of these governments, evaluate current state assistance for municipalities, and recommend a new form of state aid.

#### **Overview**

This paper is built on the notion of a municipal government's fiscal condition, which is the impact of economic and social factors outside the control of municipal officials on the municipality's ability to deliver public services to its residents. We find that municipalities in Nebraska vary widely in their fiscal condition. Municipalities in good fiscal condition tend to be large cities, by Nebraska standards, or small municipalities with relatively high per capita

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<sup>1</sup>Many people in Nebraska have given valuable assistance to the author of this chapter. These people include Deborah Thomas, The Revenue Committee Counsel; Eric Will, Senator Vard Johnson's Legislative Aide; Lyn Rex, Assistant Director of the Nebraska League of Municipalities; Bob Hardin of the State Auditor's Office; and Derald Kohles and Ron Disney of the Department of Roads. Several people at the U.S. Census Bureau--Bill Kehm, Donna Hersh, and Henry Wulf--also were very helpful. This paper would not have been possible without the data collection efforts of several people at Syracuse University, namely Kerri Ratcliffe, Dan Mullins, Bruce Riddle, and Seymour Sacks. This chapter is based on John Yinger, "The Fiscal Condition of Municipal Governments in Nebraska," Nebraska Comprehensive Tax Study Staff Paper No. 14, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, March 1988).

incomes and relatively low responsibilities for street maintenance. Compared to municipalities with fewer than 1,000 people, cities with populations above 30,000 all are in relatively good fiscal condition, although several of these cities, including Omaha and Lincoln, are in better fiscal condition than others. Municipalities in poor fiscal condition tend to be small cities or villages with relatively low per capita incomes and relatively extensive street and road responsibilities.

Municipalities in Nebraska receive state assistance both through the Governmental Subdivision Fund and through two highway trust funds. Aid given through the Governmental Subdivision Fund is not directed toward the municipalities that need help the most; in fact, all municipalities receive the same aid per capita. Aid distributed through the highway trust funds is slightly higher for municipalities in poor fiscal condition, but this aid by no means eliminates the large fiscal disparities across municipalities in Nebraska. We design a new aid program to supplement the current aid programs that would direct assistance to the municipalities that are in poor fiscal condition because of economic and social factors outside their control. Because most of the municipalities in poor fiscal condition are very small, this program could eliminate most of the fiscal disparities in the state with a fairly small budget. A program that gives aid only to the 320 municipalities in poorest fiscal condition, for example, could eliminate half of the fiscal disadvantages faced by these municipalities for a total budget of only \$5 million. Given the severe fiscal disadvantages faced by some municipalities and the low level of state aid in Nebraska compared to other states, we recommend implementation of a new state aid program of this type.

### **Municipal Government Finance in Nebraska**

Municipal government finance in Nebraska is summarized in Table 10-1. This table is based on the financial reports of 517 municipal governments. Municipalities in Nebraska do not all use the same accounting system. In order to compare the finances of different municipalities,

TABLE 10-1

## SUMMARY OF MUNICIPAL FINANCES IN NEBRASKA, FY 1986

	<u>Average Amount Per Capita</u>	<u>Percentage Breakdown</u>
<b>General Revenue</b>	\$315	100.0
Intergovernmental Revenue	131	24.5
State Aid	83	54.0
Local Aid	23	17.4
Federal Categorical Aid	16	17.8
Federal General Revenue Sharing	9	10.8
Own-Source Revenue	184	75.5
Property Taxes	83	34.2
Sales Taxes	8	17.4
Other Taxes	4	2.8
Charges	46	29.5
Miscellaneous	43	16.1
<b>General Expenditure</b>	378	100.0
Intergovernmental Expenditure	20	2.4
Current Operating Expenditure	313	76.6
Public Welfare	3	0.4
Health and Hospitals	2	6.0
Streets	148	21.8
Police	24	14.7
Fire	3	7.9
Miscellaneous	132	49.2
Capital Outlays	33	15.4
Interest on General Debt	13	5.6

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SOURCE: Nebraska Comprehensive Tax Study

therefore, these financial reports are translated into a common accounting system, namely the accounting system developed by the U.S. Bureau of the Census. According to this accounting system, the average municipality in Nebraska raised \$315 per capita in general revenue and spent \$378 in general expenditure during FY1986. This apparent "deficit" does not imply that the average municipality ran a deficit in its own budgetary accounts.

In Table 10-1, financial information about Nebraska municipalities is presented in two ways. The first column presents amounts per capita in the average municipality. The entries in this column are not weighted by population, so the per capita amount in a village has the same impact on the average as the per capita amount in Omaha. The second column presents the percentage breakdown of statewide totals. For example, the intergovernmental revenue received by all municipalities in the state is about 25 percent of the general revenue collected by all municipalities in the state. In effect, the entries in this column are weighted by population. Thus, one cannot calculate the entries in the second column from the unweighted averages in the first column.

The majority of municipalities' general revenue, 76 percent, comes from their own-sources, and about one third of this own-source revenue comes from the property tax. Charges make up almost as large a share of own-source revenue as the property tax, although they raise considerably less revenue per capita than the property tax in the average municipality. Sales taxes rank third among own revenue sources, largely because 16 municipalities levy a general sales tax, but are not a significant source of revenue in the average municipality.

Over three-quarters of the general spending by Nebraska municipalities consists of current operating spending, which is spending to run municipal departments, such as street maintenance and police protection. Capital spending is the other major component of general spending, with additional small amounts going to intergovernmental revenue and interest on general debt. Within operating spending, the largest categories are highways and miscellaneous,



which includes general administration, parks and recreation, libraries, housing, and various other city departments. The next largest category is police. The average municipality does not spend very much per capita on fire services or on health and hospitals. Most hospitals in Nebraska are private or are operated by a county government; only nine municipalities in Nebraska have a hospital of their own.

Two aspects of safety (i.e., police and fire) spending are hidden in this table. First, many municipalities purchase police or fire services or both from another jurisdiction. Many villages, for example, buy police services from their county government and receive fire services from a nearby city or a nearby rural fire district. To some degree, therefore, police and fire spending is included under intergovernmental expenditure. Moreover, most municipalities in Nebraska rely to some degree on volunteer firemen, and many of the resources devoted to fire protection never appear in the municipal budget. Second, slightly more than half of the municipalities in the state use an accounting system that records safety spending but does not distinguish between police and fire spending. The Census accounting system combines this safety category with police, so the police entries in Table 10-1 include some fire spending.

Table 10-2 replicates the calculations in Table 10-1 for three different population classes of municipalities: greater than 10,000 people, between 1,000 and 10,000 people, and less than 1,000 people. Among the 517 municipalities for which we have financial and population information, 14 fall into the first class, 105 fall into the second, and 398 fall into the third. Table 10-2 reveals that general revenue per capita is highest for the largest municipalities, general expenditure per capita is highest for the middle population class, and both general revenue and general expenditure are smallest for the smallest population class.

In addition, the large cities in the state rely relatively more than other municipalities on sales taxes and charges and relatively less on the property tax and on state aid. These results reflect the facts that most of the municipalities that levy a general sales tax fall into the largest

TABLE 10-2

## MUNICIPAL FINANCES IN NEBRASKA, BY POPULATION CLASS, FY 1986

	Average Amount Per Capita			Percentage Distribution		
	Greater Than 10,000	1,000- 10,000	Less Than 1,000	Greater Than 10,000	1,000- 10,000	Less Than 1,000
<b>General Revenue</b>	\$363	\$341	\$306	100.0	100.0	100.0
Intergovernmental Revenue	83	117	137	20.3	34.6	38.4
State Aid	46	76	86	46.3	67.7	62.7
Local Aid	21	23	24	17.1	18.0	17.5
Federal Category Aid	8	7	18	24.1	5.9	11.8
General Revenue Sharing	9	10	9	12.5	8.4	7.9
<b>Own-Source Revenue</b>	280	224	170	79.7	65.4	61.6
Property Tax	100	101	77	31.4	43.8	44.0
Sales Taxes	21	9	7	21.3	4.2	4.8
Other Taxes	4	5	4	2.7	3.1	2.2
Charges	93	59	41	30.3	26.5	27.5
Miscellaneous	61	50	40	14.3	22.5	21.5
<b>General Expenditure</b>	383	417	370	100.0	100.0	100.0
Intergovernmental Expenditures	2	19	21	1.0	5.4	6.1
<b>Current Operating Expenditures</b>	296	354	303	74.3	81.6	81.6
Welfare	0	4	3	0.0	0.5	2.3
Health and Hospitals	9	10	0	8.0	2.9	0.1
Streets	76	141	153	12.9	36.6	47.2
Police	42	57	15	15.6	15.4	7.6
Fire	23	4	2	11.2	1.1	0.7
Miscellaneous	147	139	130	55.3	43.5	42.1
Capital Outlays	60	25	35	18.4	8.9	8.8
Interest	25	19	11	6.3	4.1	3.5
<b>Number of Municipalities</b>	14	105	398	14	105	398

SOURCE: Nebraska Comprehensive Tax Study.

population class and larger municipalities are more likely than others to collect charge revenue for hospitals, sewers, sanitation, and other governmental activities. On a per capita basis, the large cities also spend more than other municipalities on safety services and on capital outlays and spend less on intergovernmental payments and on highways. These results reflect the facts most small municipalities often contract out for police services, rely heavily on volunteer firemen, and tend to be responsible for more miles of highways per capita than are large cities.<sup>2</sup>

One might ask how municipal finances in Nebraska compare with municipal finances in the United States as a whole. This comparison is difficult to make, however, because the smallest class in the data published by the U.S. Census (*City Government Finances*) is cities with populations below 50,000. The average city in this class is undoubtedly much larger than the average city in Nebraska. The most reasonable comparison, therefore, is between the cities in this class and cities in the largest population class in Nebraska.

The average Nebraska city with a population over 10,000 raises considerably less general revenue than the average U.S. city with population below 50,000: \$363 per capita compared to \$465. This difference arises both in own-source revenue (\$280 in Nebraska vs. \$336 in the nation) and in state aid (\$46 vs. \$78). General expenditure in the average large Nebraska city, \$383 per capita, also is far below general expenditure in the average U.S. city below 50,000 population, \$436. This difference arises because these Nebraska cities spend much less on operating expenses (\$296 vs. \$315) and on capital outlays (\$60 vs. \$83). The relatively low operating spending in these Nebraska cities reflects relatively low spending on health and hospitals (\$9 vs. \$23), on police (\$42 vs. \$62) and on fire (\$23 vs. \$30). Relatively low spending on these services is offset to some degree by relatively high spending on highways in these Nebraska cities (\$76 vs. \$35).

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<sup>2</sup>Remember that some fire spending is hidden in the police category, particularly for smaller municipalities.

## **The Fiscal Condition of Municipal Governments**

This paper focuses on the fiscal condition of municipal governments in Nebraska. Separate reports consider the fiscal condition of counties and of school districts.<sup>3</sup>

### **The Concept of Fiscal Condition**

As we use the term, a municipality's "fiscal condition" is its ability to deliver adequate public services to its residents at a reasonable tax burden, as determined by economic and social factors that are outside the control of municipal officials. Our measure of fiscal condition does not reveal a municipality's budgetary situation and it is not affected by management skill, corruption, or service preferences. In effect, a municipality's fiscal condition indicates the severity of the constraints under which its public officials must operate, but it does not indicate how they respond to those constraints.

This approach to fiscal condition has two key advantages. First, it facilitates comparisons across municipalities. Our measure indicates, for example, whether one municipality can provide public services equal in quality to the services in another municipality with the same tax burden on its residents. Second, because it excludes political and management factors, as well as a municipality's preferences for services, our measure can serve as an objective guide for state assistance to municipalities.

By way of introduction, our measure of a city's fiscal condition, called its need-capacity gap, is the difference between the city's expenditure need and its revenue-raising capacity, both expressed in per capita terms. A city's expenditure need is the amount it must spend to provide services of average quality. A city's revenue-raising capacity is the amount of money it can raise

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<sup>3</sup>See J. Yinger, "The Fiscal Conditions of County Governments in Nebraska," Chapter 9 in this volume; and K. Ratcliffe, B. Riddle and J. Yinger, "The Fiscal Condition of School Districts in Nebraska: Is Small Beautiful?" Chapter 11 in this volume.

at a given tax burden on its residents. In the following section, we explain and calculate the revenue-raising capacity, expenditure need, and need-capacity gap of municipalities in Nebraska. At the end of the section, we also compare Omaha's fiscal condition with the fiscal condition of other major central cities in the United States. In the succeeding two sections, we examine the determinants of municipal spending in Nebraska and the options for state policy toward municipalities. The technical details of our calculations are explained in the appendix.

### **Revenue-Raising Capacity**

Revenue-raising capacity is defined to be the amount of money a municipality can raise at a given tax burden on its residents. To facilitate comparisons across municipalities, this tax burden is set equal to the average burden across all municipalities in the state. Revenue-raising capacity is not the same thing as the amount of revenue a municipality actually raises, which is influenced by the management skill of municipal officials and the service preferences of residents. As explained below, revenue-raising capacity depends only on the municipality's income and economic structure, which are outside the direct control of municipal officials.

As we use the term, the tax burden indicates the magnitude of public sector claims on private resources, where private resources are measured by a municipality's per capita income. When the tax burden on residents is held constant, revenue-raising capacity depends on two factors: resident income and the municipality's ability to export the taxes to nonresidents.<sup>4</sup> The first factor is straightforward; municipalities with high resident incomes can raise more revenue at a given tax burden than other cities. Note that it does not matter what tax instrument is used; all taxes paid by residents ultimately must come out of residents' incomes.

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<sup>4</sup>A third factor that appeared in the county report, taxes collected by other jurisdictions with overlapping boundaries, is not relevant here because other general-purpose jurisdictions do not provide competing services within a municipality's boundaries.

A municipality's taxes are "exported" whenever they are paid by nonresidents, either directly or indirectly in the form of higher prices or lower wages. Exported taxes increase a municipality's revenue-raising capacity because they allow the municipality to raise more revenue with no added burden on residents. A municipality's ability to export taxes to nonresidents depends on its economic structure and on the taxes it is allowed to use. Municipalities in Nebraska are allowed to levy both property and general sales taxes. Our analysis of exporting for each of these taxes is presented below.

**Revenue-Raising Capacity Through the Property Tax.** The property tax is the single most important source of revenue for municipalities in Nebraska. To calculate revenue-raising capacity through the property tax, we first calculate the standard property tax burden as the sum of all municipal property tax collections in the state divided by aggregate income in municipalities. Second, we determine the extent to which the property tax burden is exported through an analysis of the incidence of the property tax.<sup>5</sup>

We make the usual assumption in the literature that the property tax on owner-occupied houses is borne by the owners and that the property tax on rental property is shared by landlords and tenants, with most of the burden falling on landlords. Owners of owner-occupied houses live, by definition, in the municipality, so none of the taxes on these houses are exported. At the national level, 13 percent of apartment buildings with 5 or more units are owned by national corporations, and some landlords may live in the suburbs.<sup>6</sup> On the basis of these incidence

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<sup>5</sup>This incidence analysis is very similar to our analysis for counties. See Yinger, "The Fiscal Conditions of County Governments in Nebraska." The only major difference is that property composition within cities must be estimated on the basis of county data. See the appendix to this paper.

<sup>6</sup>The national figures, along with a detailed discussion of property tax incidence, can be found in K. L. Bradbury and H. F. Ladd, "Changes in the Revenue-Raising Capacity of U.S. Cities, 1970-1982," *New England Economic Review* (March/April 1985): 20-37.

assumptions and these national figures, we assume that 15 percent of the tax on rental housing is exported to nonresidents.

Also following standard procedure, we assume that the tax on commercial and industrial property is borne primarily by company owners and land owners. At the national level, 54 percent of commercial property and 65 percent of industrial property is owned by national corporations, some owners of commercial and industrial property in Nebraska municipalities may live in the suburbs, and a small fraction of commercial property taxes may be shifted onto nonresident consumers.<sup>7</sup> combining this information and analysis, we assume that 65 percent of the tax burden on commercial and industrial property is paid by nonresidents.

The remaining taxable property in municipalities consists of automobiles, intangible "franchise" assets, business equipment, and various other types of personal property. We do not have any data on the composition of this miscellaneous property, but we know that some of the tax burden on franchise assets and other business property may be exported to nonresident stockholders or to nonresident consumers. To recognize this possibility, we assume that 25 percent of the tax burden on this miscellaneous property is exported to nonresidents.

Revenue-raising capacity for a municipality equals the standard tax burden multiplied by per capita income in that municipality multiplied by one plus the export ratio. The export ratio equals the share of taxes exported to nonresidents divided by the share of taxes paid by residents. Thus, if 60 percent of a tax is exported, the export ratio is  $(.60/.40)=1.5$  or 150 percent. The export ratio can be interpreted as the dollars of taxes from nonresidents that are collected for every dollar of taxes on residents.

Our results are summarized in the Table 10-3. The export ratios are presented in the first panel of the table, and revenue-raising capacity is presented in the second panel. We find that

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<sup>7</sup>Again, see Bradbury and Ladd, "Changes in the Revenue-Raising Capacity of U.S. Cities, 1970-1982."

TABLE 10-3

## THE REVENUE-RAISING CAPACITY OF NEBRASKA MUNICIPALITIES

	All Municipalities	Municipalities with Population		
		Greater Than 10,000	1,000- 10,000	Less Than 1,000
<b>Export Ratios (in percent)</b>				
<b>Property Tax</b>				
Average	15.4	24.9	19.2	14.0
Standard Deviation	8.8	7.7	7.0	8.8
Minimum	0.0	8.0	3.0	0.0
Maximum	38.0	38.0	27.0	29.0
<b>Sales Tax</b>				
Average	57.0	96.2	63.7	53.9
Standard Deviation	30.2	31.2	25.2	30.3
Minimum	0.0	28.0	9.0	0.0
Maximum	234.0	145.0	137.0	234.0
<b>Revenue-Raising Capacity Indexes</b>				
<b>Property Tax</b>				
Average	100.0	137.1	111.9	95.5
Standard Deviation	21.4	14.6	18.3	19.9
Minimum	50.0	114.4	52.1	50.0
Maximum	169.0	169.0	164.5	166.7
<b>Sales Tax</b>				
Average	100.0	160.2	113.4	94.3
Standard Deviation	24.3	28.3	20.8	20.5
Minimum	50.5	93.6	50.5	54.2
Maximum	247.1	213.0	191.7	247.1
<b>Other Sources</b>				
Average	100.0	126.6	108.3	96.8
Standard Deviation	19.6	8.8	15.9	19.4
Minimum	51.2	112.1	54.2	51.2
Maximum	189.7	141.5	151.4	189.7
<b>Number of Municipalities</b>	514	14	105	395
<b>Average Per Capita Income</b>	7347	9300	7958	7115

SOURCE: Nebraska Comprehensive Tax Study.



the export ratio for the property tax is 15 percent in the average city and ranges from 0 to 38 percent. Not surprisingly, export ratios tend to be much higher for larger municipalities, which tend to have more commercial and industrial property.

Revenue-raising capacity is expressed in index form, with capacity in the average city set to 100. A city with a capacity index of 110 has 10 percent more capacity than the average city. Most cities fall within one standard deviation of the average, that is, between  $(100-21)=79$  and  $(100+21)=121$ . The highest capacity index is 169 and the lowest is 50. Revenue-raising capacity through the property tax is strongly associated with municipal population. Because they have relatively high incomes and relatively high export ratios, cities with populations above 10,000 have an average index of 137, and none of these cities has an index below 114. In contrast, municipalities with populations below 1,000 have an average index of 96, but their incomes and ability to export varies widely and their indexes range from 50 to 167.

**Revenue-Raising Capacity Through the Sales Tax.** Municipalities in Nebraska are allowed to levy a general sales tax at any rate up to 1 1/2 percent. If a municipality takes advantage of this option, the tax is added to the state sales tax, collected by the state, and returned to the municipality. Thus, the tax base is defined by the state sales tax, which does not cover food or services.<sup>8</sup> As of the end of 1986, only 16 municipalities actually took advantage of this sales-tax option. These municipalities ranged in size from Omaha and Lincoln to Lewellen, with a 1984 population of 360. Although most municipalities do not levy the sales tax, it is an option open to all municipalities and therefore needs to be considered in calculating each municipality's revenue-raising capacity.

We calculate revenue-raising capacity through the sales tax in the same two steps used for the property tax. The standard sales tax burden is set at 1 percent, which is the tax rate

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<sup>8</sup>For a detailed analysis of the Nebraska sales tax, see J. Due and L. Fairchild, "The Nebraska State and Local Sales and Use Taxes," Chapter 3 in this volume.

selected by most of the municipalities that levy the tax.<sup>9</sup> Most analysts agree that sales taxes are borne by consumers. Thus the sales tax can be exported to the extent that nonresidents make taxable purchases within a community. We estimate that, on average, households in Nebraska spend about 38 percent of their income on items subject to the Nebraska state sales tax.<sup>10</sup> We assume, therefore, that any sales in excess of 38 percent of resident income are sales to nonresidents.

We have data on total sales in municipalities that levy sales taxes.<sup>11</sup> Among these municipalities, the ratio of sales to resident income ranges from 49 percent in La Vista (1984 population, 10,771), to 70 percent in Lincoln, to 89 percent in Omaha and 90 percent in Gordon (1984 population, 2,191). Thus, the export ratio for the sales tax in Gordon is  $[(.90-.38)/.38] = 1.36$ .

We do not have data on total sales in municipalities that do not levy sales taxes, so we estimate the ratio of sales to income in each of these municipalities using data on retail employment in 1980, per capita income, commercial property per capita in the municipality's county, and the municipality's share of county population.<sup>12</sup> An export ratio is then calculated for each municipality on the basis of its estimated ratio of sales to income.<sup>13</sup>

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<sup>9</sup>At the end of 1986, Omaha and Nebraska set a 1 1/2 percent rate and all other municipalities set a 1 percent rate. Since then, Bellevue has raised its rate to 1 1/2 percent, Crawford has implemented a tax at a 1 1/2 percent rate and Gothenburg has implemented a tax at a 1/2 percent rate.

<sup>10</sup>This estimate is based on data gathered for a profile of taxpayers in Nebraska. See S. Wallace-Moore, "The Distribution of Tax Burdens in Nebraska for the State Personal Income, Sales, Excise and Property Taxes," Chapter 7 in this volume.

<sup>11</sup>Actually, we have data on total sales tax revenue, which equals total sales multiplied by the sales tax rate.

<sup>12</sup>These variables explain over 60 percent of the variation in the ratio of sales to income in municipalities with a sales tax. See the appendix.

<sup>13</sup>In principle, actually levying a sales tax could alter the ratio of sales to income by encouraging some people to alter their shopping behavior, that is, to shop in other municipalities. However, several studies have found that the behavioral response to a 1 percentage point tax differential is small, particularly when alternative places to shop are far away, as is the case for many small municipalities in Nebraska. See J. D. Rodgers, "Sales Taxes, Income Taxes, and

The resulting export ratios are summarized in the first panel of Table 10-3. In the average community, the export ratio through the sales tax is 57 percent, which is almost four times as high as the average export ratio through the property tax. In other words, the average city can raise almost four times as many dollars from nonresidents for every dollar of sales tax paid by residents than for every dollar of property tax paid by residents. However, the export ratios for the sales tax vary more widely across communities than the export ratios for the property tax, with a range from 0 to 234 percent. Although these export ratios vary widely from one community to another, the maximum in Table 10-3 is somewhat misleading, because only one municipality has an export ratio above 150 percent and only 11 municipalities have export ratios over 125 percent. As in the case of the property tax, sales tax export ratios tend to be larger for larger municipalities. This result also is not surprising because retailers in larger cities tend to sell a much wider range of products and therefore to attract shoppers from smaller municipalities.

Revenue-raising capacity for the sales tax in each municipality is calculated with the same formula used for the property tax, namely the standard tax burden multiplied by per capita income multiplied by one plus the export ratio. Our results, in index form, are presented in the second panel of Table 10-3. The variation in capacity through the sales tax is somewhat greater than the variation in capacity through the property tax, with a standard deviation of 24 percent and a range from 51 to 247. Moreover, the difference in capacity between large and small municipalities is larger for capacity through the sales tax than for capacity through the property tax, with an average index of 160 in the largest population class and only 94 in the smallest class.

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Other Revenues," in J.R. Aronson and E. Schwartz, *Management Policies in Local Government Finance* (Washington, DC: International City Management Association, 1981).

The variation in sales-tax capacity is high within each population class; a few large cities have slightly below-average capacity and a few villages have above-average capacity.

**Revenue-Raising Capacity Through Other Sources.** Municipalities also rely on miscellaneous taxes, user charges, and various other minor revenues. According to Table 10-1, almost half of their own-source revenue comes from these sources. We calculate revenue-raising capacity from these sources, excluding charges for utility-type services, namely sewers and sanitation. Miscellaneous taxes and charges apply mainly to residents and do not have much export potential. As a result, we assume that none of burden of these sources is exported. It follows that a municipality's revenue-raising capacity through these sources depends solely on its income per capita.

Our index of capacity through other sources is summarized in the third panel of Table 10-3. This index varies somewhat less than the other two indexes, with a standard deviation of 20 and a range from 51 to 190. Not surprisingly, larger cities do not have as much of an advantage over smaller cities through these sources, which involve no exporting, as with property or sales taxes. Nevertheless, as shown in the last row of the table, the largest cities tend to have higher incomes per capita and therefore have an average index of 127, with a small range, compared to the average of 97, with a moderately large range, for the smallest municipalities.

### **Expenditure Need**

A municipality's expenditure need is the amount it must spend to provide services of average quality. Expenditure need has two components: service responsibilities and public service costs. Some municipalities have to spend more than others to provide services of average quality because they have more extensive responsibilities, either in the form of more highways to maintain or in the form of specific services that they must perform, such as running a municipal hospital. In addition, the cost of providing public services is not the same in all municipalities. As we will see, one municipality may have to pay more than another to receive services of the

same quality even if both municipalities have the same service responsibilities.

**Service Responsibilities.** Municipalities in Nebraska must maintain streets and highways, provide police and fire protection, and supply a variety of miscellaneous services, such as housing, parks and recreation, libraries, and general administration. Many municipalities also provide sewer and sanitation services, and a few cities run their own hospitals. Although the ultimate responsibility for police and fire protection falls on municipalities, these services may not actually be delivered by city employees; many municipalities purchase police protection from their county and most municipalities rely on volunteer firemen for some or all of their fire protection. A few tiny villages rely for fire protection on nearby cities or rural fire districts. The question is: How much would each municipality have to spend to provide the services for which it is ultimately responsible at an average level of service quality? We address this question for four types of services: highways, police, fire, and miscellaneous.

In Nebraska, maintaining highways is the largest single item in the operating budget of the average municipality. To find a municipality's responsibility for highways, we multiply the average operating spending per mile among all municipalities in the state by the number of miles of highways for which that municipality is responsible. In other words, we calculate how much a municipality would have to spend if it spent an average amount per mile on its highways.

All types of highways do not require the same maintenance. Unsurfaced highways, for example, are more expensive to maintain than gravel highways.<sup>14</sup> For two reasons, however, we do not incorporate these differences in maintenance costs into our measure of street

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<sup>14</sup>We estimate that controlling for other determinants of street spending, unsurfaced highways are the most expensive to maintain and gravel highways are the least expensive. Compared to rigid asphalt or concrete highways, unsurfaced highways cost \$641 more per mile to maintain, gravel highways cost \$98 less per mile, and nonrigid asphalt costs \$30 less per mile. See the appendix.

responsibility. First, a municipality can decide whether or not to surface its highways. Thus, surface type is not a social or economic factor that is outside the control of city officials and it is inappropriate to include it in a measure of a municipality's structural fiscal condition. Second, municipalities face a trade-off between road maintenance expenditure, which appears in operating spending, and road paving costs, which appear in capital spending. A city with unsurfaced roads may face high maintenance costs, but it obviously saves on paving costs. Because we do not examine street capital spending, we cannot untangle this tradeoff or its consequences for a municipality's service responsibilities.

Our results for street service responsibilities are summarized in the first panel of Table 10-4. These results, like our capacity results, are expressed in index form with the average municipality set to 100. Street responsibilities exhibit great variation across cities. The standard deviation of the index is 70, which means that most cities fall between 30 and 170, and the range is from 17 to 671. The city with the index of 17 (Winnebago) is responsible for only 17 percent as many miles of roads per capita as the average city, whereas the city with the index of 671 (Nora) is responsible for over 6 1/2 times as many miles of roads per capita as the average city. However, only 12 villages, 10 of which have populations under 100, have street responsibility indexes above 300.

Table 10-4 also reveals that responsibility for streets is inversely related to population. Cities with populations over 10,000 have very few miles of roads per capita so their average index is only 33. Omaha and Lincoln both have indexes of 26. In contrast, municipalities in the smallest population class have an average index of 115, and all of the cities with above-average roads per capita have populations under 1,000. As we will see, these patterns in street responsibilities are reflected in overall fiscal condition.

All municipalities are responsible for providing police and fire protection, although as explained earlier, they may not have a municipal police or fire department. As a result, we

TABLE 10-4

## SERVICE RESPONSIBILITIES IN NEBRASKA MUNICIPALITIES

	All Municipalities	Municipalities with Population		
		Greater Than 10,000	1,000- 10,000	Less Than 1,000
<b>Streets</b>				
Average	100.0	32.8	53.3	114.8
Standard Deviation	70.1	7.6	14.8	73.4
Minimum	16.7	18.1	16.7	23.5
Maximum	670.9	46.1	91.4	671.4
<b>Miscellaneous</b>				
Average	100.0	111.1	99.9	99.6
Standard Deviation	7.6	8.7	7.7	7.3
Minimum	96.0	96.0	96.0	96.0
Maximum	125.2	125.2	125.2	114.2
Number of Municipalities	514	14	105	395

SOURCE: Nebraska Comprehensive Tax Study.

assume that the responsibility for police and fire services is the same in every municipality. To find the amount a municipality has to spend per capita to provide police and fire services of average quality--that is, its service responsibility--we calculate the average spending on each of these services in municipalities that actually spend money on them. In other words, municipalities that contract out their police services or that rely entirely on volunteer firemen or on nearby fire districts are excluded in calculating these averages.<sup>15</sup>

Differences in the financial accounts of municipalities in the state cause one complication in measuring police and fire responsibilities. As noted earlier, about half of the municipalities for which we have financial information employ an accounting system that does not distinguish between police and fire spending. For these municipalities, we set safety service responsibility equal to the average spending per capita on police and fire among the municipalities that use this accounting system and that do not contract out all their safety services. For all other municipalities, we set police responsibility equal to the average spending per capita on police, where this average is calculated for the set of municipalities that separate police and fire spending and that do not contract out all their police services. Fire responsibility for this second group of municipalities is calculated in the same way.

Municipalities in Nebraska differ widely in their miscellaneous spending, largely because they differ in their preferences for services, not because, thanks to past history or state actions, they differ in the services for which they are responsible. In fact, we include only two factors in our measure of responsibility for miscellaneous services. First, 9 cities run hospitals. Most of these hospitals are quite small, and we estimate that the average impact of a city hospital is to add \$14 per capita to city miscellaneous spending, controlling for hospital charges and other

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<sup>15</sup>In principle, there is no reason why service responsibility for police and fire should not reflect payments to counties for police services or potential savings from relying on volunteers. However, we do not have information on police contracts with counties and we cannot determine whether municipalities with no fire spending receive fire protection from nearby fire districts.



factors.<sup>16</sup> Second, we find that municipal spending on sewers is not fully covered by sewerage charges. We estimate that municipalities with responsibility for providing sewers must spend \$22 per capita more than other municipalities, over and above the amount they collect in sewerage charges.

Our index of responsibility for miscellaneous services is presented in the second panel of Table 10-4. Because neither hospitals or sewers have a major impact on miscellaneous spending, the variation in this index is small. Municipalities with both hospitals and responsibility for sewers, most of which are in the largest population class, have an index of 125.2 and cities with neither hospitals nor sewer responsibilities have an index of 96. In other words, responsibility for both hospitals and sewers adds over 25 percent to the amount a city must spend to meet its service responsibilities.

**Public Service Costs.** The cost of providing public services of a given quality is not the same in every municipality. Some municipalities face a much harsher environment in which to provide public services than do others and therefore have to spend more to provide services of the same quality. As we will see, the social and economic factors that influence this environment differ from one type of service to another, but for all services, they are outside the direct control of public officials and therefore must be considered in a measure of municipal fiscal condition. We summarize our results with indexes that measure variation in public service costs across municipalities, just as consumer price indexes measure the variation in the cost of private goods and services across cities or over time.

We find that one key environmental factor affects the cost per mile of providing streets, namely population density. It costs more to maintain a mile of streets in a densely settled municipality than in a sparsely settled one. Remember that our analysis applies to operating

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<sup>16</sup>The source of this estimate for hospitals and the following estimate for sewers is explained in the appendix.

spending, not capital spending. Municipalities with higher population densities tend to have more economic activity, more traffic per mile of street, and hence more wear and tear.

Our street cost index is presented in the first panel of Table 10-5. We find that street costs vary significantly across municipalities, although the cost variation is smaller than the responsibility variation in Table 10-4. The standard deviation of the street cost index is 25 and its range is from 59 to 335. Thus, the municipality with the highest density (Bellevue) must spend over three times as much per mile to maintain its roads as the average city.

Unlike street responsibilities, street costs are positively related to municipal population. Thus, the relatively high costs of street maintenance in large, dense cities offsets to some degree their relatively low street responsibilities. This offset is not complete, however; once both street costs and responsibilities are considered, small municipalities still must spend more than large cities, on average, to provide street services of average quality. Note that the street cost index does not vary within the smallest population class. This result reflects the fact that density information is not available for municipalities with 1984 populations below 2,500, so we were only able to estimate the average impact of density in these municipalities.

We find that police costs depend on two environmental factors: the poverty rate and the share of housing units that are rented instead of owner-occupied. Poor people are the most likely victims of crime and some people respond to impoverished circumstances by turning to crime.<sup>17</sup> We find, however, that the link between poverty and police costs only exists in municipalities with populations above 1,000. In addition, we find that rental housing is more difficult to protect

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<sup>17</sup>For more on the link between crime and poverty, see S. Estrich, "Crime and the Poor," in M. Carballo and M.J. Bane (eds.), *The State and the Poor in the 1980s* (Boston: Auburn House, 1984), pp. 207-232; or S. G. Craig, "The Deterrent Impact of Police: An Examination of a Locally Provided Service," *Journal of Urban Economics*, Vol. 21 (May 1987): 298-311.

TABLE 10-5

## PUBLIC SERVICE COSTS IN NEBRASKA MUNICIPALITIES

	All Municipalities	Municipalities with Population		
		Greater Than 10,000	1,000- 10,000	Less Than 1,000
<b>Streets</b>				
Average	100.0	201.8	110.1	93.7
Standard Deviation	25.1	61.9	31.2	0.0
Minimum	58.9	122.2	58.9	93.7
Maximum	335.5	335.5	235.6	93.7
Number of Municipalities	514	14	105	395
<b>Police</b>				
Average	100.0	390.8	366.4	14.0
Standard Deviation	153.5	9.7	17.4	4.6
Minimum	2.6	372.7	323.0	2.6
Maximum	411.4	411.4	405.3	39.9
Number of Municipalities	237	12	45	180
<b>Fire</b>				
Average	100.0	343.3	304.8	32.6
Standard Deviation	121.1	25.0	27.6	4.1
Minimum	7.1	291.3	226.8	7.1
Maximum	380.2	380.2	350.6	41.3
Number of Municipalities	237	12	45	180
<b>Safety</b>				
Average	100.0	93.8	91.6	102.4
Standard Deviation	21.8	0.2	11.4	23.5
Minimum	38.5	93.6	60.0	38.5
Maximum	237.9	94.0	136.0	237.9
Number of Municipalities	277	2	60	215
<b>Miscellaneous</b>				
Average	100.0	88.2	95.9	101.5
Standard Deviation	7.6	6.8	6.1	7.1
Minimum	79.7	70.7	77.5	74.3
Maximum	134.3	96.2	106.3	134.3
Number of Municipalities	514	14	105	395

SOURCE: Nebraska Comprehensive Tax Study.

from crime than is owner-occupied housing.<sup>18</sup>

The impacts of poverty and rental housing on police costs are summarized in the second panel of Table 10-5. The police cost index varies widely across municipalities, with a maximum of 411 and a minimum of 3. This extensive variation reflects the fact that police costs are influenced by the poverty rate in municipalities with populations above 1,000 but not in the smallest municipalities. In other words, most of the variation exists between municipalities above and below 1,000 people. Large cities must spend almost 4 times as much as the average city to provide police services of the average quality, whereas the average municipality with less than 1,000 people needs to spend only 14 percent of the state wide average to provide average quality police services.<sup>19</sup> Within each population class, however, the variation in police costs is more modest. Police cost indexes range from 373 to 411 in the large cities, from 232 to 405 in the middle population class, and from 3 to 40 in the smallest class.

We find that the cost of fire services depends on four environmental factors: the share of housing more than 30 years old, the share of housing that is rented, the poverty rate, and population density. We also find that the impact of rental housing and poverty on police costs is much stronger in municipalities with populations above 1,000 than in smaller municipalities. The links between these environmental factors and fire costs are straightforward. Housing that is better maintained and in better condition is less likely to catch fire than housing that is poorly maintained, and fires are less likely to spread among well maintained, widely spaced housing units, than among poorly maintained, closely packed units. Older housing tends to be in poorer

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<sup>18</sup>Poverty and rental housing have also been found to affect police costs in major central cities. See H. F. Ladd and J. Yinger, *The Fiscal Health of U.S. Central Cities* (Baltimore: Johns Hopkins Press, forthcoming).

<sup>19</sup>For estimating purposes, we must divide cities into population classes and estimate the costs in each class. This approach undoubtedly exaggerates the difference in police costs for municipalities just above and just below 1,000 people, but gives an accurate picture of the average impact of poverty and rental housing on police costs in cities of different sizes. See the appendix.

condition than newer housing with more features, like old wiring that may cause fires. Rental housing often is found in multi-story buildings and tends to be less well maintained than owner-occupied housing. In addition, the rents poor people can afford tend to be too low to support adequate housing maintenance. Thus, the cost of fire protection is higher in municipalities with more old housing, more rental housing, a higher poverty rate, or a higher population density.

Our fire service cost indexes are in the third panel of Table 10-5. The fire cost index, like the police cost index, varies widely across municipalities, with far higher fire costs in municipalities with populations above 1,000 than in smaller ones. However, the difference in fire costs between large and small municipalities is not quite as great as it is for police costs, whereas the variation within population classes is somewhat greater. For example, the fire cost index varies from 291 to 380 among large cities and from 7 to 41 among municipalities with less than 1,000 people.<sup>20</sup> Because of their social and economic characteristics, the large cities must spend over 3 times as much as the average city to receive fire services of average quality, while the smallest municipalities can receive average quality services by spending only about one third as much as the average city.

Remember that 277 municipalities in Nebraska employ an accounting system that does not distinguish between police and fire spending. For these cities, we estimate the cost of safety services, that is, of police and fire protection combined. We find that three environmental characteristics influence the cost of safety services, the extent of old housing, the extent of rental housing, and, for places smaller than 1,000 people, the municipality's "share" of crime in the county. A municipality's share of county crime is defined to be the county crime rate multiplied by the municipality's share of county population. As explained earlier, more old housing and

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<sup>20</sup>As in the case of police services, our method overstates the difference between municipalities just above and just below 1,000 people.

more rental housing boost the cost of fire services. In addition, they may be indicators of disadvantaged circumstances, which are associated with higher police costs. Finally, municipalities in counties with high crime rates have to spend more to obtain the same level of protection against crime, all else equal.

As shown in the fourth panel of Table 10-5, our safety cost index varies somewhat less across cities than the police and fire cost indexes, with a range from 39 to 328. Moreover, the average safety cost index is about the same in all three population classes. Somewhat surprisingly, safety costs are a bit higher in the smallest municipalities than in municipalities with populations between 1,000 and 10,000. To some degree, this result reflects the fact that most of the large municipalities in Nebraska have accounting systems that separate police and fire spending and therefore are not included in these safety calculations; with so few large municipalities in this category, it is difficult to estimate accurately differences in service costs between large and small municipalities.

It is important to note that the safety cost indexes cannot be directly compared to the police and fire cost indexes. All three indexes are standardized to equal 100 in the average city to which they apply, so a value of 100 does not correspond to the same level of spending for all three indexes. In the 237 municipalities with police and fire indexes, the average spending per capita is \$26 on police and \$11 on fire. In the 277 municipalities with safety indexes, the average spending per capita on safety is \$46. Thus, the cost of providing police and fire services of average quality equals  $2(\$26 + \$11) = \$74$  per capita in a city with police and fire indexes both equal to 200 and equals  $2(\$46) = \$92$  in a city with a safety index of 200. To put it another way, a safety cost index of 100 is equivalent to police and fire costs both equal to  $(\$46/\$36) = 127$ .

Miscellaneous services consist of health and hospitals, sewers, sanitation, parks and recreation, libraries, housing, community development, social services, and administrative services. We find little variation in the costs of these services. In fact, the only environmental

factor that appears to matter is the extent of old housing. A concentration of old housing implies high costs for housing and community development programs, it is associated with disadvantage and hence with high costs for social services, and it probably signals an old public infrastructure, which is expensive to maintain. The effect of old housing on the cost of miscellaneous services is not great. As shown in Table 10-5, our miscellaneous cost index ranges from 80 to 134. Municipalities with populations below 1,000 tend to have slightly above-average costs and large cities all have somewhat below-average costs.

### **Revenue-Raising Capacity, Expenditure Need, and The Need-Capacity Gap**

The need-capacity gap is the difference between expenditure need and revenue-raising capacity. A positive gap indicates that capacity falls short of need; that is, the municipality would need money from outside sources to be able to provide the average service quality at the average tax burden on its residents. A negative gap indicates that capacity exceeds need; a municipality could provide the average service quality at the average tax burden and still have money left over for service quality increases or tax cuts. Need-capacity gaps for the 514 municipalities in Nebraska for which we have complete data are listed in Table 10-A1.

For convenience, the need-capacity gap is standardized to equal zero in the average municipality. This step has no substantive impact on our conclusions. In effect, revenue-raising capacity is set so that, on average, it will generate the amount of money that municipalities require to be able to provide services of average quality.

**Revenue-Raising Capacity.** Total revenue-raising capacity is the sum of capacity through the property tax, the sales tax, and other revenue sources. Although presented in index form in Table 10-3, the three components of total revenue-raising capacity are calculated in dollars per capita. As explained earlier, the general formula is as follows: capacity equals the standard tax burden multiplied by per capita income and multiplied by one plus the export ratio. The average dollar amount of capacity per capita is very similar for these three components:

\$104 for capacity through the property tax, \$114 for capacity through the sales tax, and \$113 for capacity through other sources.<sup>21</sup>

Total revenue-raising capacity is summarized in the first panel of Table 10-6.<sup>22</sup> Total capacity is \$313 per capita in the average municipality, but varies widely from one municipality to the next. The standard deviation of capacity is \$61, which implies that most cities have capacity between \$244 and \$382. However, a few cities are far outside this range; the minimum capacity is \$163 and the maximum is \$546. Table 10-6 also reveals large differences in capacity between large and small municipalities. The average capacity of large cities is \$442, and all large cities have above-average capacity. Among the smallest class of municipalities, the average capacity is \$299 and the range in capacity is from \$178 to \$498. These results reflect that facts that larger cities tend to have (1) more commercial and industrial property, the property taxes on which can be exported to some degree, (2) more taxable sales to nonresidents, and (3) higher incomes per capita. Nevertheless, a few villages and small cities have high revenue-raising capacity largely because of high per capita income.

**Expenditure Need.** Expenditure need is the amount a city would have to spend to provide average-quality services given its public service costs. Expenditure need for a particular type of service, such as streets, equals the product of service responsibilities for streets and the cost index for streets. Overall service responsibility is the sum of expenditure needs for all types of services, streets, police, fire, and miscellaneous.

Expenditure need is summarized in the second panel of Table 10-6. The average value is \$313 per capita; that is, the average municipality would have to spend \$313 per capita to provide

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<sup>21</sup>Another way to put it is that total revenue-raising capacity is a weighted average of the indexes for property, sales, and other capacity, where \$104, \$114, and \$113 are the weights.

<sup>22</sup>The capacity results in Table 10-6 have been scaled down by about 5 percent to insure that the average need-capacity gap equals zero. Using the figures from the preceding paragraph,  $313 = (104+114+113)/1.05$ .



TABLE 10-6

## THE NEED-CAPACITY GAP IN NEBRASKA MUNICIPALITIES

	All Municipalities	Municipalities with Population		
		Greater Than 10,000	1,000- 10,000	Less Than 1,000
<b>Revenue-Raising Capacity</b>				
Average	\$313	442	348	299
Standard Deviation	61	47	51	54
Minimum	163	342	163	178
Maximum	546	546	496	498
<b>Expenditure Need</b>				
Average	313	344	285	319
Standard Deviation	100	40	58	109
Minimum	169	251	169	170
Maximum	1125	379	407	1125
<b>Need-Capacity Gap</b>				
Average	0	- 98	- 62	20
Standard Deviation	123	57	73	127
Minimum	-248	-197	-224	-248
Maximum	836	- 13	126	836
Number of Municipalities	514	14	105	395

SOURCE: Nebraska Comprehensive Tax Study.

public services of average quality. The standard deviation of expenditure need is \$100, so most cities fall between  $(313-100)=$213$  and  $(313+100)=$413$ . The full range is from \$169 to \$1125. This variation in expenditure need is considerably larger than the variation in revenue-raising capacity; municipalities in Nebraska differ more in their service responsibilities and public service costs than in their incomes and abilities to export taxes.

Expenditure need is not as closely tied to population as is capacity, because large cities have relatively low expenditure need for streets combined with relatively high expenditure need for police, fire, and miscellaneous services. The average expenditure need for cities over 10,000 is \$344, whereas the average for the middle group of municipalities is \$285, and the average for the smallest municipalities is \$319. However, the standard deviation and range are much greater for the smallest municipalities, largely because of the huge variation in their street responsibilities. Among the large cities, the range in expenditure need is only from \$251 to \$379, whereas among the smallest municipalities the range is \$170 to \$1125.

**The Need-Capacity Gap.** The need-capacity gap is the difference between expenditure need and revenue-raising capacity, standardized to be zero in the average municipality. The standard deviation of this gap is \$123; thus, most municipalities have gaps between  $-$123$  and  $+$123$  per capita. The municipality in the worst condition (Nora) has a gap of \$836, and the municipality in the best condition (Sprague) has a gap of  $-$248$ . The \$836 figure is somewhat misleading. Nora has a gap of \$836 because it has relatively many miles of roads for its 24 people, but the second-worst municipality (Dickens) has a gap of only \$543 and only 13 villages, all but one of which have populations below 100 people, have need-capacity gaps above \$300 per capita.<sup>23</sup> Excluding these 12 tiny villages, the least healthy municipality would have to

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<sup>23</sup>The street responsibilities of these villages are striking. They have street responsibility indexes between 265 and 671; that is, they would have to spend between 2.65 and 6.71 times as much per capita as the average city to provide streets services of average quality.

receive about \$290 per capita from outside sources to be able to provide the same service quality at same tax burden as the average municipality. In contrast, the healthiest municipality could provide services of average quality and still have \$248 per capita left over for service quality improvements or tax cuts.

The municipalities with the best fiscal condition vary widely in their characteristics. The top-ranked city is Sprague, which is located outside Lincoln, with a 1984 population of 169 and a 1983 per capita income of \$13,933, the highest in the state. Three other municipalities in the top ten (Papillion, Sidney, and North Platte) had populations between 5,000 and 25,000 in 1984. The remaining municipalities in the top ten (Big Springs, Bassett, Melbeta, Syracuse, Waverly, and Bennington) had 1984 populations under 1,000 but relatively high per capita incomes and relatively few miles of roads per capita.

As noted, the 12 municipalities with the poorest fiscal condition all are very small villages with extensive street responsibilities. In fact, almost all of the municipalities in the bottom half of the fiscal-condition distribution have populations below 1,000. The least healthy municipality with a population above 1,000, Harvard, has a need-capacity gap of \$126 and ranks 449th--or 65th from the bottom. The least healthy municipality with a population above 2,500, Superior, has a gap of \$9, which is close to the average, and the least healthy municipality with a population above 5,000, La Vista, has a gap of \$-13 and ranks 278th.

Table 10-6 also reveals that, on average, large cities are in much better fiscal condition than are small municipalities. The average need-capacity gap for cities with populations above 10,000 is \$-98 per capita, and none of these large cities has below-average fiscal condition. The smallest municipalities have an average gap of \$+20 per capita, but their fiscal condition varies widely. As noted earlier, some of the healthiest, as well as some of the least healthy, municipalities are in the smallest population class.

Although not among the healthiest ten municipalities, cities with populations above 30,000 all have relatively good fiscal condition. Omaha ranks 12th with a gap of \$-190 per capita, Lincoln ranks 64th with a gap of \$-194, Grand Island ranks 81st with a gap of \$-106, and Bellevue ranks 123rd with a gap of \$-82. In comparing the 14 cities with 1984 populations above 10,000 with each other, we find that Omaha is in the best fiscal condition, whereas La Vista and Scotts Bluff are the worst position, with gaps of \$-13 and \$-19, respectively. The others (Lincoln, Grand Island, Bellevue, Fremont, Kearney, North Platte, Hastings, Norfolk, Columbus, Beatrice, and Alliance) all have gaps between \$-53 and \$-197. The average gap for these cities is \$-98. Although these cities are all in much better fiscal condition than many of the tiny municipalities in the state, this range in fiscal condition is large. Omaha could provide service quality equal to the average in this group of cities at the average tax burden and still have  $(190-98)=\$92$  left over for service increases or tax cuts. La Vista could not provide this average service quality at this average tax burden without receiving  $(146-71)=\$85$  per capita from outside sources.

The strong association between fiscal condition and population is illustrated in Figure 10-1, which plots population against the need-capacity gap for all municipalities in Nebraska. Larger municipalities clearly tend to have better fiscal health than smaller municipalities. The average relationship between population and fiscal condition is highlighted by the line in this figure.<sup>24</sup> This figure also illustrates, however, that not all municipalities of a given size have the same need-capacity gap.

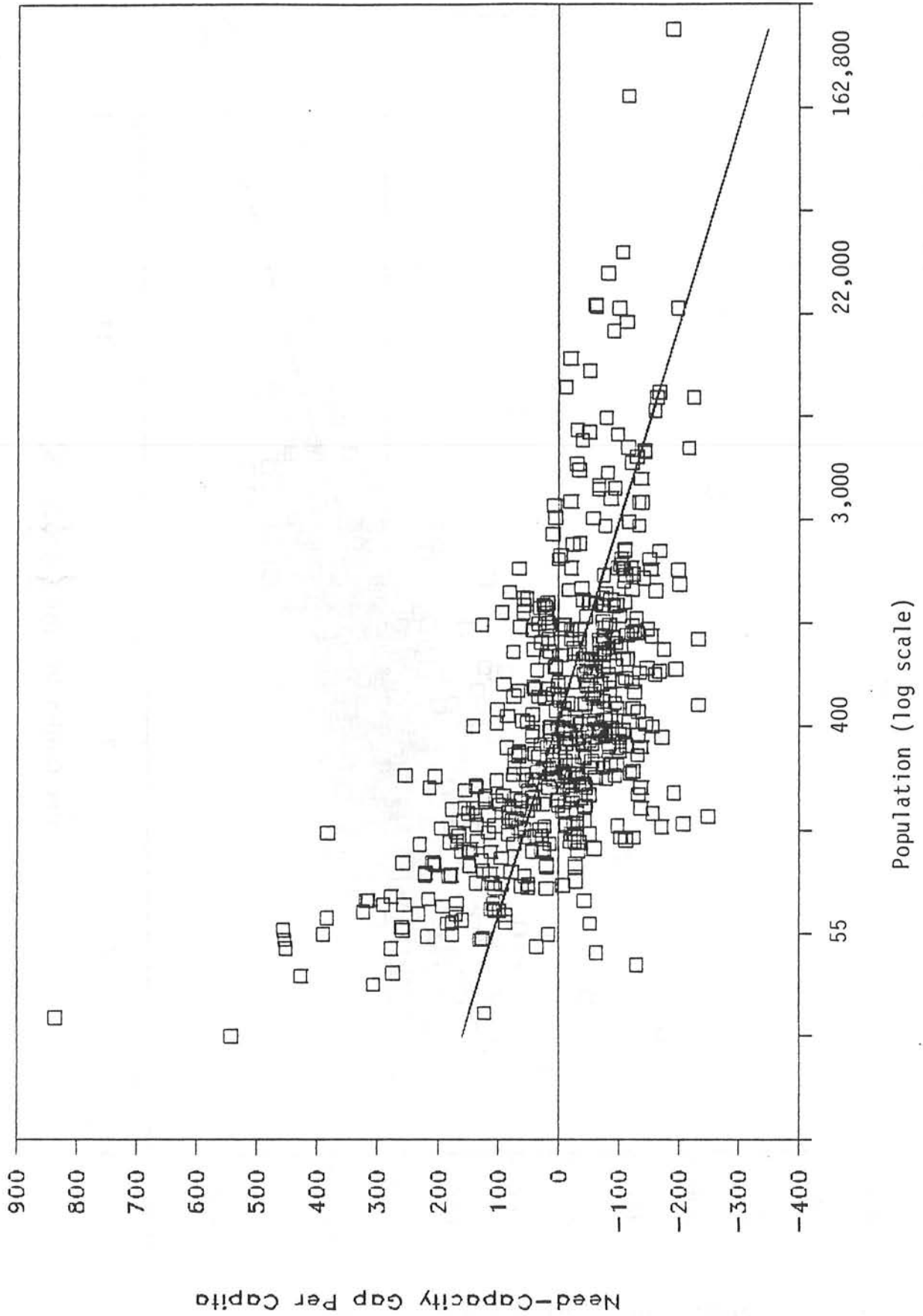
Figure 10-2 illustrates that there also exists a strong association between income and fiscal condition. Municipalities with higher incomes tend to have smaller need-capacity gaps both because they have higher revenue-raising capacity and because they have lower public

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<sup>24</sup>This "average" line is obtained using a standard statistical technique, namely bivariate regression analysis. This same technique is used for Figure 10-2.

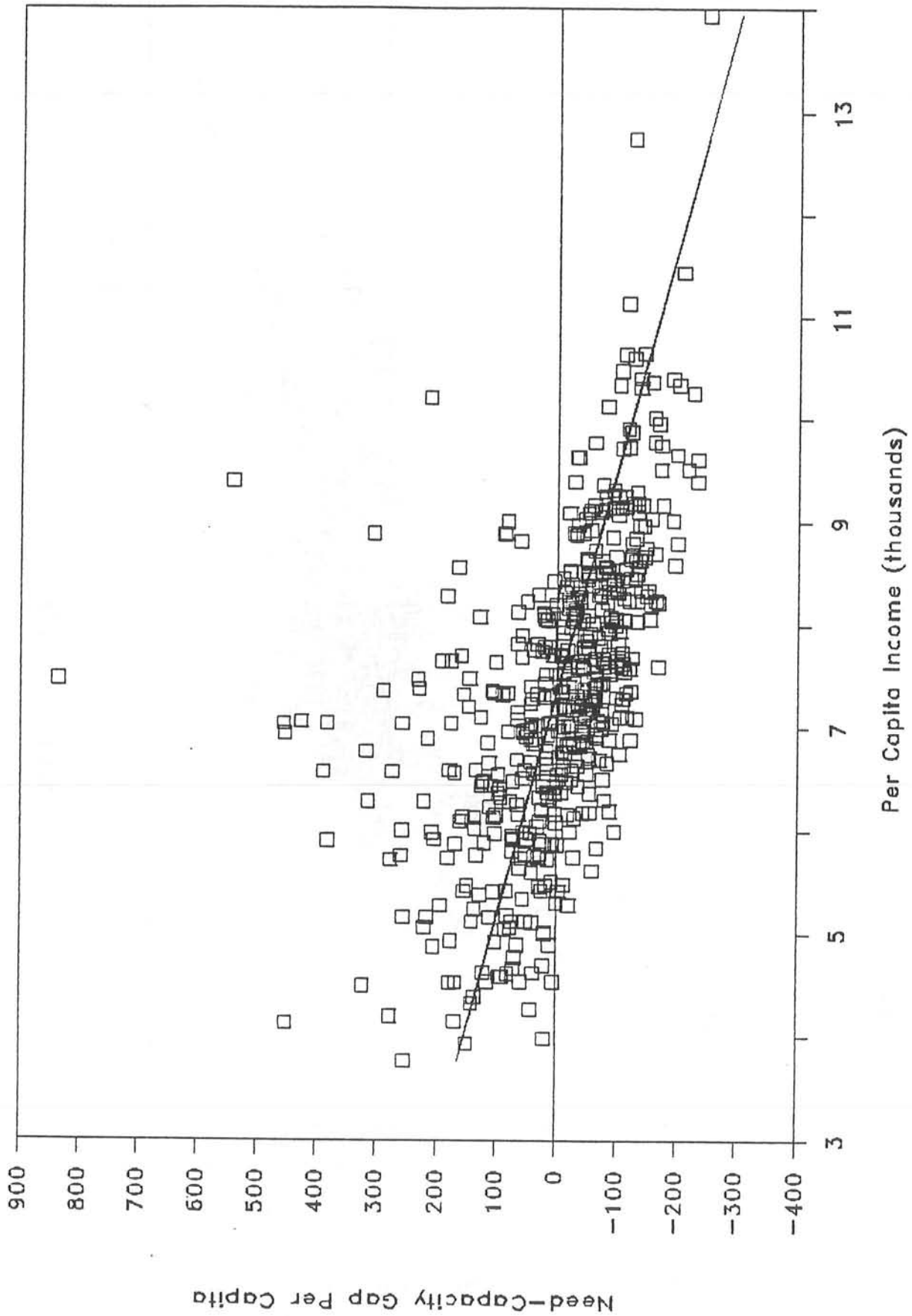
FIGURE 10-1

# POPULATION AND FISCAL CONDITION



# INCOME AND FISCAL CONDITION

FIGURE 10-2



service costs. As in Figure 10-1, the line highlights the average relationship between income and fiscal condition, and the plotted points reveal that not all cities with a given income have exactly the same fiscal condition.

### **The Fiscal Condition of Omaha vs. Other Central Cities in the United States**

So far, our calculations reveal the fiscal condition of each city in Nebraska relative to the state-wide average. A recent study of U.S. central cities by Ladd and Yinger provides some insight into a different question: How does the fiscal condition of Omaha compare to the fiscal condition of other major central cities?<sup>25</sup> In comparing cities in different states, one must pay careful attention to differences in fiscal institutions. Some cities have far more service responsibilities or receive access to more broad-based taxes or must share taxable resources with more overlying governments than other cities. These fiscal institutions are determined by the state and can have as much impact on a city's fiscal health as intergovernmental grants. For example, Omaha is allowed to levy a 1-1/2 percent general sales tax, which boosts its ability to export taxes to nonresidents, but unlike several other central cities, it cannot levy a tax on commuter earnings, which would boost its ability to export even more.

Thus, Ladd and Yinger carry out their analysis in two steps. First, they determine the fiscal health each city would have if it had a standard set of fiscal institutions. This "standardized" fiscal health measure reflects social and economic characteristics that influence public service costs and revenue-raising capacity, but it does not reflect differences across cities in fiscal institutions. Second, they determine each city's actual fiscal health given its fiscal institutions and the intergovernmental aid it receives from its state. The difference between actual and standardized fiscal health is a measure of the assistance the city receives from its state, both through fiscal institutions and through grants.

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<sup>25</sup>This study is Ladd and Yinger, *The Fiscal Health of U.S. Central Cities*.

Compared to 69 other major central cities, Omaha's standardized fiscal health was about average in 1972. Between 1972 and 1982, standardized fiscal health deteriorated both in Omaha and in the average central city, but the decline in Omaha was only about half as large as the average decline. In other words, Omaha's standardized fiscal health was somewhat higher than average in 1982. In contrast, Omaha's actual fiscal health was considerably above average in 1972 and considerably below average in 1982. This turnaround had two causes. First, and most important, state intergovernmental grants to Omaha, already below-average in 1972, declined still further relative to the grants received by other central cities.<sup>26</sup> Second, Omaha's fiscal institutions proved to be less favorable relative to other cities in 1982 than in 1972. In fact, only 5 of 29 states in the Ladd-Yinger study were less generous to their central city or cities in 1980 than Nebraska was to Omaha.

Based on economic and social factors alone, Omaha's 1982 fiscal condition was better than the fiscal condition of the average major central city. However, Omaha received considerably less assistance in 1982 from the Nebraska state government, through both fiscal institutions and grants, than the average central city received from its state, and this relatively low assistance pushed its actual fiscal condition below average. These results help to place the earlier results in this paper into perspective. Omaha is in much better fiscal condition than most of the villages and small cities in Nebraska, but largely because of the relatively low level of state grants in Nebraska, it is in worse fiscal condition than the average central city in the country.

## Conclusions

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<sup>26</sup>For more information on the low level of intergovernmental grants in Nebraska relative to the U.S. and to nearby states, see J. Miner and P. Joyce, "The Nebraska State and Local Revenue and Expenditure System: A Comparative Analysis of Structure and Levels," Chapter 1 in this volume.



Three key results emerge from this analysis. First, the largest cities in Nebraska are in much better fiscal condition, on average, than are villages and small cities. The principal reason for the relatively good fiscal condition of large cities is that they tend to have relatively high per capita incomes and relatively high abilities to export their tax burdens to nonresidents, both through the property tax and the sales tax. The fiscal advantages of large cities in terms of revenue-raising capacity are offset to some degree by their relatively high public service costs for street maintenance, police protection, and fire protection, but are reinforced to some degree by their relatively low responsibility for street maintenance. The combined impact of high costs and low street responsibilities is to give large cities somewhat larger expenditure needs than small municipalities. The fiscal disadvantages of large cities on the need side, however, are not sufficient to offset their fiscal advantages on the capacity side. As a result, all cities with more than 10,000 people have above-average fiscal condition, and Omaha (ranked 12th), Lincoln (ranked 64th), and Grand Island (ranked 81st) are in the top 20 percent of municipalities.

Second, villages and small cities vary enormously in their fiscal condition. Villages with relatively high per capita incomes and low responsibility for streets are in relatively good fiscal condition, whereas villages with low per capita incomes and high street responsibilities are in relatively poor fiscal condition. The differences in incomes and street responsibilities across small municipalities are so large that some of these places are among the healthiest municipalities in the state, whereas others are clustered at the bottom of the fiscal-condition list.

Third, Omaha's economic and social circumstances alone give it somewhat better fiscal health than the average major central city in the United States, but Omaha's relatively low state assistance, compared to other cities, implies that its overall fiscal health is considerably below average. These results indicate that the largest cities in Nebraska are not in good fiscal condition relative to comparable cities in other states, they are only in good fiscal condition relative to the

average small municipality in Nebraska. In fact, the largest cities in Nebraska appear to be in fairly poor fiscal condition relative to comparable cities nationwide.

### **The Determinants of Municipal Spending**

Our measure of municipal fiscal condition is designed to be unaffected by that municipality's actual decisions about spending and taxation. Nevertheless, state policy makers may want to be able to answer several questions about this actual fiscal behavior: Do municipalities with higher per capita income or larger tax bases spend more than other municipalities? To what extent do municipalities with harsher environments spend more on public services? What is the impact of state and federal grants on municipal spending? This section addresses these and other questions about the behavior of municipalities in Nebraska. The statistical support for our conclusions is presented in the appendix.

We divide municipal spending into four types: street, police, fire, and miscellaneous. In municipalities without separate police and fire accounts, we combine police and fire into safety spending. For all four types of spending, our analysis follows a large literature by assuming that spending is influenced by voters' demands for public services, which, like private demands for goods and services, increases with voters' income and decreases with the "price" of those services. In the case of public services, the "price" is the amount a voter must pay in taxes for another unit of services. This so-called tax price is approximately equal to the residential share of the property tax base; the higher the residential share, the more of the burden for any tax increase falls directly on voters.<sup>27</sup>

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<sup>27</sup>A related measure of tax price, namely the inverse of the tax base per capita, was employed in the county report. See Yinger, "The Fiscal Conditions of County Governments in Nebraska." These two approaches are closely related and yield very similar results. See Ladd and Yinger, *The Fiscal Health of U.S. Central Cities*.

We find that resident income has a positive and statistically significant impact on most types of services. As noted earlier, a "standard deviation" is a measure of the typical variation in a variable across municipalities. A municipality with a per capita income one standard deviation above the average spends about 33 percent more on fire (or about 17 percent more on safety) and about 4 percent more on miscellaneous services than a municipality with average income. Income does not appear to influence municipal spending on streets or police, however. A municipality's tax price has the expected impact on spending for streets, fire (or safety), and miscellaneous services; the higher is the tax price, the lower is municipal spending. But we find no link between tax price and spending for police services.

A variety of institutional and preference factors also influence municipal spending. The most important factors are discussed here; the complete list of these factors is in the appendix. As noted earlier, the types of streets in a municipality influence its street maintenance spending; we find that unsurfaced streets are the most expensive to maintain, whereas gravel streets are the least expensive. Municipalities with city managers tend to spend more per capita than other municipalities on streets and on police (or safety), whereas villages spend less per capita on police (or safety) than do cities. Not surprisingly, spending for miscellaneous services, including sewer and sanitation services, increase with the sewerage and sanitation charges a municipality collects. However, municipalities with some spending on sewers spend \$22 more per capita, on average, than other municipalities, even after controlling for sewerage charges. Similarly, municipalities with hospitals spend \$14 more per capita, on average, than other municipalities, after controlling for hospital charges and other factors.

Municipalities with harsher environments have higher public service costs and therefore must spend more to obtain the same service quality. Thus, the impact of environmental factors on public service costs can be estimated by determining the impact of these variables on spending, controlling for other determinants of service quality, such as income and tax price. As

explained earlier, we find that a variety of environmental factors influence municipal spending in Nebraska. A high poverty, for example, boosts spending on police and fire services.

State aid (as defined by the U.S. Census) has strong positive impact on street spending, but we find no impact of state aid on spending for any other municipal public services. As currently designed, state aid in Nebraska does encourage municipalities to better maintain their streets, but it does not encourage municipalities to improve the quality of their other public services. We examine state aid more fully in the following section. Federal categorical aid also has a strong positive impact on street spending, as well as a positive impact on spending for fire protection and miscellaneous services. Federal general revenue sharing appears to encourage municipalities to spend more on miscellaneous services and to encourage municipalities without separate police and fire accounts to spend more on safety services. The federal government rescinded its general revenue sharing program in 1986; our results suggest that municipalities in Nebraska may cut back their miscellaneous and safety services in response to this change in federal policy.

## **Policy Options for the State**

### **Current State Aid Programs**

At present, the only general-purpose state aid program for municipalities is the aid given through the Governmental Subdivision Fund. In FY1986, \$16.2 million was distributed to municipalities through this fund. The formula by which this aid is distributed is very simple: all municipalities receive the same amount per capita. Thus, this aid program does not attempt to direct state assistance to the municipalities that need help the most. In other words, this program does not give any more aid per capita to municipalities in poor fiscal condition than to municipalities in good fiscal condition.

The State of Nebraska has implemented several other programs that provide assistance to municipalities. Two cents of the state motor fuel tax goes into the City/County Road Fund, and half of the money in this fund goes to municipalities. Municipalities' share of this fund is distributed on the basis of municipal population, lane miles, motor vehicle registrations, and various other factors. Municipalities also receive a share of the state Highway Trust Fund; 10 1/2 cents of the motor fuel tax goes into this fund and municipalities receive 23 1/3 percent of this amount. In FY1986, municipalities received approximately \$28 million from these two road funds. Half of the state insurance premium tax also goes to local governments, and 30 percent of the local government share goes to municipalities. In FY1986, municipalities received approximately \$4 million through this source.

These programs operate like state aid programs, and indeed they, along with aid through the Governmental Subdivision Fund, are all treated as state aid in the U.S. Census accounting system.<sup>28</sup> Thus, we can ask whether total state aid through all these programs is directed toward the municipalities that need help the most.

We find that municipalities in poorer fiscal condition receive slightly more overall state aid. To be specific, we find that if City A's need-capacity gap is \$1 higher than City B's, then City A can expect to receive about \$0.08 more in state aid than City B. In other words, current state aid programs offset about 8 percent of the disparities in fiscal condition across municipalities. Remember that street responsibilities play a key role in municipal fiscal condition; this equalizing role of current state aid reflects the fact that highway trust fund revenues are directed to some degree toward municipalities with extensive street responsibilities.

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<sup>28</sup>The Census accounting system also treats as state aid any federal aid that is passed through the state government to local governments. This so-called pass-through aid small except in the case of federal welfare and school aid programs, neither of which are relevant for Nebraska municipalities.

## Equalizing Grants

Many states have implemented grant programs designed to assist cities that are, through no fault of their own, in poor fiscal condition. Nobody wants to reward jurisdictions that are in fiscal trouble because of mismanagement or corruption or excess service provision, but many public officials believe that the state government should help cities that are in fiscal trouble because of economic and social circumstances that are outside their control. The objective of this type of program is to insure that all citizens have access to an adequate level of public services, even if they live in a city with low revenue-raising capacity or high expenditure need.

In this section, we describe a type of grant program for Nebraska that is explicitly designed to assist municipalities that are in relatively poor fiscal condition because of factors outside their control. To put it another way, this grant program is designed to help offset fiscal disparities across municipalities. Although we believe that offsetting fiscal disparities across municipalities is a legitimate and even compelling objective for a state government, any decision about the extent to which fiscal disparities are offset in Nebraska must be made by Nebraska state officials. Our approach is to provide a general grant formula for offsetting fiscal disparities across municipalities and to show how state officials can increase or decrease the generosity of the program.

As shown earlier, state assistance to municipalities through the highway trust funds is directed toward municipalities in poor fiscal condition, but only to a small degree. The general formula described below allows the state to increase the extent to which its aid is directed toward the municipalities that need it the most.

A grant program to offset fiscal disparities across municipalities requires two decisions from state officials. First, they must decide on the budget for the program. Second, they must decide whether the program will be directed toward all municipalities or will be limited to those municipalities in the poorest fiscal condition. These two decisions determine the percentage of

existing fiscal disparities that can be offset by state aid. State officials can increase the percentage of existing disparities that the program can offset either by raising the programs budget or by restricting the number of municipalities that receive aid.

The importance of these two decisions is demonstrated in Table 10-7. Based on the 1984 populations and FY1986 need-capacity gaps of Nebraska's municipalities, we calculate the percentage of existing disparities that can be offset, called the offset percentage, for various state budget levels and various sets of municipalities. The first column of entries in the table lists the offset percentage for various state budgets when the aid program applies to all municipalities in the state. For every million dollars it spends, Nebraska can offset 0.6 percent of existing fiscal disparities across all its municipalities. With the FY 1986 budget for the governmental subdivision fund, \$16.2 million, the state could offset about 10 percent of the fiscal disparities across all municipalities. As noted earlier, the implicit offset percentage in all current state aid programs put together, including the highway trust funds, is only about 8 percent.

State officials can improve the cost-effectiveness of an equalizing grant program by restricting the grants to the municipalities that need help the most. A program that gives grants to all municipalities must devote a large share of its budget to small per capita grants to large cities, which tend to be in relatively good fiscal condition. Thus, a large share of the budget is devoted to cities that do not need much assistance and little is left over to help municipalities in very poor fiscal condition. To focus the aid on the neediest municipalities, the state can decide to give grants only to municipalities with a need-capacity gap above a selected cut-off point. Three such cut-off points are illustrated in Table 10-7. Column 2, for example, describes a grant program with a cut-off points of \$-50 per capita, and column 3 describes a grant program with a cut-off point of \$0 per capita. Thus, column 3 describes a program that gives grants to all municipalities with above-average need-capacity gaps, that is, with gaps above zero. For every \$1 million of budget, this program can offset 23 percent of the existing fiscal disadvantages of

TABLE 10-7

PERCENTAGE OF FISCAL DISPARITIES ACROSS MUNICIPALITIES  
OFFSET BY STATE AID, FOR VARIOUS AID PROGRAMS

State Aid Budget (millions)	Municipalities Receiving Aid			
	All Municipalities	Municipalities With Gap Greater Than -50	Municipalities With Gap Greater Than 0	Municipalities With Gap Less Than +50
1	0.6	9.4	23.7	57.3
2	1.3	18.8	47.4	100.0+
3	1.9	28.2	71.0	100.0+
4	2.6	37.6	94.7	100.0+
5	3.2	47.0	100.0+	100.0+
6	3.9	56.3	100.0+	100.0+
7	4.5	65.7	100.0+	100.0+
8	5.1	75.1	100.0+	100.0+
9	5.8	84.5	100.0+	100.0+
10	6.4	93.9	100.0+	100.0+
11	7.1	100.0+	100.0+	100.0+
12	7.7	100.0+	100.0+	100.0+
13	8.4	100.0+	100.0+	100.0+
14	9.0	100.0+	100.0+	100.0+
15	9.6	100.0+	100.0+	100.0+
16	10.3	100.0+	100.0+	100.0+
17	10.9	100.0+	100.0+	100.0+
18	11.6	100.0+	100.0+	100.0+
19	12.2	100.0+	100.0+	100.0+
20	12.9	100.0+	100.0+	100.0+
Number of Municipalities Receiving Aid	514	320	211	135

Notes: Fiscal disparities are measured by a municipality's need-capacity gap, abbreviated gap. The entry "100.0+" indicates that existing disparities could be eliminated with money left over.

SOURCE: Nebraska Comprehensive Tax Study.



these municipalities, and a \$5 million budget for this program could entirely eliminate these disadvantages.

Table 10-7 reveals that Nebraska can provide extensive assistance to its neediest municipalities at very little cost to the state. With a state aid budget of only \$1 million, the state could offset 9 percent of the fiscal disadvantages faced by municipalities with need-capacity gaps above \$-50 (per capita) and 57 percent of the fiscal disadvantages faced by municipalities with gaps above \$+50. And with a budget of only \$5 million, the state could eliminate almost half of the fiscal disadvantages of municipalities with need-capacity gaps above \$-50 and all of the fiscal advantages faced by municipalities with below-average fiscal condition. These dramatic results reflect the fact that most of the municipalities in poor fiscal condition in Nebraska are very small, so it does not take a very large state budget to compensate these cities for their unfavorable economic and social circumstances.

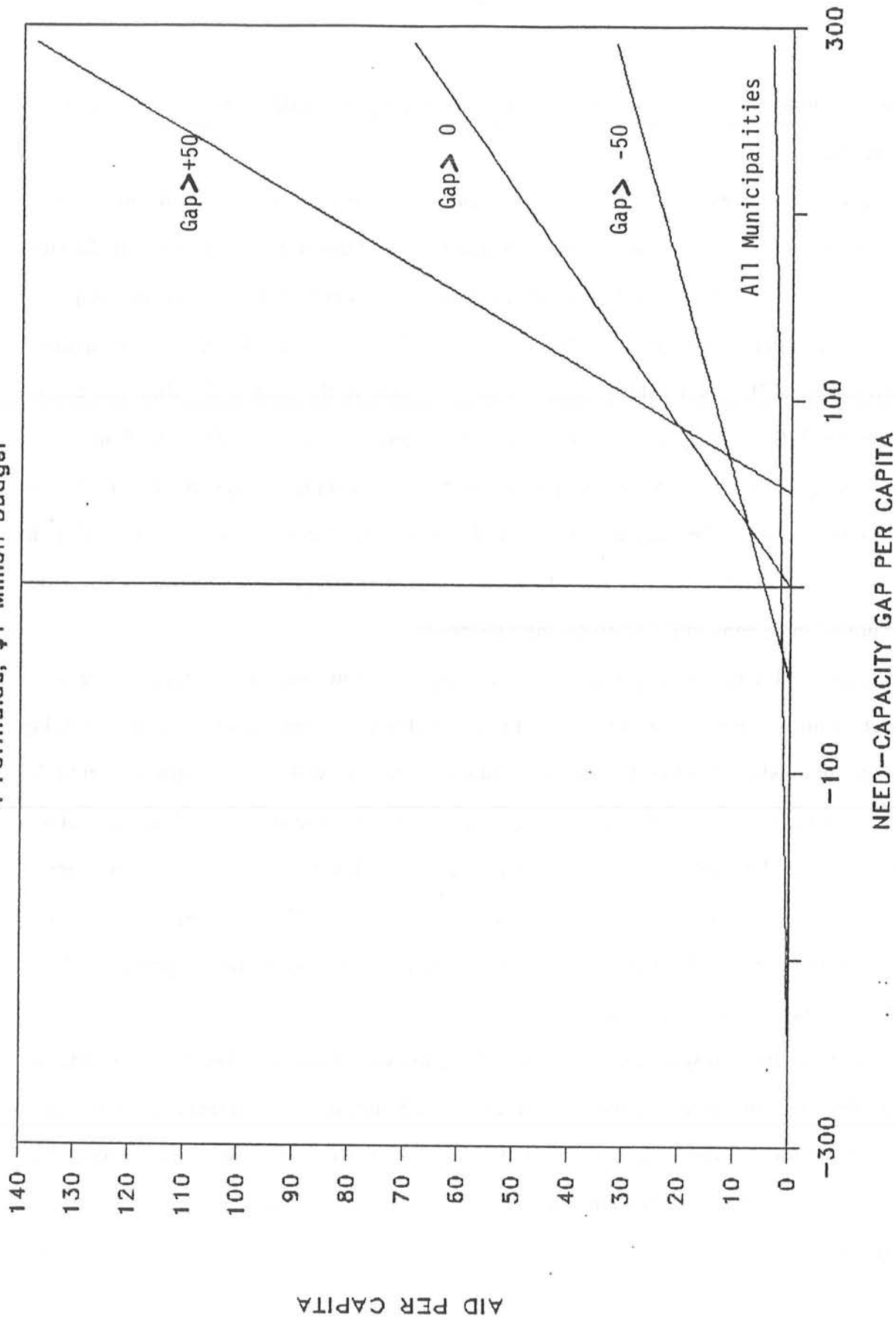
Figure 10-3 makes these points in another way. The four lines in this figure correspond to the four \$1 million aid programs in the first row of Table 10-7. The cut-off point for receiving aid is the point at which the line hits the horizontal axis; no city with a need-capacity gap to the left of this point receives any aid. As this cut-off point moves to the right, the offset percentage, which is represented by the steepness of the line, increases. It follows that the municipalities in the poorest fiscal condition receive much more aid per capita for the program in column 4 of Table 10-7, which has a cut-off point is a gap of \$50 per capita, than for the program in column 1, which gives aid to all municipalities.

Offsetting fiscal disparities is not, of course, the only possible objective of a state aid program. For example, state revenue sources tend to be fairer, less distortionary, and cheaper to administer than local revenue sources, so a state may want to shift reliance away from local taxes, like the property tax, onto state taxes, like the income and sales taxes, and then share the proceeds with its local governments. Indeed, this type of revenue shifting is an important

# AID TO NEBRASKA MUNICIPALITIES

FIGURE 10-3

4 Formulas, \$1 Million Budget



justification for the current distribution of highway trust fund revenues to municipalities and for the current program of aid through the Governmental Subdivision Fund.<sup>29</sup> Thus, state officials may want to combine an equalizing grant program, such as the programs in Table 10-7, with another grant program, such a flat grant per capita to all municipalities (the formula currently employed for the Governmental Subdivision Fund).

Because, through no fault of their own, some Nebraska municipalities are in much poorer fiscal condition than others, we recommend that the state implement a new state aid program that is explicitly designed to offset fiscal disparities across municipalities. Moreover, we recommend that to some degree this program be limited to municipalities with the poorest fiscal condition so that it can provide assistance to the municipalities that need it the most at a reasonable cost to the state. To be able to implement this recommendation, the state must be able to estimate and update each municipality's need-capacity gap. A method for doing so is presented in the appendix. Given the relatively low level of state aid in Nebraska compared to other state, we also recommend that the state retain its existing state aid programs, both through the Governmental Subdivision Fund and the highway trust funds.

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<sup>29</sup>Aid given through the Governmental Subdivision Fund was originally intended to compensate municipalities for revenue that they lost when the State instituted property tax exemptions for farm equipment and various types of personal property. However, the current aid formula is in no way connected to the extent of a municipality's loss from these exemptions.

## Appendix 10-A

### Introduction

In this appendix, we explain the technical details of our calculations, following the outline of the text. At several points in this appendix, we assume that the reader is familiar with multiple regression analysis. Many results in the text are in index form. These indexes are simple translations of results in this appendix. Label the value of a result in municipality  $i$  as  $R_i$ , which is expressed in dollars per capita, and label the average value of this result across all municipalities as  $R_S$ . Then the index for this result in municipality  $i$  is defined to be  $100(R_i/R_S)$ .

### The Fiscal Condition of Municipal Governments

The approach to fiscal condition used in this report draws heavily on previous work by Bradbury and Ladd and by Ladd and Yinger.<sup>30</sup>

#### Revenue-Raising Capacity

**Revenue-Raising Capacity Through the Property Tax.** Revenue-raising capacity through the property tax is calculated in five steps.

First, we calculate the average burden from municipal taxes in the state, which is the sum of all municipal property tax revenue divided by total income in municipalities. This average is the baseline tax burden that is held constant across municipalities.

Second, we calculate revenue-raising capacity without exporting in each municipality by multiplying the baseline tax burden by a municipality's per capita income.

Third, we estimate the composition of property in each municipality using data on the composition of property within counties. We find that a county's residential property per capita

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<sup>30</sup>See Bradbury and Ladd, "Changes in the Revenue-Raising Capacity of U.S. Cities, 1970-1972," and Ladd and Yinger, *The Fiscal Health of U.S. Central Cities*.

is a function of municipal income per capita in the county, so we estimate residential property per capita in each municipality as a function of municipal income.<sup>31</sup> Residential property is then divided into owner-occupied housing and rental housing according to the percentage of housing units in the municipality that were rented in 1980. We also find that a county's commercial and industrial property per capita is a function of its population in municipalities and of municipal income per capita in the county, so we estimate each municipality's commercial and industrial property as a function of its population and of its income.<sup>32</sup> The value of miscellaneous property in a municipality is then defined to be the total property tax base in the municipality (for which we have data) minus both residential and commercial/industrial property (which we estimate).

Fourth, we calculate exporting. As explained in the text, 65 percent of the taxes on commercial/industrial property, 15 percent of the taxes on rental housing, and 25 percent of the taxes on miscellaneous property are assumed to be exported. The export ratio equals nonresident taxes divided by resident taxes.

Fifth, we calculate revenue-raising capacity with exporting by multiplying capacity without exporting by one plus the export ratio.

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<sup>31</sup>The prediction is made with the following regression line for county data:  $PCRESPRO = 824 + (1.27 * MUNINC)$ , where PCRESPRO is the assessed value of a county's residential property per capita in FY1986 and MUNINC is county per capita income in municipalities in 1983. This regression explains 28 percent of the variation in PCRESPRO, and the coefficient of MUNINC is statistically significant at the 1 percent level.

<sup>32</sup>The prediction is made with the following regression line for county data:  $PCCOMPRO = -666 + (.52 * MUNINC) + (MUNPOP * .0099)$ , where PCCOMPRO is the assessed value of a county's commercial and industrial property and MUNPOP is municipal population within the county. MUNINC is defined in the previous footnote. This regression explains 33 percent of the variation in PCCOMPRO and the coefficients of both explanatory variables are significant at the 1 percent level. In using this regression to predict municipal commercial and industrial property, an adjustment is made for a municipality's share of total municipal population in its county.

### Revenue-Raising Capacity Through the Sales Tax. Revenue-raising capacity

through the sales tax is calculated in four steps.

First, we calculate a municipality's revenue-raising capacity before exporting by multiplying the baseline sales tax burden, 1 percent, by its per capita income.

Second, we estimate total taxable sales as a percentage of income for all municipalities in the state without sales taxes. For municipalities with sales taxes, we find that the ratio of sales to income is a function of retail employment in the municipality, municipal per capita income, and county commercial/industrial property per capita weighted by the municipality's share of county population.<sup>33</sup> We use this relationship to estimate the sales to income ratio in other municipalities.

Third, we estimate the taxable sales to nonresidents. As noted in the text, we estimate that residents of Nebraska spend 38 percent of their income on goods subject to the sales tax. Taxable sales to nonresidents equal total taxable sales minus taxable sales to residents. From this calculation we obtain the export ratio, which is taxable sales to nonresidents divided by taxable sales to residents.

Fourth, we obtain revenue-raising capacity with exporting by multiplying capacity without exporting by one plus the export ratio.

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<sup>33</sup>Using multiple regression analysis, we find that  $SHAREINC = 0.68 + (.029 * PCEMPRET) - (.042 * PCY) + (.0008 * INTERCO)$ , where SHAREINC is the ratio of sales to income, PCEMPRET is resident employment in the retail sector per capita, PCY is resident per capita income, and INTERCO is county commercial/industrial property per capita weighted by the municipality's share of county population. This regression explains 61 percent of the variation in the state to income ratios, PCEMPRET and INTERCO are significant at the 5 percent level and PCY is significant at the 10 percent level. To make certain that our estimates are not driven by the unique characteristics of Omaha and Lincoln, these two cities are left out of this regression. In half a dozen municipalities without sales taxes, the value of SALEINC estimated on the basis of this regression is below 38 percent, which is the share of income that we estimate is spend on taxable goods. In these municipalities we raise estimated SALEINC to 38 percent.

**Revenue-Raising Capacity Through Other Sources.** As explained in the text, revenue-raising capacity through other sources involves no exporting, so we calculate it in two simple steps.

First, we calculate the average or baseline burden from sources other than the property or sales tax. In calculating this burden, we exclude specialized revenue source such as charges for hospitals, sewers, and sanitation. The baseline burden equals the sum across all municipalities of the revenue from "other" sources divided by total municipal income in the state.

Second, we find revenue-raising capacity for each municipality by multiplying this baseline tax burden by that municipality's per capita income.

### **Expenditure Need**

**Service Responsibilities.** Service responsibilities for streets are calculated by multiplying average expenditure per mile in the state (i.e. total spending on streets by municipalities in the state divided by total miles of streets and roads in municipalities) by the number of miles of streets and roads for which a municipality is responsible. The result is scaled up or down, by the same proportion in every municipality, so that street service responsibility in the average municipality equals spending for streets in the average municipality.

All municipalities in Nebraska are responsible for providing police and fire protection. Although all municipalities have the same formal responsibility for these services, some do not provide them directly but instead contract with other levels of government or rely on volunteer firemen. We divide municipalities into two classes, those with and without separate budgetary accounts for police and fire. For municipalities with separate accounts, we set the responsibility for police (fire) equal to the average spending for police (fire) among municipalities with some police (fire) spending. For municipalities without separate accounts, we set the responsibility for safety equal to the average spending on safety among municipalities with some safety

spending. All of these averages exclude municipalities that contract out all their police services or that rely entirely on volunteer firemen.

Our measure of responsibility for miscellaneous services is higher for municipalities that run hospitals or that spend more than \$2 per capita on sewer services. We find that municipalities with a municipal hospital or with sewer responsibilities spend more on miscellaneous services than other municipalities, even after controlling for hospital and sewerage charges. We also find that municipalities with sanitation responsibilities spend more than other municipalities, but only to the extent that they collect sanitation charges. In municipalities without either a hospital or sewer spending, we set miscellaneous service responsibilities at the average spending on miscellaneous services (other than hospitals, sewers, and sanitation). In cities with hospitals we then add our estimated impact of hospital responsibility and in cities with sewer responsibilities we add our estimated impact of sewer responsibilities. The precise estimates of the impact of these responsibilities are presented below.

**Public Service Costs.** Our measure of public service costs is calculated in three steps.

First, we calculate the impact of various environmental factors, which are described in the text, on street, police, fire, safety, and miscellaneous spending per capita, controlling for other factors that influence spending. These other factors, which are also described in the text, include the determinants of the quality of public services, such as resident income and tax price. Because spending is defined to be service level multiplied by the cost per unit of services, the impact of an environmental variable on spending, controlling for the determinants of the service level, can be interpreted as the impact of the environmental variable on the cost per unit of service. (For more on this interpretation, see the references at the beginning of this appendix.)

Second, we calculate public service costs for each type of service for each municipality. Let  $b_{jt}$  be the estimated impact of environmental factor  $j$  on service type  $t$ , and let  $C_{ij}$  be the value of environmental factor  $j$  in municipality  $i$ . Then the cost of public service type  $t$  in



municipality  $m$  is the sum across all values of  $j$  of  $b_{jt}C_{ij}$ . Label this sum as  $SC_{ti}$ , namely the sum of cost factors for spending type  $t$  in municipality  $i$ .

Third, we express the difference between  $SC_{ti}$  and the average value of  $SC_{ti}$  across all municipalities as a fraction of average spending on service type  $t$ . These fractions can be interpreted as cost indexes. A fraction of 1.5, for example, indicates that cost factors alone boost the spending on service type  $t$  in municipality  $i$  to be 50 percent above average. In other words, municipality  $i$  must spend 50 percent more than the average jurisdiction to receive services of the same quality. One technical problem arose at this point. For police and fire services, the fractions calculated in this way were negative for many small municipalities because costs in those municipalities are so far below average. To avoid the implausible notion of negative costs, we add a constraint to insure that all fractions came out positive. This constraint has no impact on the calculation for municipalities with above-average costs.

### **Revenue-Raising Capacity, Expenditure Need, and The Need-Capacity Gap**

**Revenue-Raising Capacity.** Total revenue raising capacity for a municipality is the sum of its capacities through the property tax, through the sales tax, and through other sources.

**Expenditure Need.** A municipalities expenditure need for a given type of service equals its responsibility for that service multiplied by its cost index. Its overall expenditure need is the sum of its expenditure need for streets, police and fire (or safety), and miscellaneous services.

**The Need-Capacity Gap.** The need-capacity gap is simply expenditure need minus revenue-raising capacity. For ease of interpretation, we standardize the gap so that it equals zero in the average community. This step is accomplished in two steps. First, we calculate an adjustment factor equal to the sum of capacity across all municipalities divided by the sum of need across all municipalities. Second, we divide revenue-raising capacity by this adjustment factor.

The population, income, revenue-raising capacity, expenditure need, and need-capacity gap for 514 municipalities in Nebraska are presented in Table 10-A1. We did not have financial data or Census data or both for several other municipalities in the state. These municipalities, along with their population and income, are listed in Table 10-A2.

### **The Determinants of Municipal Spending**

We carried out a regression analysis for four different spending categories: highway, police, fire, safety, and miscellaneous. Recall from the text that many municipalities use an accounting system that does not distinguish between police and fire spending. All of these regressions apply to municipalities with positive spending in the relevant category, that is, they exclude municipalities that contract out the service or, in the case of fire, rely entirely on volunteers. We also exclude one small municipality from the police regression, and two small municipalities from both the safety and miscellaneous regressions because they have far more spending per capita than any other municipality.

These regressions are based on the conceptual framework outlined in the text. The include two key demand variable, income and tax price; variables to indicate institutional factors, such as city managers or villages; municipal responsibility indicators, such as municipal hospitals; aid variables, from both the state and federal government; miscellaneous local revenue sources, such as charges; and environmental cost factors, including poverty and old housing. We found that for many variables, the estimated coefficients were quite different for municipalities with populations above and below 1,000. So we defined a variable to identify small municipalities and interacted it with a variety of other variables. All of the variables included in our final regressions are defined in Table 10-A3. Our final regression results are presented in Tables 10-A4 through 10-A8.

TABLE 10-A1

## THE FY1986 NEED-CAPACITY GAP IN NEBRASKA MUNICIPALITIES

	1984 Population	1983 Per Capita Income	Expenditure Need	Revenue- Raising Capacity	Need- Capacity Gap	Rank
ABIE	113	4579	288	194	94	426
ADAMS	395	7705	294	303	- 9	284
AINSWORTH	2197	7290	226	335	-109	75
ALBION	2093	7196	341	343	- 3	296
ALDA	621	6883	192	313	-121	59
ALEXANDRIA	206	5880	388	267	121	444
ALLEN	315	6594	277	302	- 25	253
ALLIANCE	10250	9961	260	427	-167	17
ALMA	1327	8477	328	379	- 51	191
ALVO	155	8054	197	295	- 98	94
AMHERST	272	8096	261	314	- 52	187
ANSELMO	190	6545	369	271	97	429
ANSLEY	583	6777	311	293	18	331
ARAPAHOE	1082	7819	388	357	31	357
ARCADIA	420	5923	313	262	51	382
ARLINGTON	1032	8288	212	359	-147	28
ARNOLD	708	7926	280	335	- 54	180
ARTHUR	130	5926	363	289	74	409
ASHLAND	2227	8263	231	341	-110	74
ASHTON	253	3763	433	178	255	493
ATKINSON	1498	6823	267	284	- 17	271
ATLANTA	132	8972	338	372	- 35	232
AUBURN	3542	9088	378	398	- 20	263
AURORA	3654	8331	286	373	- 87	113
AVOCA	257	7312	250	283	- 33	234
AXTELL	547	8515	257	342	- 85	116
AYR	120	6227	370	258	112	440
BANCROFT	502	6848	271	309	- 38	221
BARADA	45	7405	272	335	- 63	161
BARNESTON	151	5272	426	231	195	482
BARTLETT	155	7184	299	311	- 12	280
BARTLEY	387	7359	284	291	- 8	292
BASSETT	935	9394	199	431	-232	3
BATTLE CREEK	976	8547	246	359	-113	69
BAYARD	1398	5735	309	252	58	390
BAZILE MILLS	53	5156	413	196	217	488
BEATRICE	12620	9086	358	411	- 53	184
BEAVER CITY	791	7300	319	298	21	340
BEAVER CROSSING	470	6424	265	262	4	309
BEE	206	7032	268	292	- 24	256
BEEMER	777	6179	226	281	- 55	179
BELDEN	142	7173	297	323	- 26	250
BELGRADE	166	4611	287	206	81	415
BELLEVUE	32350	10123	379	461	- 82	123
BELLWOOD	413	7238	280	317	- 37	224
BELVIDERE	163	6133	425	268	157	466
BENEDICT	224	8048	351	336	15	327
BENNET	631	7721	225	310	- 85	117
BENNINGTON	702	8588	187	381	-194	10
BERTRAND	801	7184	224	299	- 75	139
BERWYN	95	5733	472	290	182	479
BIG SPRINGS	498	9613	246	478	-232	2
BLADEN	305	6248	326	261	65	397
BLAIR	6442	8282	335	375	- 40	217
BLOOMFIELD	1274	6430	309	287	21	342
BLOOMINGTON	144	5906	628	244	384	506
BLUE HILL	826	5118	310	236	74	411
BLUE SPRINGS	474	6151	355	254	101	430

TABLE 10-A1 (CONT.)

	1984 Population	1983 Per Capita Income	Expenditure Need	Revenue- Raising Capacity	Need- Capacity Gap	Rank
BRADSHAW	350	8314	237	338	-102	89
BRADY	369	8294	264	337	- 73	146
BRAINARD	278	8074	328	354	- 26	249
BREWSTER	47	4197	478	200	278	499
BRIDGEPORT	1627	7733	232	340	-108	77
BRISTOW	120	3932	340	191	149	462
BROADWATER	139	6951	352	295	57	388
BROCK	183	7153	360	295	66	402
BROKEN BOW	4029	8321	278	372	- 93	102
BROWNVILLE	206	7322	429	338	91	424
BRULE	405	9031	278	434	-156	24
BRUNING	319	7664	234	336	-102	88
BRUNO	163	5059	303	226	77	412
BRUNSWICK	202	7408	355	313	43	373
BURCHARD	105	7209	430	283	147	461
BURR	85	6916	343	292	51	381
BURWELL	1382	5775	323	270	52	383
BUSHNELL	196	5969	341	239	102	433
BUTTE	445	5415	311	227	84	419
BYRON	135	10635	321	433	-112	71
CAIRO	677	8571	230	364	-134	39
CALLAWAY	573	6692	354	287	67	403
CAMBRIDGE	1214	7691	359	301	58	392
CAMPBELL	387	5723	276	261	15	324
CARLETON	157	6590	437	302	134	453
CARROLL	237	6554	283	283	- 0	300
CEDAR BLUFFS	613	8370	241	310	- 69	150
CEDAR CREEK	332	10399	277	413	-136	37
CEDAR RAPIDS	413	7130	287	324	- 37	223
CENTER	122	8128	278	310	- 32	235
CENTRAL CITY	3014	8426	382	377	5	311
CERESCO	776	7347	208	322	-114	67
CHAMBERS	426	4533	263	203	60	393
CHAPMAN	338	6978	255	297	- 42	210
CHAPPELL	1046	7641	255	333	- 78	131
CHESTER	393	7528	328	325	3	307
CLARKS	383	6888	329	287	42	371
CLARKSON	720	6993	245	318	- 73	143
CLATONIA	256	8238	231	349	-119	62
CLAY CENTER	956	8852	259	350	- 91	107
CLEARWATER	453	4259	233	191	42	372
CODY	188	6966	387	307	80	414
COLERIDGE	668	6871	244	287	- 43	207
COLON	133	8164	350	370	- 20	264
COLUMBUS	18627	9261	360	451	- 91	106
COMSTOCK	152	7824	373	308	65	399
CONCORD	141	5902	267	239	27	351
COOK	374	7679	239	315	- 77	134
CORDOVA	158	9628	357	388	- 31	236
CORNLEA	40	8446	363	492	-129	48
CORTLAND	380	7878	273	342	- 68	151
COTESFIELD	89	6435	373	264	109	438
COWLES	51	6945	744	289	455	511
COZAD	4429	8966	238	374	-137	35
CRAB ORCHARD	66	6563	438	267	170	473
CRAIG	267	7438	356	337	19	336
CRAWFORD	1216	6320	376	282	94	425
CREIGHTON	1300	6509	365	308	57	389
CRESTON	223	6774	266	275	- 8	288

TABLE 10-A1 (CONT.)

	1984 Population	1983 Per Capita Income	Expenditure Need	Revenue- Raising Capacity	Need- Capacity Gap	Rank
CRETE	4796	9629	387	422	- 35	230
CROFTON	928	5830	208	274	- 66	156
CROOKSTON	99	6285	355	277	- 78	413
CULBERTSON	743	7682	264	326	- 62	162
CURTIS	934	6710	302	286	- 16	328
CUSHING	52	6435	456	331	- 126	448
DAKOTA CITY	1447	7603	249	328	- 78	130
DALTON	330	9145	270	366	- 96	98
DANBURY	158	7647	305	317	- 13	279
DANNEBROG	372	7222	264	307	- 42	209
DAVENPORT	431	8568	285	363	- 78	128
DAVEY	183	8636	205	341	-136	38
DAVID CITY	2363	7590	304	339	- 35	229
DAWSON	179	5121	268	217	- 50	380
DAYKIN	224	10311	253	389	-137	36
DE WITT	625	10476	298	403	-105	83
DECATUR	719	7387	252	298	- 46	202
DENTON	187	7290	251	293	- 42	213
DESHLER	1018	7040	334	293	- 41	369
DEWEESE	71	7655	519	327	- 192	481
DICKENS	20	9387	879	336	- 543	513
DILLER	257	7758	303	321	- 17	270
DIX	279	8116	311	304	- 7	314
DIXON	133	4526	360	192	- 168	470
DODGE	824	7073	236	304	- 68	152
DONIPHAN	708	8748	220	366	-146	29
DORCHESTER	596	7893	285	333	- 48	198
DOUGLAS	219	7410	263	282	- 20	267
DU BOIS	175	5463	373	224	- 149	463
DUNBAR	201	6902	259	280	- 21	262
DUNCAN	432	6505	182	258	- 76	135
DUNNING	166	4769	301	231	- 70	404
DWIGHT	199	6365	298	296	- 2	306
EAGLE	966	8205	193	347	-154	25
EDDYVILLE	123	7486	437	291	- 146	460
EDGAR	691	7023	335	299	- 36	361
EDISON	188	7576	260	305	- 45	204
ELBA	217	6477	327	306	- 21	343
ELGIN	757	6876	265	315	- 50	195
ELK CREEK	130	6937	288	273	- 15	325
ELKHORN	1487	8696	181	342	-161	20
ELM CREEK	1022	7011	327	283	- 44	376
ELMWOOD	563	9180	244	371	-126	50
ELSIE	138	10335	268	369	-102	87
ELWOOD	659	6707	235	288	- 53	182
ELYRIA	68	6364	375	278	- 97	428
EMERSON	804	6971	278	281	- 3	295
EMMET	95	5339	314	259	- 56	386
ENDICOTT	218	6990	339	291	- 49	378
ERICSON	134	5769	393	259	- 134	452
EUSTIS	440	6853	256	284	- 28	246
EWING	532	4688	237	216	- 21	341
EXETER	767	8929	291	347	- 55	175
FAIRBURY	4703	8558	297	377	- 81	124
FAIRFIELD	507	8375	331	346	- 15	272
FAIRMONT	780	7217	272	312	- 40	216
FALLS CITY	5108	8124	340	370	- 30	239
FARNAM	241	7239	342	298	- 44	377

TABLE 10-A1 (CONT.)

	1984 Population	1983 Per Capita Income	Expenditure Need	Revenue- Raising Capacity	Need- Capacity Gap	Rank
FARWELL	145	4143	352	183	170	472
FILLEY	175	6686	269	299	- 30	238
FIRTH	429	7153	244	296	- 52	188
FORDYCE	140	6564	329	290	39	365
FORT CALHOUN	670	9778	232	392	-160	22
FOSTER	87	6368	256	263	- 8	291
FRANKLIN	1160	9034	331	377	- 46	201
FREMONT	24019	9164	371	433	- 62	163
FRIEND	1066	9881	279	401	-122	56
FULLERTON	1467	7346	395	314	81	416
FUNK	213	9010	232	423	-191	11
GANDY	47	4129	631	178	453	510
GARLAND	231	7604	267	309	- 42	212
GARRISON	56	7042	546	287	258	496
GENEVA	2345	7979	335	359	- 24	255
GENOA	1055	6166	326	262	64	396
GIBBON	1753	8685	201	325	-124	54
GILEAD	54	7050	450	274	177	476
GILTNER	394	7396	240	301	- 61	167
GLENVIL	341	7547	273	286	- 13	277
GOEHNER	177	7714	302	310	- 8	289
GORDON	2191	7605	222	389	-167	18
GOTHENBURG	3392	7711	350	342	8	316
GRAFTON	191	6204	323	298	25	349
GRAND ISLAND	39836	9139	373	479	-106	81
GRANT	1301	9105	324	397	- 72	147
GREELEY CENTER	592	5598	273	232	41	370
GREENWOOD	554	7191	270	320	- 50	193
GRESHAM	301	7333	322	290	32	359
GRETNA	1733	9255	260	371	-111	72
GUIDE ROCK	317	7086	348	282	65	401
GURLEY	209	8503	323	374	- 51	190
HADAR	282	6196	197	284	- 87	111
HAIGLER	227	6027	377	240	137	455
HALLAM	341	7969	227	311	- 84	119
HALSEY	149	5744	281	251	30	355
HAMLET	78	5719	523	244	279	500
HAMPTON	366	9745	251	422	-171	14
HARBINE	51	8075	534	404	130	451
HARDY	239	7647	415	313	102	432
HARRISON	387	6156	248	267	- 18	269
HARTINGTON	1729	7144	233	308	- 75	140
HARVARD	1080	7107	407	281	126	449
HASTINGS	23069	9075	358	459	-101	91
HAY SPRINGS	848	5108	284	244	40	367
HAYES CENTER	242	7327	323	315	7	315
HAZARD	67	4495	519	194	325	505
HEARTWELL	75	8888	349	391	- 42	211
HEBRON	1845	7594	248	354	-106	82
HEMINGFORD	991	8642	216	336	-120	60
HENDERSON	1013	10591	299	425	-126	51
HENDLEY	36	7060	751	323	427	509
HERMAN	320	7270	247	309	- 62	164
HERSHEY	555	6359	246	300	- 53	181
HICKMAN	685	8221	204	372	-168	16
HILDRETH	403	7390	251	315	- 64	158
HOLBROOK	313	4885	273	208	65	400
HOLDREGE	5816	10647	335	477	-142	32
HOLSTEIN	247	7187	267	300	- 34	233
HOMER	533	7310	247	303	- 57	174

TABLE 10-A1 (CONT.)

	1984 Population	1983 Per Capita Income	Expenditure Need	Revenue- Raising Capacity	Need- Capacity Gap	Rank
HOOPER	898	8621	258	332	- 74	141
HORDVILLE	154	8124	359	336	23	345
HOSKINS	279	7525	232	318	- 87	112
HOWELLS	619	6468	292	292	- 0	303
HUBBARD	244	6296	207	287	- 80	126
HUBBELL	63	7050	669	285	384	507
HUMBOLDT	1149	8097	345	322	22	344
HUMPHREY	771	7239	210	317	-107	80
HUNTLEY	73	7363	419	311	109	437
HYANNIS	356	5275	232	251	- 20	266
IMPERIAL	2024	7110	232	336	-104	84
INDIANOLA	875	6743	207	310	-103	86
INGLEWOOD	278	8665	251	348	- 96	97
INMAN	183	4322	349	207	141	459
ITHACA	136	5777	247	220	27	350
JACKSON	333	6654	184	267	- 83	122
JANSEN	218	6470	272	287	- 15	273
JOHNSON	386	7437	242	309	- 67	153
JOHNSTOWN	75	6773	577	258	319	504
JULIAN	84	8054	326	306	19	335
JUNIATA	809	6630	261	295	- 35	231
KEARNEY	23659	8729	351	414	- 63	160
KENESAW	859	8452	265	347	- 83	120
KENNARD	372	8499	224	356	-132	44
KILGORE	75	6285	562	247	316	503
KIMBALL	3003	8386	328	386	- 58	173
LA VISTA	10771	8321	329	342	- 13	278
LAUREL	933	5988	257	279	- 22	258
LAWRENCE	353	6737	246	298	- 53	185
LEBANON	121	6670	316	273	44	375
LEIGH	514	7637	255	330	- 75	138
LESHARA	124	8019	263	322	- 59	172
LEWELLEN	360	6763	270	284	- 14	275
LEWISTON	95	6978	333	276	57	387
LEXINGTON	7132	8878	358	389	- 31	237
LIBERTY	108	5999	500	242	258	495
LINCOLN	180378	9906	352	468	-117	64
LINDSAY	399	7564	220	308	- 88	110
LINWOOD	132	6583	419	240	179	478
LITCHFIELD	269	5874	274	250	23	346
LODGEPOLE	422	9733	277	394	-117	63
LONG PINE	540	6042	293	261	32	358
LOOMIS	442	6889	206	292	- 86	115
LOUISVILLE	1025	8520	324	346	- 23	257
LOUP CITY	1296	5420	281	255	25	348
LUSHTON	33	8887	694	386	308	502
LYMAN	550	5879	251	245	6	313
LYNCH	328	5035	318	233	85	420
LYONS	1170	7818	236	337	-101	92
MADISON	1916	7946	243	346	-103	85
MADRID	255	5952	320	246	74	408
MAGNET	58	5758	529	269	260	497
MALCOLM	414	8671	177	322	-145	30
MALMO	97	6661	409	295	114	441
MANLEY	143	7163	249	300	- 51	189
MARQUETTE	272	9362	277	352	- 75	137
MARTINSBURG	104	5002	210	191	20	338
MASKELL	68	6126	331	225	106	436
MASON CITY	218	5413	386	232	154	464
MAXWELL	401	4887	224	213	11	320

TABLE 10-A1 (CONT.)

	1984 Population	1983 Per Capita Income	Expenditure Need	Revenue- Raising Capacity	Need- Capacity Gap	Rank
MAYWOOD	363	8305	306	342	- 36	228
MCCOOK	8584	10014	336	496	-160	21
MCCOOL JUNCTION	421	7444	293	321	- 28	244
MCGREW	138	12741	332	457	-125	52
MCLEAN	54	6368	344	327	17	330
MEAD	509	8396	239	332	- 93	103
MEADOW GROVE	395	7476	257	324	- 67	154
MELBETA	158	11430	202	408	-206	6
MEMPHIS	91	8038	270	298	- 28	243
MERNA	375	9246	270	371	-102	90
MERRIMAN	188	5298	251	251	- 0	302
MILFORD	2018	8337	197	348	-151	27
MILLER	190	7292	315	274	41	368
MILLIGAN	302	8223	312	351	- 39	218
MINATARE	935	6429	250	286	- 36	225
MINDEN	2808	9105	267	401	-134	40
MITCHELL	1855	7614	305	325	- 21	260
MONROE	336	8050	214	327	-112	70
MOOREFIELD	37	6576	534	258	275	498
MORRILL	1073	7932	338	347	- 9	285
MORSE BLUFF	143	8525	319	339	- 21	261
MULLEN	715	4534	223	218	5	312
MURDOCK	231	7648	301	337	- 36	227
MURRAY	466	8237	212	345	-132	42
NAPER	155	5405	357	252	105	434
NAPONEE	149	5987	345	289	55	385
NEBRASKA CITY	6928	8621	354	405	- 51	192
NEHAWKA	280	6165	270	268	3	308
NELIGH	1862	7587	234	353	-120	61
NELSON	720	7715	305	301	4	310
NEMAHA	232	7764	341	303	38	363
NEWCASTLE	347	7027	244	284	- 39	219
NEWMAN GROVE	895	8299	266	335	- 70	149
NEWPORT	176	5175	296	214	82	417
NICKERSON	224	7747	303	349	- 46	203
NIOBRARA	390	6689	251	321	- 70	148
NORA	24	7471	1125	289	836	514
NORFOLK	20255	9151	346	459	-114	68
NORMAN	61	8888	411	324	87	421
NORTH BEND	1370	7931	244	330	- 86	114
NORTH LOUP	406	5115	376	235	141	458
NORTH PLATTE	23112	9655	251	448	-197	9
OAK	66	7471	541	309	232	492
OAKDALE	419	4915	307	206	102	431
OAKLAND	1318	7620	254	316	- 62	165
OBERT	48	5758	278	241	37	362
OCONTO	172	5236	357	220	138	456
OCTAVIA	145	4532	298	183	116	443
ODELL	342	9116	293	348	- 55	177
OGALLALA	5486	8842	318	448	-130	46
OHIOWA	129	7384	517	286	231	491
OMAHA	344016	10395	356	546	-190	12
ONG	108	5982	480	271	208	485
ORCHARD	482	7297	204	302	- 98	95
ORD	2779	7058	255	332	- 77	133
ORLEANS	542	5807	340	266	74	410
OSCEOLA	903	8446	238	333	- 95	101
OSHKOSH	959	8521	279	355	- 75	136
OSMOND	845	7448	239	316	- 77	132
OTOE	194	8453	323	334	- 11	282



TABLE 10-A1 (CONT.)

	1984 Population	1983 Per Capita Income	Expenditure Need	Revenue- Raising Capacity	Need- Capacity Gap	Rank
OVERTON	601	7133	247	294	- 46	200
OXFORD	1200	7792	342	322	20	339
O' NEILL	4139	6939	245	311	- 66	157
PAGE	181	4931	388	212	176	474
PALISADE	397	8195	303	303	1	304
PALMER	454	7362	282	291	- 10	283
PALMYRA	573	7234	245	306	- 61	168
PANAMA	175	10364	261	417	-156	23
PAPILLION	9786	10256	200	424	-224	4
PAWNEE CITY	1091	6648	302	286	16	329
PAXTON	483	7686	229	353	-124	55
PENDER	1144	8623	243	372	-129	49
PERU	906	6093	283	256	28	352
PETERSBURG	343	7215	291	305	- 14	274
PHILLIPS	380	5473	231	242	- 11	281
PICKRELL	160	8215	292	317	- 25	251
PIERCE	1500	8460	231	352	-121	58
PILGER	403	6496	289	289	- 0	301
PLAINVIEW	1364	6967	282	323	- 41	214
PLATTE CENTER	377	8078	267	356	- 89	109
PLATTSMOUTH	6786	8358	248	345	- 97	96
PLEASANT DALE	262	8793	207	331	-124	53
PLEASANTON	359	6116	225	254	- 29	240
PLYMOUTH	483	7286	264	328	- 64	159
POLK	350	7788	336	323	13	321
PONCA	1044	7429	237	310	- 73	144
POTTER	370	9179	291	370	- 79	127
PRAGUE	261	6549	262	271	- 9	287
PRIMROSE	96	4521	371	192	178	477
PROSSER	86	8816	440	378	62	395
RAGAN	72	7363	628	337	291	501
RALSTON	5992	11126	335	450	-116	66
RANDOLPH	1036	5412	250	254	- 3	294
RAVENNA	1326	7783	247	299	- 53	183
RAYMOND	162	8050	302	345	- 43	208
RED CLOUD	1265	8303	377	346	31	356
REPUBLICAN CITY	255	8151	303	332	- 29	241
REYNOLDS	121	6087	408	246	161	468
RISING CITY	386	8645	298	345	- 48	197
RIVERDALE	232	6934	234	275	- 41	215
RIVERTON	201	4626	315	193	121	445
ROCA	153	9507	263	434	-171	15
ROCKVILLE	106	4871	416	211	205	484
ROGERS	88	6397	363	269	95	427
ROSALIE	200	5909	307	235	72	406
ROSELAND	253	9314	297	390	- 93	104
ROYAL	73	5878	424	255	169	471
RULO	249	5919	459	255	204	483
RUSHVILLE	1325	5471	282	264	18	332
RUSKIN	224	10203	641	428	214	486
SALEM	225	4384	316	180	136	454
SARGENT	810	5746	240	269	- 28	245
SARONVILLE	61	7655	456	279	176	475
SCHUYLER	3997	6905	261	327	- 66	155
SCOTIA	342	5454	290	261	28	354
SCOTTSBLUFF	14280	8232	372	391	- 19	268
SCRIBNER	950	8033	253	343	- 90	108
SENECA	100	6473	382	257	124	447
SEWARD	5738	8963	256	399	-143	31

TABLE 10-A1 (CONT.)

	1984 Population	1983 Per Capita Income	Expenditure Need	Revenue- Raising Capacity	Need- Capacity Gap	Rank
SHELBY	689	5611	196	256	- 60	171
SHELTON	1108	8154	252	326	- 74	142
SHICKLEY	390	9718	282	389	-107	79
SHOLES	25	6478	444	322	122	446
SHUBERT	240	6592	299	247	53	384
SIDNEY	5965	9509	225	441	-216	5
SILVER CREEK	476	7550	240	300	- 61	169
SMITHFIELD	76	6901	465	249	216	487
SNYDER	391	7181	244	304	- 60	170
SOUTH BEND	106	5013	249	230	19	334
SOUTH SIOUX CITY	9788	8242	223	386	-163	19
SPALDING	599	6084	276	275	1	305
SPENCER	626	6546	243	292	- 49	196
SPRAGUE	169	13933	250	498	-248	1
SPRINGFIELD	846	9165	212	386	-174	13
SPRINGVIEW	299	6170	231	275	- 44	206
ST. EDWARD	831	6335	287	272	15	326
ST. HELENA	98	5059	431	210	221	489
ST. PAUL	2022	7186	325	326	- 0	299
STAMFORD	202	8374	300	337	- 37	222
STANTON	1528	6823	263	301	- 38	220
STAPLEHURST	317	6713	258	260	- 2	297
STAPLETON	309	4657	285	214	71	405
STEELE CITY	142	9002	404	321	83	418
STEINAUER	111	5375	355	227	128	450
STELLA	289	7015	286	299	- 13	276
STERLING	521	5862	253	255	- 2	298
STOCKVILLE	54	6576	630	239	391	508
STRANG	62	7702	494	334	160	467
STRATTON	480	7986	312	321	- 9	286
STROMSBURG	1297	7999	246	342	- 96	99
STUART	606	4582	304	213	91	423
SUMNER	257	7059	305	295	10	319
SUPERIOR	2564	8302	393	385	9	318
SURPRISE	56	7042	747	290	457	512
SUTHERLAND	1081	7719	324	332	- 8	290
SUTTON	1392	7802	272	345	- 73	145
SWANTON	132	8892	355	382	- 27	248
SYRACUSE	1581	10338	221	422	-200	7
TABLE ROCK	369	5978	306	263	43	374
TALMAGE	248	9775	301	362	- 61	166
TAMORA	60	8276	506	322	184	480
TARNOV	60	8446	248	301	- 52	186
TAYLOR	249	7402	302	307	- 5	293
TECUMSEH	1840	8431	247	354	-108	78
TEKAMAH	1853	7612	247	346	- 99	93
TERRYTOWN	725	5994	170	265	- 95	100
THAYER	65	8887	425	338	88	422
THEDFORD	331	5509	272	263	8	317
THURSTON	123	7748	330	306	24	347
TILDEN	993	7094	196	326	-130	47
TOBIAS	140	8556	508	343	165	469
TRENTON	775	7259	242	289	- 47	199
TRUMBULL	209	7023	278	298	- 20	265
UEHLING	257	8393	315	339	- 24	254
ULYSSES	255	7904	344	287	58	391
UNADILLA	306	9293	282	412	-130	45
UNION	290	7187	248	303	- 55	178

TABLE 10-A1 (CONT.)

	1984 Population	1983 Per Capita Income	Expenditure Need	Revenue- Raising Capacity	Need- Capacity Gap	Rank
UPLAND	171	6855	412	296	116	442
UTICA	669	8225	271	353	- 83	121
VALENTINE	2908	7102	243	360	-117	65
VALLEY	1828	8059	190	343	-153	26
VALPARAISO	505	7795	290	334	- 44	205
VERDEL	69	5156	342	231	112	439
VERDIGRE	583	4615	254	216	38	364
VERDON	260	6844	314	281	34	360
VIRGINIA	88	8231	375	326	50	379
WACO	210	8037	257	389	-132	43
WAHOO	3515	9180	254	387	-133	41
WAKEFIELD	1030	7257	270	306	- 36	226
WALLACE	311	6845	332	292	40	366
WALTHILL	856	6497	237	262	- 25	252
WASHINGTON	107	7213	247	275	- 29	242
WATERBURY	89	6126	394	256	138	457
WATERLOO	432	9126	276	356	- 80	125
WAUNETA	760	7285	262	317	- 55	176
WAUSA	620	6837	278	300	- 22	259
WAVERLY	1822	8798	169	368	-199	8
WAYNE	5192	7366	227	349	-121	57
WEeping WATER	1081	8404	262	346	- 85	118
WELLFLEET	104	9387	307	335	- 27	247
WEST POINT	3503	8337	250	388	-137	34
WESTERN	331	7528	320	302	18	333
WESTON	271	6297	323	309	14	323
WHITNEY	84	7347	373	267	105	435
WILBER	1685	9166	227	368	-142	33
WILCOX	399	7050	310	296	14	322
WILSONVILLE	183	7329	453	297	156	465
WINNEBAGO	1016	3983	183	163	20	337
WINNETOON	72	5156	504	247	256	494
WINSIDE	414	7854	266	316	- 50	194
WINSLOW	123	6320	285	257	28	353
WISNER	1339	7628	243	351	-108	76
WOLBACH	272	6480	348	276	73	407
WOOD LAKE	96	6285	465	243	222	490
WOOD RIVER	1288	7044	220	312	- 92	105
WYMORE	1844	8126	389	324	65	398
WYNOT	196	5630	313	252	61	394
YORK	8008	9247	368	447	- 78	129
YUTAN	645	7547	198	310	-111	73

SOURCES: Population and income come from the U.S. Census; other columns were calculated by the Comprehensive Nebraska Tax Study, as explained in this appendix.

TABLE 10-A2

POPULATION AND INCOME OF MUNICIPALITIES  
WITHOUT FINANCIAL INFORMATION

	<u>1984 Population</u>	<u>1983 Per Capita Income</u>
ANOKA	16	4434
BENKELMAN	1222	8114
BOYS TOWN	652	3954
BURTON	14	4088
CHADRON	5788	7459
GERING	7853	8262
GRAINTON	22	8179
GROSS	2	4434
HENRY	171	7186
HOWARD CITY	242	7792
LAMAR	62	6403
LORTON VILLAGE	39	8695
MARSLAND	24	7347
MONOWI	16	4434
NENZEL	27	6285
PRESTON	53	7405
RICHLAND	105	6170
SANTEE	412	3648
STOCKHAM	80	7946
VENANGO	223	8881

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SOURCE: Nebraska Comprehensive Tax Study.

TABLE 10-A3

## VARIABLE DEFINITIONS FOR EXPENDITURE EQUATIONS

**Dependent Variables**

PERMILE	Highway expenditure per mile of municipal roads
PCPOLEXP	Per capita police expenditure
PCFIREXP	Per capita fire expenditure
PCSAFEXP	Per capita safety expenditure
PCOTHEXP	Per capita other operating expenditure

**Explanatory Variables**

## Demand Variables

PCY83	Per capita income, 1983
TAXPRICE	Tax price (=residential/total property)

## Institutional Factors

ACCOUNT2	=1 if municipality has separate police and fire accounts
CITYMAN	=1 if municipality has a city manager
VILL	=1 if municipality is a village

## Service Responsibility Variables

NOFIRE	=1 if municipality spends nothing on fire
NOPOL	=1 if municipality spends nothing on police
HOSRESP	=1 if municipality runs a hospital
SEWRESP	=1 if municipality spends more than \$2 per capita on sewers
PCSEWREV	Per capita sewerage charges
PCSANREV	Per capita sanitation charges
PCIGOEXP	Per capita intergovernmental expenditure

## Aid and Resource Variables

PCSTAAID	Per capita state aid
PCCATAID	Per capita federal categorical aid
PCGRSAID	Per capita federal general revenue sharing
PCODDREV	Per capita miscellaneous revenue (=revenue other than property and sales taxes or charges)
PCMSCCGE	Per capita charges other for sewers or sanitation
PCHOME	Per capita homestead exemption reimbursement

TABLE 10-A3 (CONT.)

## Environmental Cost Factors

DENSITY	Population density (=0 if 1984 population < 2,500)
NOAREA	=1 if 1984 population < 2,500
POVERTY	1980 poverty rate
RENTER	1980 percentage housing units renter-occupied
OLDHOME	1980 percentage housing units more than 30 years old
PCAREA	Per capita area (set to average for municipalities with population < 2,500)
SHCOCRIME	County serious crime rate multiplied by municipality's share of county population.

## Miscellaneous Variables

ONE	Constant term
SHMANPRO	Share of property in manufacturing (=commercial/industrial property multiplied by share of resident private employment in manufacturing)
PCEMPTAS	Per capita resident employment in trade and services
SHRDUNS	Percentage of roads unsurfaced
SHRDGRA	Percentage of roads surfaced with gravel
SHRDNRA	Percentage of roads surfaced with nonrigid asphalt
ANNEX	=1 if municipalities annexed territory between 1980 and 1984
LITTLE	=1 if 1984 population < 1,000
TINY	=1 if 1984 population < 100

## Interaction Variables

I1	LITTLE*PCY83
I2	LITTLE*TAXPRICE
I6	LITTLE*SHMANPRO
I11	LITTLE*PCEMPTAS
I13	LITTLE*PCODDREV
I15	LITTLE*PCSTAAID
I16	LITTLE*PCCATAID
I18	LITTLE*POVERTY
I20	LITTLE*OLDHOME
I21	LITTLE*PCMSCCGE
I22	LITTLE*RENTER
I24	LITTLE*ACCOUNT2
I25	LITTLE*PCHOME
I26	LITTLE*SHCOCRIME

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SOURCE: Nebraska Comprehensive Tax Study.

TABLE 10-A4

**HIGHWAY EXPENDITURE REGRESSION**  
**DEPENDENT VARIABLE: PERMILE**

<u>Independent Variable</u>	<u>Estimated Coefficient</u>	<u>Standard Error</u>	<u>t-Statistic</u>
ONE	4.79350e+004	1.89984e+004	2.52311
PCY83	-1.77448	1.71583	-1.03418
TAXPRICE	-2.51390e+002	1.32417e+002	-1.89847
SHMANPRO	-2.90611e+003	1.04696e+003	-2.77576
ACCOUNT2	-1.38454e+004	1.63082e+003	-8.48982
CITYMAN	2.26358e+004	6.75303e+003	3.35195
ANNEX	-7.44219e+003	5.33508e+003	-1.39495
TINY	-8.23892e+003	2.85563e+003	-2.88515
PCSTAAID	91.97677	52.11085	1.76502
PCCATAID	3.68879e+002	56.26683	6.55588
PCGRSAID	22.05880	1.36872e+002	0.16116
PCODDREV	12.44123	7.46788	1.66597
DENSITY	6.61861	3.40862	1.94172
NOAREA	7.67441e+003	8.86915e+003	0.86529
SHRDUNS	4.61412e+002	2.20108e+002	2.09630
SHRDGRA	-98.41020	40.50777	-2.42942
SHRDNRA	-30.15358	55.37356	-0.54455
LITTLE	-3.30677e+004	1.74717e+004	-1.89264
I1	1.84897	1.82761	1.01169
I2	2.49940e+002	1.45658e+002	1.71594
I6	3.41170e+003	1.17081e+003	2.91398
I15	-82.65989	52.59824	-1.57153
I16	-3.23824e+002	56.81955	-5.69917
Number of Observations		495	
R <sup>2</sup>		0.34277	
Corrected R <sup>2</sup>		0.31213	
Sum of Squared Residuals		1.43515e+011	
Standard Error of the Regression		1.74372e+004	
Mean of Dependent Variable		1.32471e+004	

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 10-A5

**POLICE EXPENDITURE REGRESSION**  
**DEPENDENT VARIABLE: PCPOLEXP**

<u>Independent Variable</u>	<u>Estimated Coefficient</u>	<u>Standard Error</u>	<u>t-Statistic</u>
ONE	-1.25102e+002	69.67604	-1.79548
PCY83	-6.09959e-004	1.55713e-003	-0.39172
TAXPRICE	-3.46815e-002	0.11768	-0.29470
CITYMAN	29.11036	13.35921	2.17905
POVERTY	1.68617	0.81603	2.06631
VILL	-13.27329	5.86302	-2.26390
RENTER	0.55752	0.27145	2.05387
ANNEX	-12.10082	7.17705	-1.68604
NOFIRE	-8.65889	4.13780	-2.09263
PCIGOEXP	5.66379	2.13097	2.65784
PCSTAAID	-2.44422e-002	3.62924e-002	-0.67348
PCCATAID	7.15269e-003	6.63662e-002	0.10778
PCGRSAID	-6.11338e-002	0.24799	-0.24651
PCODDREV	0.10384	3.74523e-002	2.77264
LITTLE	1.66374e+002	75.53376	2.20264
I18	-1.78721	0.85011	-2.10234
Number of Observations		109	
R <sup>2</sup>		0.44844	
Corrected R <sup>2</sup>		0.35948	
Sum of Squared Residuals		2.47581e+004	
Standard Error of the Regression		16.31613	
Mean of Dependent Variable		26.15913	

SOURCE: Nebraska Comprehensive Tax Study.



TABLE 10-A6

FIRE EXPENDITURE REGRESSION DEPENDENT VARIABLE:  
PCFIREXP

Independent Variable	Estimated Coefficient	Standard Error	t-Statistic
ONE	-84.18651	43.39782	-1.93988
PCY83	3.04567e-003	1.50663e-003	2.02151
TAXPRICE	-0.40906	0.11387	-3.59241
PCSTAAID	-1.73178e-002	1.71433e-002	-1.01018
PCCATAID	0.36105	0.13336	2.70738
PCGRSAID	9.01500e-003	0.15651	5.76008e-002
PCHOME	0.35462	0.21132	1.67811
RENTER	1.02660	0.27301	3.76030
OLDHOME	0.33025	0.14948	2.20928
POVERTY	0.65581	0.44712	1.46674
PCAREA	-1.03158e+004	3.85619e+003	-2.67514
LITTLE	64.90767	46.51244	1.39549
I1	-3.17598e-003	1.70443e-003	-1.86337
I2	0.39450	0.13038	3.02573
I16	-0.33792	0.13377	-2.52601
I18	-0.40609	0.48220	-0.84216
I20	-0.26784	0.17353	-1.54352
I22	-0.65675	0.36445	-1.80203
I25	-0.37146	0.21725	-1.70978
Number of Observations		110	
R <sup>2</sup>		0.50118	
Corrected R <sup>2</sup>		0.40252	
Sum of Squared Residuals		5.18169e+003	
Standard Error of the Regression		7.54597	
Mean of Dependent Variable		11.38866	

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 10-A7

SAFETY EXPENDITURE REGRESSION DEPENDENT VARIABLE:  
PCSAFEXP

Independent Variable	Estimated Coefficient	Standard Error	t-Statistic
ONE	-9.50106	23.60765	-0.40246
PCY83	6.35406e-003	1.77425e-003	3.58126
TAXPRICE	-0.25409	0.13111	-1.93794
CITYMAN	26.92353	15.36273	1.75252
VILL	-11.00406	7.23217	-1.52154
PCIGOEXP	0.13791	2.70847e-002	5.09183
PCSTAAID	9.64033e-003	3.28006e-002	0.29391
PCCATAID	-2.90291e-003	1.52724e-002	-0.19008
PCGRSAID	0.91000	0.36376	2.50164
OLDHOME	0.29703	0.15090	1.96837
RENTER	0.68519	0.35076	1.95347
LITTLE	-25.23616	8.47048	-2.97931
I26	0.14544	3.81182e-002	3.81549

Number of Observations	195
R <sup>2</sup>	0.46075
Corrected R <sup>2</sup>	0.42519
Sum of Squared Residuals	1.20766e+005
Standard Error of the Regression	25.75947
Mean of Dependent Variable	45.52296

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 10-A8

MISCELLANEOUS EXPENDITURE REGRESSION  
DEPENDENT VARIABLE: PCOTHEXP

<u>Independent Variable</u>	<u>Estimated Coefficient</u>	<u>Standard Error</u>	<u>t-Statistic</u>
ONE	1.22007e+002	61.26118	1.99158
PCY83	4.01075e-003	2.95440e-003	1.35755
TAXPRICE	-0.23621	0.23615	-1.00026
PCEMTAS	-5.16981	2.05442	-2.51643
ACCOUNT2	58.69764	16.87616	3.47814
NOPOL	16.54331	8.66508	1.90919
OLDHOME	0.55558	0.26027	2.13461
PCSTAAID	6.18735e-003	3.71744e-002	0.16644
PCCATAID	7.00896e-002	3.96810e-002	1.76633
PCGRSAID	1.66379	0.65799	2.52859
PCODDREV	0.85238	0.19924	4.27815
PCMSCCGE	0.15228	0.11724	1.29887
HOSRESP	13.50713	32.57548	0.41464
SEWRESP	22.33870	11.61707	1.92292
PCSEWREV	0.83942	0.27882	3.01058
PCSANREV	0.26034	7.32297e-002	3.55512
LITTLE	-88.61220	52.52087	-1.68718
TINY	-24.97409	13.19094	-1.89328
I11	4.66311	2.13810	2.18096
I13	-0.86621	0.20248	-4.27801
I21	0.52762	0.12823	4.11479
I24	-64.67724	18.17826	-3.55795

Number of Observations	512
R <sup>2</sup>	0.40746
Corrected R <sup>2</sup>	0.38207
Sum of Squared Residuals	3.43186e+006
Standard Error of the Regression	83.68869
Mean of Dependent Variable	1.25679e+002

SOURCE: Nebraska Comprehensive Tax Study.

## Policy Options for the State

### Current State Aid Programs

The results in the text are based on a bivariate regression of state aid per capita (as defined by the U.S. Census) on the need-capacity gap per capita. The observations are the 514 municipalities for which we have complete data. The coefficient of the gap variable is 0.078 with a t-statistic of 2.06. This regression has an R-squared of only 0.008.

### Equalizing Grants

The equalizing grants in discussed in the text employ the same formula as the one discussed in the county report.<sup>34</sup> The reader is referred to that report for the technical details.

As pointed out in the text, policymakers cannot implement an equalizing grant program without estimating each municipality's need-capacity gap. Table 10-A9 provides a way to update this estimation with data that are available every year. We find that a municipality's need-capacity gap is closely correlated with its income, its population, and the number of municipal streets per capita. In fact, these three characteristics alone can explain about 90 percent of the variation in our need-capacity gap. As a result, these three factors could be used to estimate each municipality's need capacity gap in future years, using the weights expressed in Table 10-A9. Other municipal characteristics that are correlated with a municipality's need-capacity gap include the municipality's property tax base and the concentration of commercial property in the municipality's county. As shown at the bottom of Table 10-9, however, these additional characteristics do not substantially improve the estimates of the need-capacity gap.

The technique for approximating each municipality's need-capacity gap that is presented in Table 10-A9 could be updated every year as new information about population, income, and tax base is collected. To preserve the accuracy of the technique, the weights in Table 10-A9 can

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<sup>34</sup>See Yinger, "The Fiscal Conditions of County Governments in Nebraska."

**TABLE 10-A9**  
**PREDICTING THE NEED-CAPACITY GAP**  
**IN NEBRASKA MUNICIPALITIES**

<u>Characteristic</u>	<u>Weight 1</u>	<u>Weight 2</u>	<u>Weight 3</u>
Income per capita (in thousands)	-34.9	-31.6	-30.5
Population (natural logarithm)	13.1	16.1	16.1
Municipal Roads (miles per 1000 people)	9.9	10.2	10.2
Property Tax Base (\$ per 1000 people)	--	- 2.6	- 2.4
Commercial/Industrial Property in County (\$ per 1000 people)	--	--	- 3.8
Percentage of Variation Explained	90.1	90.9	91.0

Note: A city's predicted need-capacity gap equals the sum across characteristics of the city's value for that characteristic multiplied by that characteristic's weight. For ease of comparison, the predicted gaps can be standardized so that their average equals zero. See the appendix.

SOURCE: Nebraska Comprehensive Tax Study.

be updated at longer time intervals, say every decade, by carrying out a more complex analysis of the need-capacity gap, such as the one presented in this paper.

## CHAPTER 11

### THE FISCAL CONDITION OF SCHOOL DISTRICTS IN NEBRASKA: IS SMALL BEAUTIFUL?<sup>1</sup>

by Kerri Ratcliffe, Bruce Riddle and John Yinger

#### Introduction

As of 1986-87, Nebraska contains 927 school districts which provide educational services to over 266,000 students in pre-kindergarten, kindergarten, elementary and secondary grades. In this chapter, we describe the finances of Nebraska's school districts, examine the impact of social and economic factors on the fiscal condition of these districts, evaluate current state assistance for school districts, and reveal the potential gains from school-district consolidation through reduced fiscal disparities across school districts and through economies of scale in the provision of education.

#### Overview

This chapter is based upon the notion of a school district's fiscal condition, which is the impact of economic and social characteristics outside the control of school officials on the school district's ability to provide education to the students for whom they are responsible. We find that school districts in Nebraska vary widely in their fiscal condition. School districts in good fiscal condition tend to be districts that are either very large or very small, with middle-sized districts in the worst fiscal condition on average. However, not all school districts of the same size have the same fiscal condition; some small districts, for example, are in very poor fiscal shape.

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The principal sources of state assistance to school districts are the foundation, incentive and equalization aid programs. Although all districts receive some state aid, we find that the aid programs combined do not give greater assistance to school districts in poorer fiscal condition. Rather, current state programs actually worsen the disparities in fiscal condition among districts somewhat by inadvertently rewarding those districts with higher revenue-raising capacities.

We suggest that aid programs could be modified to direct assistance to the school districts that are in poor fiscal condition because of economic and social factors outside their control. However, a program of school district consolidation has the potential for reducing the disparities in fiscal condition among school districts in a much more cost-effective manner. We provide examples of consolidation and reveal the potential gains from these programs. Given the severe fiscal disadvantages that some school districts face in providing education to their students and the potential for reducing disadvantages that consolidation provides, we strongly recommend implementation of a major consolidation program. We also recommend that new aid programs be designed to offset fiscal disparities across school districts that remain after consolidation has been implemented.

### **Institutional Setting**

This chapter considers 927 school districts operating in 1986-1987, using information from that year and prior years. The analysis presented is a "snapshot" of fiscal conditions in a changing environment. From a peak in the late 1960s of 390,000 students, state-wide school enrollment has steadily declined to today's 266,000 students. This decline in enrollment has been accompanied by a little school-district consolidation. Since 1984-85, 30 school districts have consolidated into other districts. Most of these consolidations have taken place among the Class 1 districts, which provide elementary education only and cover areas of 1,000 inhabitants or fewer. Approximately 95 percent of the 582 active Class 1 districts serve fewer than 100 students; 60 percent of the districts serve fewer than 20 students. Table 11-1 provides a three-



TABLE 11-1

## THREE-YEAR COMPARISON OF NEBRASKA SCHOOL DISTRICTS

Class of District	Number of School Districts and Systems				Total Enrollment			
	1986- 1987	1985- 1986	1984- 1985	Change 1985-86 to 1986-1987	1986- 1987	1985- 1986	1984- 1985	Change 1985-1986 to 1986-1987
Class I <sup>a</sup>								
Operating Districts	582	604	627	-22				
Contracting All Students No Students	36 4	33 4	36 4	+ 3 - 3				
Class I Totals	622	644	666	-22	16,141	16,396	17,614	- 255
Class II <sup>b</sup>	58	66	66	- 8	8,199	8,821	8,961	- 622
Class III <sup>c</sup>	222	220	220	+ 2	170,625	169,227	167,974	+1,398
Class IV (Lincoln)	1	1	1	No Change	25,462	25,209	24,859	+ 253
Class V (Omaha)	1	1	1	No Change	41,638	41,632	41,669	+ 6
Class VI <sup>d</sup>	23	23	23	No Change	4,539	4,534	4,542	+ 5
Total Class I-VI Districts	927	955	977	-28	266,604	265,819	265,619	+ 785

<sup>a</sup> 1,000 inhabitants or fewer; maintains elementary grades only under direction of a single school board.

<sup>b</sup> 1,000 inhabitants or fewer; maintains both elementary and high school grades.

<sup>c</sup> More than 1,000 and fewer than 100,000 inhabitants; maintains both elementary and high school grades.

<sup>d</sup> Maintains only a high school.

SOURCE: "Statistics About Elementary and Secondary Education, 1986-87," Nebraska Department of Education, Table 5, p. 5.

year history of the number of both school districts and students.

Class 2 districts, which also serve populations of 1,000 or fewer, differ from Class 1 districts in that they maintain a high school along with elementary schools. The 58 Class 2 districts range in size from 30 to 250 students. The 222 Class 3 districts are in areas with populations greater than 1,000 but less than 100,000. Class 3 enrollments range from 70 to 1,500 students, and 75 percent of these districts have fewer than 600 students. Class 4 and Class 5 are reserved for Lincoln and Omaha, respectively. Combined enrollment for these two school systems is 66,841, which is 25 percent of total public school enrollment in the state. The 23 Class 6 districts only maintain high schools. The smallest Class 6 school district has an enrollment of 30 and the largest has an enrollment of 670.

To summarize, Nebraska's school system is made up predominantly of districts that serve very few students. About 65 percent of the districts (615) have fewer than 100 students, and 96 percent of the districts have fewer than 1,000 students. This institutional picture is complicated because districts can provide different levels of services: pre-kindergarten, kindergarten to sixth grade, kindergarten to eighth grade, grades seven to twelve, grades nine to twelve, or kindergarten to twelfth grade.

Our analysis focuses on 865 districts for which we have complete data. Districts reporting no school age children for which they are responsible and districts that send all their school-age children to other districts are eliminated from the analysis, along with districts lacking indicators important to the analysis. Four other districts are eliminated from the analysis for reasons described later. The 57 eliminated districts are listed in Appendix 11-B.

### **School District Finances in Nebraska**

Tables 11-2, 11-3, and 11-4, which are based on the accounting system employed by the U.S. Bureau of the Census, provide a picture of FY 1986 school finances in Nebraska and in the United States as a whole. The average school district in Nebraska raised \$4,484 per student in



TABLE 11-3

## SUMMARY OF SCHOOL FINANCES IN THE UNITED STATES, FY 1986

Revenues	Average Amount per Student		Percentage Breakdown	
<b>Total General Revenue</b>	<b>\$4,046.35</b>		<b>100.0</b>	
Intergovernmental	1,977.02		54.1	
Direct Federal Aid	\$ 34.99		1.7	
State Aid	1,844.26		95.7	
Federal Aid through State		\$ 168.92		9.8
Other Direct State Aid		1,675.33		90.2
Other Local Governments	97.76		2.7	
General Revenue Own Source	2,069.33		45.9	
Taxes	1,589.30		66.3	
Property Tax		1,570.16		97.3
Other		19.14		2.7
Charges and Miscellaneous	296.75		15.6	
Current Charges		148.49		57.8
Lunch Charges				
Other Charges		\$ 74.48		43.8
Interest Earnings		87.65		22.3
Other and Unallocable		60.81		19.9
Contributions from Parent Government	183.27		18.1	
<b>Total General Expenditures</b>				
<b>Total</b>	<b>\$3,860.63</b>		<b>100.0</b>	
Current Operation	\$3,578.20		92.9	
Salary and Wages		\$2,210.74		67.0
Other		1,367.46		33.0
Capital Outlay	273.25		6.9	
Construction		156.14		60.4
Equipment		109.26		34.0
Land		7.85		5.6

SOURCE: Nebraska Comprehensive Tax Study.

TABLE 11-4

## SCHOOL FINANCES IN NEBRASKA, BY ENROLLMENT CLASS, FY 1986

Revenues	Average Amount per Student			Percentage Distribution		
	Less Than	100-	Greater Than	Less Than	100-	Greater Than
	100	1,000	1,000	100	1,000	1,000
Total General Revenue	\$4,512.07	\$4,551.81	\$3,633.08	100.0	100.0	100.0
Intergovernmental	1,057.06	1,257.60	1,252.32	25.9	29.5	34.6
Direct Federal Aid	1.31	52.61	50.00	.1	3.3	4.2
State Aid	955.39	874.61	984.08	87.8	68.9	80.6
Federal Aid through State	57.74	155.87	122.05	7.6	18.5	14.7
Other Direct State Aid	897.65	718.74	862.04	92.4	81.5	85.3
Other Local Governments	100.36	330.36	218.23	12.1	27.7	15.2
General Revenue Own Source	3,455.01	3,294.21	2,380.76	74.1	70.5	65.4
Taxes	3,061.07	2,770.40	1,872.72	91.3	83.6	79.0
Property Tax	3,057.95	2,767.49	1,870.41	99.9	99.9	99.9
Other	3.12	2.91	2.30	.09	.1	.1
Charges and Miscellaneous	393.93	523.81	508.04	8.7	16.4	21.0
Current Charges	40.55	348.63	384.32	42.2	67.7	72.7
Lunch Charges	18.51	96.31	74.50	39.0	28.8	20.9
Other Charges	22.03	252.32	309.82	60.9	71.2	79.1
Interest Earnings	97.39	136.00	90.05	28.9	24.5	13.5
Other and Unallocable	255.99	39.18	33.67	28.8	7.8	13.8
 <u>Total General Expenditures</u>						
Total	\$3,917.43	\$4,304.51	\$2,971.59	100.0	100.0	100.0
Current Operation	3,850.32	4,130.21	2,754.81	97.7	95.8	93.3
Salary and Wages	2,114.61	2,434.39	1,707.86	55.5	59.1	63.1
Other	1,735.71	1,695.82	1,046.95	44.5	40.9	36.9
Capital Outlay	67.11	174.30	216.78	2.3	4.2	6.7
Construction	20.46	77.08	106.71	23.3	41.4	53.1
Equipment	45.79	90.07	96.50	76.0	54.3	37.5
Land	.86	7.14	13.58	.6	4.3	9.4

SOURCE: Nebraska Comprehensive Tax Study.

general revenue and spent \$3,992 per student in general expenditure during 1986. The small "surplus" in these numbers does not imply that school districts run a surplus in their own budgetary accounts.

In Table 11-2, financial information about Nebraska is presented in two ways. The first column presents amounts per student in the average school district. The second column presents the percentage breakdown of state-wide totals.<sup>2</sup> For example, intergovernmental revenue received by all school districts in the state constitutes about 32 percent of the general revenue collected by all school districts in the state. This format is continued in Tables 11-3 and 11-4.

The majority of school districts' general revenue, 67 percent, comes from their own sources, and about 80 percent of this own-source revenue comes from the property tax. Charges and miscellaneous sources make up the other approximately 20 percent of own-source revenue.

The figures for Nebraska school districts in Table 11-2 can be compared to the national figures in Table 11-3. Nebraska school districts are not typical of the nation as a whole. The average school district in the nation raised \$4,046 per student in general revenue or about \$440 less than the average Nebraska district. The average school district in the nation spent \$3,860 per student or about \$100 less than the average Nebraska district. Although the property tax is the major own source of revenue for school districts nationally, the average school district in the nation received far more intergovernmental aid than the average Nebraska school district. On a per-student basis, the average school district in the nation received twice as much state aid as the average school district in Nebraska.

A comparison of operating expenditures reveals little difference between the average Nebraska school district and the average school district in the nation. Moreover, about 62

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<sup>2</sup>The percentages in the second column, which represent state-wide averages weighted by population, cannot be derived from the amounts in the first column, which are unweighted averages across all school districts.

percent of general expenditure goes to salaries and wages in both Nebraska and the nation. In contrast, the national average capital outlay is twice as high as in the average Nebraska school district.

Table 11-4 describes school finances in Nebraska for three different groups of school districts: fewer than 100 students, between 100 and 1,000 students, and more than 1,000 students. Among the 921 districts for which we have financial data and enrollment information, 603 districts fall into the first class, 277 districts fall into the second class, and 41 districts fall into the third class. Table 11-4 reveals that general revenue per student is the highest in the small districts, general expenditure per student is the highest for the middle class, and both general revenue and general expenditure per student are the smallest for the large districts.

Some of the differences in revenue reflect differences in direct federal aid and in federal aid passed through the state to the small and large districts; the smaller districts receive, on average, \$125-\$150 less per student in federal aid. In addition, the reliance on taxes declines as student enrollment increases, principally because the large districts rely more heavily on charges. Total expenditure per student declines as district enrollment increases, but salaries and wages increase as a percentage of expenditure. These results suggest that larger districts are able to take advantages of some economies of scale, an issue to which we will return.

### **The Fiscal Condition of School Districts**

This chapter focuses on the fiscal condition of school districts in Nebraska. It complements the analyses of county and municipality fiscal condition in other chapters.<sup>3</sup>

#### **The Concept of Fiscal Condition**

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<sup>3</sup>See J. Yinger, "The Fiscal Condition of County Governments in Nebraska," Chapter 9 in this volume; and J. Yinger "The Fiscal Conditions of Municipal Governments in Nebraska," Chapter 10 in this volume.

As we use the term, a school district's "fiscal condition" is its ability to deliver adequate public education to its children at a reasonable tax burden upon its residents, as determined by economic and social factors that are outside the control of the school district's administrators. Our measure of fiscal condition does not reveal a school district's budgetary situation and it is not affected by management skill, teaching capabilities, or service preferences. In effect, a school district's fiscal condition indicates the severity of the constraints under which its administrators and teachers must operate, but it does not indicate how they respond to those constraints.

This approach to fiscal condition has three key advantages. First, it facilitates comparisons across school districts of different sizes, classes, and characteristics. Our measure, for example, enables us to compare different districts' potential for providing the same quality education with the same tax burden on each district's residents. Second, because it excludes political and management factors, as well as the residents' preferences for education, our measure can serve as an objective guide for state assistance to school districts. Finally, our measure enables us to investigate the fiscal effects of consolidation and in particular the impact of consolidation on differences in fiscal condition among school districts.

Our measure of a school districts' fiscal condition is called the need-capacity gap and is the difference between a district's expenditure need and its revenue-raising capacity, both expressed in per student terms. The expenditure need of a district is the per student expenditure that is required in order for the district to provide an average-quality education to its students. A school district's revenue-raising capacity is the amount of money per student it can raise at a given tax burden on its residents.

In the following section, we explain and calculate the revenue-raising capacity, expenditure need, and need-capacity gap of school districts in Nebraska. In the succeeding two sections, we examine the determinants of school district spending in Nebraska and the options



for state policy toward school districts. The technical details of our calculations are explained in the Appendix 11-A. In Appendix 11-B we list the districts we dropped from our analysis due to insufficient information. In Appendix 11-C we present our measurement of fiscal health, the need-capacity gap, for each of the 865 districts in our analysis. Finally in Appendix 11-D we describe our data sources and in Appendix 11-E present our suggestions for maintaining and expanding this data base.

### **Revenue-Raising Capacity**

Revenue-raising capacity is defined to be the amount of money a school district can raise at a given tax burden on its residents. Our measure of revenue-raising capacity does not include state and federal aid, nor is it a measure of the revenue districts actually raise. Instead, it is a measure of the revenue that the school district could generate from its own resources if it imposed the state-wide average tax burden on its residents. The revenue that a district actually raises is influenced by the management skill of school administrators and the educational preferences of the district's residents. Our measure of revenue-raising capacity, as we explain below, depends only on the school district's income and economic structure, which are outside the direct control of school officials.

**General Principles.** As we use the term, a tax burden indicates the magnitude of public sector claims on private incomes; for example, a property tax burden can be expressed as a property tax payment as a percentage of income. Revenue-raising capacity is calculated with the same tax burden, namely the state-wide average tax burden, in every school district. Because we hold the tax burden constant, variations in revenue-raising capacity across school districts can arise for only three reasons: differences in income per student; differences in the ability of school districts to export taxes to nonresidents; or differences in the extent to which districts must share their taxable resources with other school districts.

The first reason for variation in the revenue-raising capacity of school districts is that income varies across jurisdictions. School districts with high resident incomes can raise more revenue at a given tax burden than other districts. The extent of the variation can be seen in Table 11-5. Throughout the state, the minimum income per student in a district is \$7,264, whereas the maximum is \$710,905, and the standard deviation is \$63,318.

The four districts that display the lowest income per student share similar characteristics: low per capita incomes and low ratios of resident population to enrolled students. These places are District #210084, Sargent School District; District #540505, Santee School District; District #840055, Stanton County School District 55; and District #870016, Macy School District.

In contrast, the districts that display the highest incomes per student tend to have high ratios of resident population to enrolled students and high per capita incomes. The four richest districts, which all display incomes per student over \$400,000, are District #590003, Madison County School District #3; District #830048, Sioux County District #48; District #240047, Dawson County District #47; and District #270091, Dodge County School District #91.

We find that the districts with fewer than 10 students have the highest average income per student and in general that as the number of students that defines an enrollment group increases the smaller is the average income per student in that group of districts. Within each enrollment group, however, income per student varies widely. Districts of size 1,000-2,000 have the least variation (standard deviation of \$6,061), and districts with fewer than 10 students display the greatest variation (standard deviation of \$86,560). Because we observe such significant variation among districts with similar enrollments, we cannot conclude that district size is a clear indicator of district income. In fact, districts with the same enrollments, resident populations and taxable property bases may differ greatly in incomes.

The second reason one might observe differences in revenue-raising capacity is differences in the ability of districts to export taxes to nonresidents. A school district's taxes are

**TABLE 11-5**  
**1979 INCOME PER STUDENT**

<u>Enrollment per District</u>	<u>Number of Districts</u>	<u>Income per Student</u>			
		<u>Average</u>	<u>Standard Deviation</u>	<u>Minimum</u>	<u>Maximum</u>
1 - 9	174	\$108,199	\$87,328	\$11,784	\$459,025
10 - 19	174	75,776	54,018	9,607	332,365
20 - 29	78	67,665	61,872	8,326	441,304
30 - 99	126	65,069	72,791	21,338	710,905
100 - 499	237	38,296	20,839	7,264	142,769
500 - 999	41	34,887	10,684	17,367	79,609
1,000 - 1,999	16	37,506	6,061	29,076	49,642
2,000 - 9,999	16	41,411	12,060	26,823	76,605
> 9,999	3	44,191	15,799	25,950	53,584
<b>All Districts</b>	<b>865</b>	<b>66,347</b>	<b>66,318</b>	<b>7,263</b>	<b>710,905</b>

SOURCE: Nebraska Comprehensive Tax Study.

"exported" whenever they are paid by nonresidents, either directly or indirectly in the form of higher prices or lower wages. Exported taxes increase a school district's revenue-raising capacity because they allow the district to raise more revenue with no added burden on residents. A school district's ability to export taxes to nonresidents depends on its economic structure and on the taxes it utilizes. Because the only broad-based tax used by school districts is the property tax, our estimates of a district's ability to export, which we discuss below, focus upon the composition of the property tax base.

We observe an overlap of school districts in Nebraska because some classes of districts are responsible for educating all of their school age children whereas others are responsible for educating only high school or only elementary students. For example, Class 6 districts and affiliated Class 1 districts overlap and both collect taxes from the same residents. Class 1 districts not affiliated with a Class 6 district provide only elementary education, and a separate tax must be levied to finance payments to the districts that provide education to the secondary students who live in these Class 1 districts. (These separate taxes are called nonresident high school tuition.) Another form of overlap arises when a district sends some or all of its students requiring special education (along with the appropriate tuition payments) to another district.

In addition, Nebraska has established 19 Educational Service Units (ESUs), which provide a variety of services to the participating school districts, including special education and audio visual services. During the school year 1985-1986, all school districts in the state received services from ESUs, except for the districts located within Blaine, Custer, Dawes, Howard, Merrick, Red Willow, Sheridan and Sioux counties. ESUs levy separate taxes on all participating districts.

To account for overlapping taxes and inter-district payments, we focus on the capacity of each district to raise revenue for the students it actually educates, holding constant across districts the burden of all school-related claims on the incomes of district residents. Under this

approach, a district's total revenue-raising capacity is reduced whenever it makes tuition or transportation payments to another district or overlapping districts collect taxes from its residents. Moreover, a district's revenue-raising capacity is increased when it receives payments from another jurisdiction for tuition or transportation. A district's revenue-raising capacity per student equals its total revenue-raising capacity divided by the number of students it actually educates.<sup>4</sup>

In making these adjustments, we do not use the revenue actually raised by an overlapping district or the payments actually exchanged between districts. Instead, we use the revenue that would be collected at the relevant state-wide average tax burden or the state-wide average payment. This approach insures that a school district's net revenue-raising capacity does not depend on the actual revenue raised by other districts to which that district sends students, just as it does not depend on the actual revenue raised by the school district itself.<sup>5</sup>

**Revenue-Raising Capacity Through the Property Tax.** The property tax is the single most important source of revenue for school districts in Nebraska. To calculate revenue-raising capacity through the property tax, we estimate the average tax burden in the state for the provision of education services to elementary, secondary and special education students. This burden, expressed as the ratio of total property taxes collected to aggregate income, is called the baseline tax burden. As we discussed earlier, we adjust this burden to reflect taxes collected by overlapping districts. (Interdistrict payments are considered in a later section.) Finally, we determine the extent to which the property tax burden is exported.

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<sup>4</sup>The methodology that we employ to estimate the appropriate additions to, or subtractions from, revenue-raising capacity is explained below and in Appendix 11-A.

<sup>5</sup>We do not, however, adjust for the fact that each school district shares its taxable resources with counties, townships or municipalities. The highway, police, fire, and other services provided by these other local governments are not substitutes for education and they are provided throughout the state. Thus, the activities of these other governments do not alter the capacity of any one district compared to another.

In our analyses of county and municipal fiscal condition, we determined the degree to which property taxes can be exported to nonresidents by combining an analysis of the incidence of the property tax with data on the composition of the property tax base.<sup>6</sup> Data on the composition of property within school districts are not available, so we estimated school district property composition on the basis of the composition of property within the district's county and the share of the district that is within a city or village. The details of our estimating technique are presented in Appendix 11-A.

Following standard procedure, we assume that the tax on commercial and industrial property is borne primarily by company owners and land owners and that many of these owners are nonresidents stockholders. Using national average figures on corporate ownership, we estimate that 50 percent of the tax burden on commercial real estate is paid by nonresidents.<sup>7</sup> Additionally, we assume that 25 percent of all public utility and personal property taxes are borne by nonresidents.

A school district's pre-exporting revenue-raising capacity per student equals the baseline tax burden (adjusted for the taxes collected by overlapping districts) multiplied by the income per student in the school district. The export ratio is defined to be the share of taxes exported to nonresidents divided by the share of taxes paid by residents. This ratio measures the taxes collected from nonresidents for every dollar of taxes collected from residents. To adjust for export potential, we multiply pre-export capacity by one plus the export ratio.

Export ratios for enrollment groups are presented in Table 11-6. These range from zero to a maximum of .21 with a standard deviation of .04. The export ratio in the average school

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<sup>6</sup>See Yinger, "The Fiscal Condition of Municipal Governments in Nebraska," and "The Fiscal Condition of County Governments in Nebraska."

<sup>7</sup>The national figures, along with a detailed discussion of property tax incidence, can be found in K. L. Bradbury and H. F. Ladd, "Changes in the Revenue-Raising Capacity of U.S. Cities, 1970-1982," *New England Economic Review* (March/April 1985): 20-37.

TABLE 11-6

EXPORT RATIOS  
(in percent)

<u>Enrollment</u>	<u>Number of Districts</u>	<u>Average</u>	<u>Standard Deviation</u>	<u>Minimum</u>	<u>Maximum</u>
1 - 9	174	0.02	0.04	0.00	0.19
10 - 19	174	0.02	0.03	0.00	0.17
20 - 29	78	0.02	0.02	0.00	0.13
30 - 99	126	0.03	0.04	0.00	0.20
100 - 499	237	0.04	0.03	0.00	0.17
500 - 999	41	0.07	0.04	0.00	0.14
1,000 - 1,999	16	0.11	0.05	0.04	0.21
2,000 - 9,999	16	0.14	0.04	0.07	0.21
> 9,999	3	0.18	0.03	0.15	0.21
All Districts	865	0.03	0.04	0.00	0.21

NOTE: An export ratio is the dollars of tax burden falling on nonresidents for every dollar falling on residents.

SOURCE: Nebraska Comprehensive Tax Study.

district is .03; that is, only \$0.03 of tax burden are exported for every dollar of taxes paid by residents. Our enrollment-size breakdowns reveal that, on average, as districts increase in size their capacity to export also grows. The largest districts have the highest export ratios and the ratios are similar for all districts in this group.<sup>8</sup> In contrast, districts with enrollments of up to 9,999 students display very large differences in export ratios within each size category.

Revenue-raising capacity from the property tax, expressed in index form, is presented in Table 11-7. For convenience, the average district has an index of 100. A school district with a capacity of 150 has 50 percent more capacity than the average school district. The standard deviation in the index is 72.16. Most school districts fall within one standard deviation of the average, that is between  $(100 - 72.16) = 27.84$  and  $(100 + 72.16) = 172.16$ . The highest capacity index is 808.09 and the lowest is 9.49. Capacity through the property tax is highest in the smallest districts (enrollments below 10) and the largest districts (enrollments above 1,000). Districts with intermediate enrollments have lower average capacity, but the variation within each enrollment grouping is quite significant. The smallest districts in particular have widely varying capacity. Most of the variation in this capacity appears to result from the large differences in income per student. As discussed earlier, even districts with similar enrollment sizes, populations, and property valuations may have significant differences in income per student.

**Revenue-Raising Capacity From Other Sources.** School districts also collect revenue from charges and fees. According to Table 11-2, charges and miscellaneous revenues account for 18.6 percent of total own source revenue. In this section, we explain how we

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<sup>8</sup>Because of the severe limitations on data concerning school district property composition, our approach is conservative and probably understates exporting, at least in the most urban districts.



TABLE 11-7

**REVENUE-RAISING CAPACITY PER STUDENT  
THROUGH THE PROPERTY TAX, FY 1986**

<u>Enrollment</u>	<u>Number of Districts</u>	<u>Capacity</u>			
		<u>Average</u>	<u>Standard Deviation</u>	<u>Minimum</u>	<u>Maximum</u>
1 - 9	174	128.6	102.5	15.5	573.5
10 - 19	174	89.9	64.5	10.9	425.3
20 - 29	78	80.5	76.6	9.5	570.3
30 - 99	126	85.6	86.4	27.0	808.0
100 - 499	237	96.3	33.2	13.0	228.8
500 - 999	41	99.2	23.7	51.6	150.8
1,000 - 1,999	16	118.7	20.1	93.2	152.1
2,000 - 9,999	16	135.4	43.6	83.2	263.8
> 9,999	3	147.5	50.6	89.2	179.7
<u>All Districts</u>	<u>865</u>	<u>100</u>	<u>72.1</u>	<u>9.5</u>	<u>808.1</u>

NOTE: All entries are in index form, with an index of 100 in the average district.

SOURCE: Nebraska Comprehensive Tax Study

calculate revenue-raising capacity from these sources. Because miscellaneous charges and fees apply mainly to residents, we assume that these revenue sources have no export potential.<sup>9</sup>

The average burden across the state for charges and miscellaneous income equals total revenue from these sources divided by aggregate income. Our assumption about exporting implies that a district's revenue-raising capacity per student from charges and miscellaneous income equals the average burden multiplied by the income per student in that district. Capacity from these sources, in index form, is summarized in Table 11-8.

For all districts the capacity index for charges and miscellaneous income ranges from 11 up to 1,072. The standard deviation of the index is 95. The variation in this component of capacity is quite dramatic. On average, the smaller is the district, the larger is its capacity from charges per student. However, just as there is great variation within enrollment groups in capacity from the property tax, there is great variation within all groups in capacity from charges. As before, this large variation is due to the disparities in income per student among districts.

**Overall Revenue-Raising Capacity.** In order to arrive at a figure for overall revenue-raising capacity we add capacity from the property tax and capacity from other sources. We then adjust this sum to reflect capacity gained or lost through interschool district payments of tuition and transportation fees, which are commonly made in Nebraska. Many school districts in the state either send some of their students to other districts or receive students from other districts; in some cases they both send and receive students. Although the reasons for these student exchanges vary, a district's capacity is affected by each student sent or received. When a sending district makes a tuition payment the dollar amount of that payment directly reduces the capacity available to that district to educate the remaining students. Likewise, when a district

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<sup>9</sup>One exception to this rule arises when non-resident students pay charges for services in the receiving district, such as school lunch or activity fees, or when non-resident adults pay to attend activities such as athletic events. This export potential, however, is extremely small and is unlikely to significantly affect the revenue-raising capacity of a district.

TABLE 11-8

**REVENUE-RAISING CAPACITY PER STUDENT  
THROUGH CHARGES, FY 1986**

Enrollment	Number of Districts	Capacity			
		Average	Standard Deviation	Minimum	Maximum
1 - 9	174	163.1	131.6	17.7	691.8
10 - 19	174	114.2	81.4	14.5	500.9
20 - 29	78	101.9	93.2	12.5	665.1
30 - 99	126	98.1	109.7	32.1	1,071.5
100 - 499	237	57.7	31.4	10.9	215.2
500 - 999	41	52.6	16.1	26.2	119.9
1,000 - 1,999	16	56.5	9.1	43.8	74.8
2,000 - 9,999	16	62.4	18.2	40.4	115.5
> 9,999	3	66.6	23.8	39.1	80.8
All Districts	865	100.0	95.4	10.95	1,071.5

NOTE: All entries are in index form, with an index of 100 in the average district.

SOURCE: Nebraska Comprehensive Tax Study.

receives a student, its overall capacity is enhanced by the dollar amount of the payment. In Appendix 11-A, we describe in detail how we adjust capacity for interdistrict payments.

The overall revenue-raising capacity of Nebraska's school districts, expressed in dollars per student, is summarized in Table 11-9. In this table the average capacity per student is set equal to the average current spending per student in Nebraska. This standardization does not change the relative position of one school district to another, it simply facilitates comparison of capacities and needs later in our analysis.

The variation in overall revenue-raising capacity for school districts is quite substantial. The range is from zero up to \$29,967 per student. Six school districts, very small in population and income, have a capacities of zero. The correct interpretation of this result is that these districts would not have any revenue left over to educate their own students if they imposed the baseline tax burden upon their residents and paid the tuition and transportation charges they owe other districts.<sup>10</sup>

In contrast, some districts have dramatically high revenue-raising capacity. The school district with the highest capacity is District 3 in Madison County which, due to its very high income per student, has a revenue-raising capacity per student of almost \$30,000. The average capacity per student is \$3,504, so District 3 could raise over 8-1/2 times as much revenue per student at the baseline tax burden as the average district. District 3's income per capita is not unusually high at \$7,444, but only 35 children are enrolled in this district where the adult population is 3,285. As a result, District 3 can generate a great deal of revenue per student at an average tax burden.

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<sup>10</sup>In a few cases, a district makes payments to other districts which are in excess of their calculated revenue-raising capacity from property taxes and charges. No district has a calculated capacity very far below zero, however, so for ease of interpretation we set minimum capacity to zero.

TABLE 11-9

**TOTAL REVENUE-RAISING CAPACITY PER STUDENT,  
FY 1986**

Enrollment	Number of Districts	Capacity			
		Average	Standard Deviation	Minimum	Maximum
1 - 9	174	\$4,555	\$3,779	\$ 0	\$20,910
10 - 19	174	3,152	2,404	0	15,589
20 - 29	78	2,766	2,687	359	20,854
30 - 99	126	3,017	3,166	895	29,967
100 - 499	237	3,385	1,135	0	7,733
500 - 999	41	3,504	787	2,110	5,496
1,000 - 1,999	16	3,980	689	3,114	4,954
2,000 - 9,999	16	4,389	1,314	2,646	8,326
> 9,999	3	4,618	1,615	2,753	5,595
<b>All Districts</b>	<b>865</b>	<b>3,504</b>	<b>2,625</b>	<b>0</b>	<b>29,967</b>

SOURCE: Nebraska Comprehensive Tax Study.

We observe from our results that in general, for districts with enrollments greater than 20, capacity per student increases as enrollment rises. The enrollment size groups with the highest overall revenue-raising capacity are districts with more than 9,999 students and districts with fewer than 10 students. (These groups of districts also had the highest capacity through the property tax alone.) The smallest districts have, on average, a capacity of \$4,555 per student. The largest districts have an average capacity of \$4,618 per student. Districts with enrollments of between 20 and 29 students have, on average, the least ability to generate revenue, as indicated by their capacity of \$2,766. Within each enrollment size group, however, there is substantial variation in capacity. For example, most enrollment groups have a standard deviation in capacity well in excess of \$1,000 per student.

### **Expenditure Need**

A school district's expenditure need is the amount it must spend to provide an education of average quality to each of the children enrolled in its schools. In this section we examine the expenditure needs of Nebraska's school districts.

The concept of expenditure need, like the concept of revenue-raising capacity is designed to facilitate comparisons across school districts by holding constant educational quality and focusing on factors outside the control of local officials. Comparisons based on actual education spending can be misleading because spending is by no means the same thing as service quality. Some high-spending districts may be poorly managed or may face relatively high costs and may therefore receive very little education for their money. Moreover, actual spending is controlled by school officials and therefore cannot be an objective basis for comparison.

To measure a district's expenditure need, we identify factors that are largely outside the control of school officials and that influence the cost of providing education.<sup>11</sup> Then we use a

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<sup>11</sup>In analyzing the expenditure needs of counties and municipalities, we distinguished between service responsibilities and service costs. See Yinger, "The Fiscal Condition of County Governments in Nebraska" and Yinger, "The Fiscal Condition of Municipal Governments in Nebraska." We do not make this distinction of school districts because, in effect, all schools

simple statistical procedure to determine the impact of these factors on spending by school districts in Nebraska, controlling for all other spending determinants. (This procedure is described in Appendix 11-A.) For example, handicapped students are more expensive to educate than other students. The higher the share of district's students who are handicapped, therefore, the more the district must spend per pupil to achieve education of average quality. We find five factors that influence the cost of public education in Nebraska.<sup>12</sup> Our measure of expenditure need reflects the impact of each of these factors on the cost of education.

As already noted, the first factor that influences the cost of education is the number of handicapped students the district educates. The available data indicate the number of handicapped children who live in each school district. Because not all districts educate and transport the handicapped children that live within their boundaries, however, we make adjustments in the number of handicapped children by district to reflect the shifting of responsibilities of these students from district to district (see Appendix 11-A). We find that for every increase of 1 percentage point in the ratio of net handicapped students to total students the total operating costs per student of a district rise by \$9. This cost factor does not appear to operate in tiny school districts (fewer than 10 pupils), perhaps because they rarely educate severely handicapped students themselves.

The second factor that influences expenditure need is transportation cost, as determined by the number of students that the district is required to transport and the number of miles these

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have the same responsibility to educate their students. Although one could talk about a school district's "responsibility" for educating certain types of students, we do not find this usage to be helpful and prefer to focus on the impact of certain students on the cost of providing public education. The issue here is a semantic not a substantive one, however, and the discussion in the text could be recast in terms of responsibilities.

<sup>12</sup>We could not obtain data on every potential cost factor. For example, we could not determine the area, in square miles, of every school district. Appendix 11-E lists some variables that could be added to an analysis like ours if they were available.

students must be transported.<sup>13</sup> Our analysis reveals that, controlling for other factors, a district must spend an additional \$84 dollars for an increase of 1 percentage point in the ratio of students eligible for transportation to total students. Districts that either are not required to transport students, such as Class 6 districts, or districts that are not spread out and have few students to transport do not have to spend as much as other districts to achieve average-quality education.

The third factor that increases the cost of providing education is the proportion of secondary students to elementary students in the district. Not surprisingly, we find that, on average, it costs more for school districts to provide an average quality education to secondary students than to elementary grade students. Normally, additional services and activities are provided for secondary students, such as more extensive curriculum and sport programs. To be specific, we find that for every increase of 1 percentage point in the ratio of secondary to elementary students a district must spend \$8 more per enrolled student.

The fourth cost factor is that larger school districts in Nebraska apparently can take advantage of significant economies of scale. We find that the cost of education per pupil declines as the total number of students in a district increases. This relationship is not linear, however. In the case of small changes in enrollment, for every increase of 1 percent in enrollment a district needs to spend roughly \$5.39 less per student. Large increases in enrollment can have an even more dramatic impact on costs per pupil. If district enrollment is increased by 10 times, for example by combining 10 districts with 10 students each into a single district, then the cost per student will decline by \$1,241. These economies to scale reflect the fact that larger districts can spread out the cost of administration, libraries, and other system-wide activities over a larger number of students.

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<sup>13</sup>As explained in detail in our Appendix 11-A we do not have an exact measure for the latter variable but we are able to closely estimate its impact by including the total route miles traveled in each district into our analysis and by controlling for other factors.



These results concerning economies to scale are complicated by a fifth factor, namely cost differences across classes of school districts. After controlling for all identifiable cost (and other) factors, including district scale, we find that some classes of school districts spend less per pupil than others. Compared to either Class 2 (small, with elementary and secondary students) or Class 6 (secondary only) districts, Class 1 (elementary only) districts spend \$2,810 less per student and Class 3 districts (large, with elementary and secondary) spend \$345 less per pupil.<sup>14</sup> We cannot determine whether these differences in spending across classes of school districts reflect cost differences or differences in educational quality. To put it another way, these spending differences exist even after we have controlled for all the cost factors and all the determinants of educational quality that we can identify. Nevertheless, we assume that these "left-over" spending differences reflect differences in cost across districts. For example, Class 1 districts may have lower costs than other districts, all else equal, because they do not have to pay as much as other districts to attract teachers. (We cannot test this hypothesis directly because we do not have any data on wage rates by school district.) We regard this assumption as conservative in the sense that it makes the current system, with its predominance of Class 1 districts, look as favorable as possible.

When these left-over spending differences between classes are interpreted as cost differences they offset, to some degree, the economies of scale described earlier. The total enrollment variable indicates that costs per pupil decline as district enrollment increases, but the spending differences by class indicate that Class 1 districts, many of which contain less than 10 students, have lower costs than other districts. In other words, we discover strong economies of scale within any given class of district, but obtain two offsetting results about the economies of scale that exist between the smallest class, Class 1, and larger classes of districts. By combining

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<sup>14</sup>These Class 3 results also apply to Omaha and Lincoln.

these two results, we find that the cost per pupil is about the same for a Class 1 district and a Class 3 district that is 100 times as large, whereas a Class 3 district will have lower costs than a Class 1 district if its enrollment is more than 100 times as large. To place this result in perspective, note that consolidating several tiny Class 1 districts with a large Class 6 or Class 3 district could easily result in a single district that was more than 100 times as large as the individual Class 1 districts--and could therefore lower per pupil costs. In most cases, for example, a single county-wide district would contain more than 100 times as many students as the individual Class 1 districts currently in the county, and would therefore face lower costs per pupil than the Class 1 districts. Finally, we emphasize that to some degree the left-over spending differences across district classes may reflect differences in educational quality instead of costs; to the extent that this is true, the economies of scale that can be captured by combining Class 1 districts with each other or with other districts are larger than these examples suggest.

We combine these five cost factors (handicapped students, transportation costs, elementary vs. secondary students, economies of scale, and interclass cost differences) into a single cost index for each school district in the state. A district with favorable cost conditions, such as few handicapped students or low transportation costs, will have to spend less than the state-wide average per pupil, \$3,504, to obtain educational services of average quality. A district with unfavorable cost conditions will have to spend more than the average per pupil to obtain an average-quality education. (See Appendix 11-A for the details of our cost index construction.)

The results of our expenditure needs assessment, expressed in dollars per student, are presented in Table 11-10. A district's expenditure need is the dollars per pupil that it must spend to provide an average-quality education. Expenditure needs range from a low of \$1,285 (or 35 percent of the average) to a high of \$6,116 (or 175 percent of the average). The average expenditure need is \$3,504 per student. The standard deviation is \$85, so most districts must spend between \$2,650 and \$4,358 per student.

**TABLE 11-10**  
**EXPENDITURE NEED PER STUDENT, FY 1986**

<u>Enrollment</u>	<u>Number of Districts</u>	<u>Need</u>			
		<u>Average</u>	<u>Standard Deviation</u>	<u>Minimum</u>	<u>Maximum</u>
1 - 9	174	\$3,449	\$ 228	\$3,073	\$4,397
10 - 19	174	2,966	113	2,742	3,183
20 - 29	78	2,928	220	2,601	3,724
30 - 99	126	3,011	1,009	2,147	6,116
100 - 499	237	4,362	876	1,235	5,513
500 - 999	41	3,886	474	1,390	4,500
1,000 - 1,999	16	3,607	161	3,238	3,806
2,000 - 9,999	16	3,109	202	2,707	3,328
> 9,999	3	2,128	272	1,858	2,402
<b>All Districts</b>	<b>865</b>	<b>3,504</b>	<b>854</b>	<b>1,235</b>	<b>6,116</b>

SOURCE: Nebraska Comprehensive Tax Study.

The average expenditure need of districts with fewer than 10 students is \$3,449, which is relatively high compared to the expenditure needs of districts with enrollments of 10 to 100 students. The average expenditure need of districts with enrollments of 100 to 499 students is \$4,362, which is the highest average expenditure need for all groups. As enrollment increases above 500 students, the average expenditure need of school districts falls. The largest group, which includes Lincoln School District, Omaha School District, and Millard School District in Douglas County, has the lowest average expenditure need at \$2,128.

The single district with the greatest need is District #600090, McPherson County High School. This high school has a need of over \$6,000 per student because it educates secondary students only and has high overhead costs in providing this education to its small enrollment of 34.

### **Need-Capacity Gap**

The need-capacity gap is the difference between expenditure need and revenue-raising capacity. For ease of interpretation, this gap is standardized to be zero in the average school district. This standardization technique allows us to readily see how each district's fiscal capacity compares to the average (see Appendix 11-A). A positive gap means that a district cannot provide an average quality education to its students at the average tax burden; it either must lower its service quality below the average or raise its tax burden above the average--or both. Conversely, a negative gap indicates that the school district can generate revenue in excess of the amount it needs to provide an average-quality education by imposing an average tax burden upon its residents.

A need-capacity gap of \$50, for example, indicates that a county would have to receive \$50 per student from outside sources to be able to provide the same service quality at the same tax burden as the average school district. In contrast, a need-capacity gap of -\$50 implies that a school district could provide the average service quality at the average tax burden and still have

\$50 per student left over to finance higher service quality or to lower the tax burden on its residents.

Need-capacity gaps, expressed in dollars per student, are presented in Table 11-11. These gaps range from -\$27,159 to \$4,346. The standard deviation of these gaps is \$2,621; thus most school districts have gaps between -\$2,621 and \$2,621 per student.

According to this measure of fiscal condition, the healthiest district is District #3 in Madison County. This district has an expenditure need of \$2,808 and capacity of \$29,967 which results in a gap of -\$27,159. The expenditure need of this district is reasonably close to the average need for all school districts (\$3,504), but District #3 is in excellent fiscal condition because it has such a large revenue-raising capacity. This district can either provide a much higher quality education to its students or impose a lower tax burden upon its residents than the average district in Nebraska.

The district that has the greatest disparity between its need and its capacity and that is, therefore, in the worst fiscal condition is District #540505 in Santee County. This district is not the district with the greatest need per student. The district with the greatest need, McPherson County High School, actually ends up with a gap of -\$569 and ranks 217th in the state (where a rank of 1 is best and a rank of 865 is worst), because its revenue-raising capacity is larger than its expenditure need. In contrast, Santee County has both high need, measured to be \$5,161 per student, and low capacity, measured to be \$814 per student, and therefore has the largest need-capacity gap in the state, namely \$4,346 per student.

The enrollment group with the largest average gap is the one with 100 to 500 students. This group has an average gap of \$976; districts in this group would have to receive an additional \$976 per student from outside sources on average, in order to provide their students an average quality education while imposing an average tax burden upon their residents. The enrollment group ranging from 500 to 999 students and the group ranging from 20 to 29 students

TABLE 11-11

## THE NEED-CAPACITY GAP PER STUDENT, FY 1986

Enrollment	Number of Districts	Need-Capacity Gap			
		Average	Standard Deviation	Minimum	Maximum
1 - 9	174	\$-1,107	\$3,669	\$-16,940	\$ 3,214
10 - 19	174	- 186	2,388	-12,628	3,153
20 - 29	78	162	2,699	-18,079	3,040
30 - 99	126	- 6	3,096	-27,159	3,260
100 - 499	237	976	1,124	- 2,599	4,346
500 - 999	41	382	767	- 1,604	2,009
1,000 - 1,999	16	- 373	659	- 1,326	622
2,000 - 9,999	16	-1,280	1,298	- 5,344	234
> 9,999	3	-2,490	1,861	-3,738	- 351
All Districts	865	0	2,621	-27,159	4,346

SOURCE: Nebraska Comprehensive Tax Study.

also have a positive average gap. All other groups have negative average gaps; these districts are able to generate more than enough revenue, with an average tax burden, to cover the expenditure need associated with providing an average quality education.

## **Conclusions**

Our analysis reveals two important facts about the fiscal conditions of school districts in Nebraska. First, and most important, school districts vary greatly in their revenue-raising capacities, in their expenditure needs, and in their need-capacity gaps. This variation exists across all classes of districts and all sizes of districts. Differences in income account for a large part of this variation, but other factors, including differences in the ability of districts to export taxes and differences in the costs of providing education (due to the presence of handicapped students, economies of scale, and other factors) all contribute to the current fiscal disparities across the state's schools.

Second, the largest and the smallest districts are in much better condition, on average, than are the districts with enrollments between 100 and 1000 students. These medium-sized districts do not have the high per student income that the smallest districts have, nor can they take full advantage of economies of scale, as can the largest districts. As a consequence, these medium-sized districts have, on average, both a relatively lower capacity to generate revenue and higher expenditure needs.

## **Determinants of School District Spending**

Our measure of fiscal condition is designed to be unaffected by the actual decisions a school district makes about spending and taxation. Nevertheless, it is important to understand the factors that do influence the actual fiscal behavior of districts. State policy makers may want to understand, for example, what impact state and federal aid has on spending or whether districts with larger tax bases spend more than other districts. This section addresses these and

other questions about the behavior of school districts in Nebraska. The statistical support for our conclusions is presented in Appendix 11-A.

Following standard practice, our analysis of school district spending per student is built on the notion of voters' demand for public services. Voters' demand for public services, including education, like their demand for private goods and services, increases with their income and decreases with the "price" of those services. In the case of public services, the "price" is the amount a voter must pay in taxes for another unit of services. This so-called tax price is inversely related to the property tax base in the school district; the greater the tax base, the lower the taxes each voter must pay to raise a given amount of revenue.

We find that both income and tax price have a statistically significant impact on school district spending. Our measure of income, as mentioned previously, is the aggregate household income of a district divided by the number of students in that district.<sup>15</sup> We observe that as income rises, expenditure on education also rises. When income is small say, \$10,000 per student, a \$1,000 rise in income per student (a 10 percent gain) will create a \$23 increase in spending per student. When income per student in a district is much higher, say \$50,000 per student, income must rise by \$5,000 (also a 10 percent gain) in order to obtain the same \$23 increase in education spending per student.

The tax price, which is the inverse of property value per student, reflects the cost to property owners of an increase in spending. We find that a district with a tax price one standard deviation above the average spends about \$244 less per student than a district with an average tax price. Another way to express this result is to say that for every 10 percent increase in tax price, a district will spend about \$40 less per student.

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<sup>15</sup>As income rises, the residents' willingness to spend on education does not increase on a linear basis. Rather, we found that as income rises it takes an ever larger absolute dollar gain in income to cause a specified increase in education spending (see Appendix A).



We also found that districts with a larger ratio of total district residents to students tend to spend more per student, presumably because they can spread the cost of educating each student over more adults. To be precise, spending per student increases approximately \$24 for every 100 percent increase in this ratio. For example, if two districts both have 10 students but one district has a total population of 30 whereas the other has a total population of 60, the second district will spend \$24 more per student than the first district, all else equal.

As we discussed earlier, certain social and economic characteristics that affect the cost of providing education also vary among districts. We estimate the impact of these characteristics on the cost of education by determining their impact on school district spending in Nebraska, controlling for other factors. We find that several economic and social factors significantly influence the cost of providing education. These factors are the number of special education students, the number of students eligible for transportation, the overall size of the student population, the proportion of students in secondary school, and the class of district. As explained earlier these results were used to calculate each district's expenditure need.

We also looked at the impact of enrollment in private schools on spending for public education. We found that for every 1 percent increase in the number of children attending private schools in a county, all the school districts in that county spend \$17 less per student for public education. This result has two possible explanations. The first is that voters in some districts may simply have a preference for sending their children to private schools and may therefore not support spending for public education. The other side of the coin is that the public schools in some districts may be providing a poor-quality education, so parents decide to enroll their students in private schools. In either case, our results imply that the children remaining in public school districts suffer the consequences when private school enrollment rises.

Aid from the state and from the federal government tends to stimulate spending by school districts. For every dollar of direct aid given by the state (not federal pass-through aid) school

district spending increases by \$1.26. For every dollar of federal aid, school district spending increases by \$1.06. The response to aid varies from school district to school district, but these results imply that, on average, school districts are inclined not to reduce the tax burden when aid is received, but instead spend the aid on education and even to match a small portion of the aid with additional spending generated from their own revenue.

In contrast, when aid is received from other local governments the school district spends \$0.89 of every dollar in local aid received and passes the remaining \$0.11 on as tax savings.

Our analysis also finds no systematic variation in spending between districts that participate in an Educational Service Unit (ESU) and districts that do not. ESUs collect fees from participating districts but also receive separately collected property taxes and federal and state aid. The revenue that ESUs collect in addition to the school payments averages \$50 for every student enrolled in districts that participate in ESUs. One might have expected that the districts that participate in the ESU system would spend, all else equal, \$50 less per student than the schools providing ESU-type services on their own. The evidence does not support this expectation. The services provided by ESUs do not appear to be substitutes for services previously provided by school district themselves.

Our results also do not allow us to make a judgment on whether or not interschool district payments for tuition and transportation are adequate to cover true costs imposed by nonresident students on the servicing district.<sup>16</sup>

### **Policy Options for the State**

In this section we describe the existing state aid programs in Nebraska and present

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<sup>16</sup>As we suggest in Appendix 11-A both of these concerns (ESU's and interschool payments) could be better addressed if more detailed service and financial information was made available and incorporated into our model.

evidence that these aid programs do not help to offset disparities in fiscal condition among school districts. We also provide the results of two experiments in consolidation that reveal the significant potential of consolidation to lessen fiscal disparities across school districts and to lower the cost of education in Nebraska.

### **State Aid To Schools**

The three main components of state aid in Nebraska are foundation aid, incentive aid and equalization aid. In school year 1985-1986, state aid payments for these components totaled \$131,041,778. The breakdown was as follows: foundation aid, \$94,546,576; incentive aid, \$3,566,546; and equalization aid, \$32,928,656.

The first step in Nebraska's education aid process is for the legislature to make a total appropriation for aid to public schools. The legislature then decides how much of this total appropriation will go to foundation aid. Foundation aid is a flat grant per pupil using an indexing system. The indexing system is intended to reflect the average costs of educating students in different grade levels. The index is weighted as follows: kindergarten, .5; grades 1 through 6, 1.0; grades 7 and 8, 1.2; and grades 9 through 12, 1.4. Total state enrollment for each grade group is multiplied by the appropriate index to arrive at the weighted enrollment needs of the state. Foundation aid is divided by the states' total needs to arrive at a dollar payment for every need index of one. (This usage of the term "need" is similar but not identical to our usage in this chapter.) Finally, aid is allotted to each district based upon the result of the index multiplied by each district's enrollment for each grade group. For example, if foundation aid payments were to be \$50 dollars for every need index of 1 and a district had a total need index of 12.5, that district would receive \$625 in foundation aid. This program is not a true foundation aid program. In other states, foundation aid is designed to insure that every district can provide some minimally

acceptable level of education at a reasonable property tax rate. As a result, this aid, unlike the "foundation" aid in Nebraska, is higher for districts with relatively small property tax bases.<sup>17</sup>

Incentive aid is given in proportion to the levels of education achieved by teachers within each district and for offering summer school programs. Aid in 1985-1986 was given as follows: \$150 for a Bachelor degree; \$250 for a Master degree; and \$350 for a Doctoral Degree.

Equalization aid is computed in several steps. First, the foundation and incentive aid totals are subtracted from the total state aid appropriation to arrive at the amount available for equalization aid. Next the basic need of each district is calculated using the enrollment weighted index (as in foundation aid calculations) and additional factors. These factors, each of which is given a separate weight in the formula, are scarcity of population, an enrollment increase, an enrollment decrease, a program for gifted students, a program for special-needs students, and transportation. Total need is arrived at by adding basic needs and the additional factors. This need is compared to the estimated capacity of school districts. (This usage of the term "capacity" is similar but not identical to our own usage in this chapter.) The capacity is the total amount of revenue that could be raised with a base levy (\$0.42 per \$100 valuation for K-12 districts, \$0.28 for all other districts) added to total revenues from foundation aid, tuition payments received over 125 percent of per pupil costs, license fees, and transportation receipts. Finally, need is subtracted from capacity to arrive at the net needs of the district. The equalization aid is then

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<sup>17</sup>The usual foundation aid formula is:

$$A_i = E^* - t^*B_i,$$

where  $A_i$  is aid per pupil to district  $i$ ,  $E^*$  is the minimum acceptable spending level (perhaps weighted by grade as in Nebraska),  $t^*$  is a "reasonable" tax rate (as determined by policy makers), and  $B_i$  is the property tax base in district  $i$ . See, for example, J.R. Aronson and J.L. Hilley, *Financing State and Local Governments*, 4th ed. (Washington, DC: Brookings, 1986).

proportioned, based on individual net need, among the qualifying districts. In school year 1985-1986, only 192 school districts qualified for equalization aid.

To evaluate current aid programs, we determine whether school districts in poorer fiscal condition, as measured by their need-capacity gap per pupil, receive more total aid from the state. We find that the opposite is true; the better is a district's fiscal condition, the higher is the state aid it receives. To be specific, if District A's need-capacity gap is \$1 lower than District B's, then District A can expect to receive \$0.016 more state aid than District B, all else equal. (The details of this analysis are presented in Appendix 11-A.)

To some degree, this result reflects the fact that the bulk of state aid dollars are not allotted to equalization aid but are instead granted through the foundation and incentive aid programs. Foundation aid accounts for one aspect of a district's fiscal condition, the share of it students in secondary school, but does nothing else to direct funds to the districts in the poorest fiscal condition. Because it is based on teachers' educational levels, incentive aid is directed primarily toward districts in good fiscal health, which can afford to hire the most educated teachers. In fact, relatively large and rich districts receive far more aid per pupil through this program than do districts in poor fiscal condition, such as medium-sized districts.

By focusing on the difference between "needs" and "capacity" the equalization aid program helps direct aid to the districts in poor fiscal condition, but it is considerably smaller than the other programs. Moreover, its formula contains several factors, such as the sparsity of population, that do not appear to be related to a district's fiscal condition and excludes several factors, such as economies of scale, that have an important bearing on a district's fiscal condition. Overall, therefore, the current state aid programs do a poor job of identifying and compensating school districts that are, through no fault of their own, in poor fiscal condition.

We recommend that state policy makers reassess their current programs of aid to education. One key policy objective, lessening fiscal disparities among school districts, is not

well served by the current programs; indeed, these programs actually magnify fiscal disparities to a small degree. As a result, we recommend a redesign of state aid programs to direct more aid to districts in the greatest need. The principal problem with the current system appears to be that too much emphasis is placed on so-called incentive aid, the primary impact of which is to reward the districts with the most resources to spend. Indeed, the main effect of this program is to reward high-spending districts for the hiring decisions they would have made anyway; it provides a very weak incentive for districts to switch to teachers with more advanced degrees. In addition, the foundation aid program does little to bring the poorest districts up to some minimal educational standard, which is widely regarded as the principal justification for such a program. We recommend a substantial shift away from incentive aid and foundation aid toward a redesigned equalization program. Moreover, to the extent that foundation aid is retained, we recommend that its formula be changed to account for a district's tax base, which is the approach used in other states. Looking ahead to the next section, we must also point out that changes in state aid need to be coordinated with state policy concerning school district consolidation.

As explained in other chapters, property taxes in Nebraska are higher than in almost all other states, and we recommend that they be lowered primarily through increased state aid to local governments.<sup>18</sup> Because most property taxes in Nebraska support local education, state aid to education can play a key role in reducing local property taxes. Furthermore, as shown earlier, state aid to education in Nebraska is far below the national average. We also recommend, therefore, that the State of Nebraska should not only redesign its aid for education but also should significantly expand the budget for these programs.

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<sup>18</sup>See J. Miner and P. Joyce, "The Nebraska State and Local Revenue Expenditure System: A Comparative Analysis of Structure and Levels," Chapter 1 in this volume; and J. Yinger and M. Wasylenko, "An Evaluation of the Property Tax in Nebraska," Chapter 6 in this volume.

Some people in Nebraska have suggested that a better way to lower the school property tax burden is to allow school districts to levy an earnings tax. The problem with this approach is that it does not bring any new resources into school districts that are in relatively poor fiscal condition. Remember that fiscal condition depends only on resident income and the district's ability to export taxes to nonresidents. Regardless of whether school revenue is raised through a property tax or an earnings tax, it ultimately must be paid out of residents' income or else it must be exported. Most school districts in the state have a low potential for exporting an earnings tax to nonresident commuters, just as they have a low export ratio through the property tax. So an earnings tax for school districts would do nothing to help the districts that need help the most.

### **Fiscal Aspects of School District Consolidation**

Perhaps the most unusual feature of public education in Nebraska is the large number of school districts, many of which have fewer than 20 students. This feature has been widely debated and many plans for consolidating school districts have been proposed. In this section we examine two key fiscal aspects of consolidation, namely the impact of consolidation on the fiscal condition of school districts and the impact of consolidation on the overall cost of educating students in the state.

We do not attempt a complete analysis of consolidation. We focus on fiscal issues and do not consider nonfiscal issues, such as the relative merits of various educational environments or the importance of local control over schools, that are also important to any decision about consolidation. We also do not propose a particular consolidation plan, but instead analyze two consolidation "experiments" to determine the potential gains and losses from consolidation. In other words, we make no attempt to resolve the consolidation debate but instead try to contribute to this debate some important information on fiscal issues.

As explained earlier, a school district's fiscal condition can be summarized by its need-capacity gap, which is the amount of money per student it would have to receive from outside

sources to be able to provide an average-quality education at an average tax burden on its residents. This gap, which is standardized to be zero in the average district, varies widely across districts in Nebraska with a maximum of \$4,346 and a minimum of -\$27,159. Although the gap equals zero in the average district, it is below zero, at -\$1,017, in the district that contains the average student in the state, because the large districts, which contain most of the students, are in relatively good fiscal condition. These results are restated in the first column of Table 11-12. Our principal objective in this section is to determine what happens to these results in two consolidation "experiments."

Our first experiment is to consolidate all the school districts in a county, except in Douglas and Lancaster counties where we consolidate only those districts outside Omaha and Lincoln.<sup>19</sup> Thus, this experiment replaces the 865 school districts in our data set with 93 hypothetical county school districts, plus Omaha and Lincoln. We do not regard county-wide school districts as the best consolidation option in every county, but we believe that this experiment does provide insight into the fiscal impacts of large-scale consolidation.

We conduct two versions of this experiment. In Version A, we assume that consolidation does not alter the need-capacity gap facing the average student in the state, but instead simply pools the existing revenue-raising capacity and existing expenditure need of all the districts in a county. Thus, for example, this version of the experiment does not consider potential scale economies from creating larger districts. The results of Version A are presented in the second column of Table 11-12. As shown in row 2, the gap facing the average student is the same as in the current system, but as shown in rows 3 through 5, the variation in fiscal condition across districts is substantially lower. The standard deviation in the gap, a measure of the extent to which the gap varies across districts, is 2-1/2 times lower than in the current system, \$1,068

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<sup>19</sup>We also consolidate the two districts in the city of Omaha, namely Omaha and Westside.



TABLE 11-12

**CONSOLIDATION EXPERIMENT 1:  
COUNTY-WIDE SCHOOL DISTRICTS**

	Current System	Experiment	
		Version A	Version B
Number of Districts	865	95	95
Need-Capacity Gaps (dollars per student)			
A. Facing the Average Student	-1,017	-1,017	-1,572
B. Variation Across Districts			
Standard Deviation	2,621	1,068	1,107
Maximum	4,364	2,709	3,191
Minimum	-27,159	-3,911	-3,774

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Notes: In Version A, the need-capacity gap facing the average student is set at its current level; in Version B, the cost savings from consolidation are calculated. See the text.

SOURCE: Nebraska Comprehensive Tax Study

compared to \$,2621, and the range in gaps is from \$2,709 to -\$3,911, instead of from -\$27,159 to \$4,346.

These results are important because they describe dramatic declines in the fiscal disparities that currently exist across school districts in Nebraska. This consolidation experiment shows that without any new state aid or other new resources, a plan that involves a sharing of revenue-raising capacity and expenditure need by many current school districts can greatly lower the unfair fiscal advantage enjoyed by some districts and greatly lessen the fiscal disadvantage experienced by others.

Version B of this experiment is to recalculate expenditure need for each new consolidated school district on the basis of its pooled characteristics. In other words, we use our analysis of school costs to calculate the cost of providing an average-quality education in a district with the share of handicapped students, share of students eligible for transportation, enrollment scale, and class of the hypothetical consolidated district.<sup>20</sup> The county-wide districts are treated as either Class 2 districts or Class 3 districts, depending on their population. This version of the experiment leads to even more dramatic results because it accounts for potential economies of scale to be achieved through consolidation, such as spreading the costs of administration, libraries, and other system-wide functions over a larger number of students. As explained earlier, however, gains to economies of scale must be balanced against cost differences among classes of school districts. In particular, this consolidation experiment eliminates Class 1 districts and therefore eliminates their special cost advantages. Also as explained earlier, we assume that interdistrict spending differences that are left over after controlling for all observable factors are cost differences, not differences in service quality. If this assumption is incorrect,

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<sup>20</sup>A large-scale consolidation plan might increase total transportation costs by cutting the number of school buildings. On the other hand, some current school districts are so widely scattered that consolidation might lower transportation costs in some places. We are unable to determine the impact of our consolidation experiments on total transportation costs.

then our calculations *understate* the gains from consolidation. Because these left-over spending differences are large, almost \$2,500 per pupil between Class 1 and Class 3 districts, the degree of understatement could be substantial.

The results of Version B are presented in the third column of Table 11-12. In this case, a decline in costs made possible by consolidation, largely due to economies of scale, lowers the need-capacity gap in the district serving the average student to -\$1,864, a drop of \$555 per student. Because our calculations hold educational service quality constant, this drop corresponds to an average cost savings of \$555 for educating every student in this state. Thus, this consolidation experiment can be said to cut the cost of educating students in Nebraska by \$555 multiplied by 266,000 students or over \$147 million. This result should not be interpreted as an estimate of the cost savings from an actual consolidation plan; instead, it dramatizes the potential cost savings from consolidation, even with conservative assumptions. Furthermore, note that Version B of this experiment, like Version A, greatly lowers the fiscal disparities across school districts. The standard deviation in the need-capacity gap, for example, is only \$1,107, compared to \$2,621 in the current system.

Our second experiment is to consolidate each Class 6 district with all its affiliated Class 1 districts. This experiment involves only 186 of 865 current school districts for which we have complete data, and is designed to illustrate the possible outcomes of a modest consolidation plan. The current fiscal conditions of the 186 districts in this experiment are described in the first column of Table 11-13. As shown in the second row of this table, the average student in this set of districts faces a need-capacity gap of -\$419, which indicates that the fiscal condition of these districts is slightly better than that of the average district in the state as a whole.

As before, we conduct two versions of this experiment. In Version A, we assume that consolidation does not alter the need-capacity gap facing the average student in this set of districts, but instead simply pools the existing revenue-raising capacity and existing expenditure

**TABLE 11-13**  
**CONSOLIDATION EXPERIMENT 2:**  
**CLASS 6 AND AFFILIATED CLASS 1 SCHOOL DISTRICTS**

	Current System	Experiment	
		Version A	Version B
Number of Districts	186	23	23
Need-Capacity Gaps (dollars per student)			
A. Facing the Average Student	-419	-419	-74
B. Variation across Districts			
Standard Deviation	2,785	579	632
Maximum	2,692	743	1,506
Minimum	-18,079	-1,419	-877

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Notes: In Version A, the need-capacity gap facing the average student is set at its current level; in Version B, the cost savings from consolidation are calculated. See the text.

SOURCE: Nebraska Comprehensive Tax Study

need of each Class 6 district and all its affiliated Class 1 districts. The results of Version A are shown in the second column of Table 11-13. By design, the need-capacity gap facing the average student is the same in Version A and in the current districts, but this consolidation experiment greatly reduces the variation in fiscal condition across districts. As shown in the third row of Table 11-13, this experiment cuts the standard deviation of the need-capacity gap from \$2,785 to \$579 and also sharply reduces the range in gaps across districts.

This experiment, like the first, shows how consolidation can reduce the huge fiscal disparities that currently exist across school districts in Nebraska. Consolidating Class 6 districts with their affiliated Class 1 districts would go a long way toward equalizing the fiscal condition of all participating districts, with no increase in state resources. Similar gains could undoubtedly be achieved by consolidating unaffiliated Class 1 districts with Class 2, Class 3, or Class 6 districts.

Also as before, Version B of this experiment is to recalculate expenditure need for each new consolidated school district on the basis of its pooled characteristics, such as its share of handicapped students and its enrollment scale. In calculating its costs, we treat each new, consolidated district as either a Class 2 or a Class 3 district, depending on its population. Because we assume that the "left-over" spending differences between districts, as described earlier, represent cost differences, the elimination of Class 1 districts in this experiment leads to cost increases that offset the economies of scale achieved through consolidation. We emphasize again that this assumption is conservative, so this version of the experiment may greatly understate the cost savings that can be achieved through consolidation.

The results of Version B are presented in the third column of Table 11-13. As in the case of Version A, this experiment greatly lowers the variation in the need-capacity gap across school districts. Compared to the current system, the standard deviation of the gap drops from \$2,785 to \$632. In addition, the maximum gap is cut in half and the minimum gap is only -\$877 instead of

-\$18,079. Given our conservative assumptions, however, this version of the experiment does not lower the total cost of providing education in the participating districts. In fact, the gap facing the average student rises slightly because the economies of scale achieved by the new consolidated districts are not sufficient to offset the loss of the "cost" advantage of Class 1 districts. This result should not be interpreted to mean that consolidation would raise the cost of providing education, but it does indicate that with modest consolidation plans the cost savings may also be fairly modest. Even with modest consolidation plans, however, significant cost savings could arise if the observed "left-over" spending differences between Class 1 and other districts actually represent differences in service quality instead of cost differences.

### **Conclusions**

In our judgment, major changes in state educational policy are needed. The current system is far too complex, leads to far too much inequity across districts, and relies far too heavily on the property tax. To solve these problems, we recommend three steps:

- First, the state should design and implement a major school-district consolidation. Not only could such a plan dramatically reduce fiscal disparities across school districts, at no cost to the state government, but it also has the potential to save local taxpayers a significant amount of money by creating school districts that can take advantage of economies of scale.
- Second, the state should shift the emphasis in its educational aid programs away from incentive aid and foundation toward equalization aid, and it should redesign the equalization aid program so that it is more directed to districts in poor fiscal condition. To make it a true foundation aid program, that is, a program that helps all school districts provide at least the lowest acceptable quality of education, the foundation aid formula also should give more aid to districts with lower tax bases. Current aid programs actually exacerbate fiscal disparities across districts and need to be reformed. Because consolidation will greatly reduce fiscal disparities across districts, this second step should be taken after a consolidation plan is implemented; that is, state aid should be directed toward districts in the poorest fiscal health after consolidation.
- Third, the state should increase the budget for educational aid. This step will help reduce reliance on the property tax in Nebraska and will

bring Nebraska closer into line with the level of state aid to education in the rest of the nation.

## Appendix 11-A

### Calculating The Fiscal Condition of School Districts

The approach to fiscal condition used in this chapter draws heavily on previous work by Bradbury and Ladd and by Ladd and Yinger.<sup>21</sup>

#### Revenue Raising Capacity

**Revenue-Raising Capacity Through the Property Tax.** Revenue-raising capacity through the property tax is calculated in several steps.

First, we calculate the average burden for education taxes throughout the State. This is the sum of all property taxes collected for school districts, nonresident high school tuition, rural high school support and Educational Service Units divided by total aggregate household income in all school districts in the State. This is the average tax burden upon residents of the State to support education.

If all school districts in Nebraska were of the same class and therefore were responsible for grades K-12 and participated in ESUs then the second part of the calculation would simply be to multiply the average tax burden times each district's aggregate income. However, because there is some overlapping of responsibilities the capacity measure must take into account the portion of the average burden which is "used up" by each of the respective overlapping entities.

For each district in a county that participates in an ESU, we adjust the baseline tax burden by subtracting the average burden imposed by property taxes collected for ESUs in the state as a whole, which is 0.099 percent. In other words, we hold constant the baseline tax burden for regular districts and ESUs combine and assign to regular districts the share of the baseline tax

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<sup>21</sup>See Bradbury and Ladd, "Changes in the Revenue-Raising Capacity of U.S. Cities, 1970-1972," and H. Ladd and J. Yinger, *The Fiscal Health of U.S. Central Cities* (Baltimore: Johns Hopkins Press, forthcoming).



burden that is left after ESUs have claimed their share. Some districts are in counties that do not participate in ESUs, so their baseline burden is not adjusted by this factor.

Class 6 districts overlap almost completely with the Class 1's with which they are affiliated. These districts combined are tapping the same tax base to educate the respective grades for which they are responsible. We measure the average portion of the baseline burden that represents taxes collected by each class of district. Affiliated Class 1's raise 45 percent of the total taxes collected by affiliated Class 1's and Class 6's together. Therefore, the affiliated Class 1's available burden is set at 45 percent of the baseline burden or 2.555 percent. Likewise Class 6's are assessed the remaining portion of the baseline burden for education for grades 9-12 or 7-12, namely 55 percent of the baseline burden or 3.1 percent.

Class 1's that are not affiliated with Class 6's must pay a nonresident high school tuition tax. We sum the total nonresident high school tuition receipts by high schools to estimate the burden upon nonaffiliated Class 1's. We take the total taxes collected by nonaffiliated Class 1's and divide by the sum of total taxes collected by nonaffiliated Class 1's and our estimate of taxes collected for nonresident high school tuition. This proportion is multiplied by the baseline burden to arrive at the available burden for nonaffiliated Class 1's, namely 4.1 percent.

Class 2's, 3's, and Class 4 and Class 5 do not directly overlap with other districts so their average burden is identical to the baseline burden of 5.6 percent, except for the above described adjustments for ESUs, if applicable.

The next step, then, is to multiply the adjusted tax burden figure for each district by the aggregate income of the district and divide by the student enrollment to arrive at pre-export capacity per pupil from the property tax.

In order to account for the ability of most districts to export a portion of their property taxes to nonresidents, we estimate the portion of property owned by nonresidents in each districts. We do not know the amount of commercial property in each district but do know how

much of the property within a county and within a district is also located in cities and villages. We assume that all commercial property in a county is located in a city or village and we calculate the ratio of commercial property to total city/village property for each county. We assume that the ratio of commercial property to total city/village property is constant across all districts. Within each county we multiply the appropriate county ratio by the amount of city/village property within a district to arrive at our estimate of commercial property within each district.

Next, as explained in the text, we assume that 50 percent of all the taxes on commercial property, 25 percent of all the taxes on utility property, and 25 percent of all the taxes on personal property are exported. The export ratio equals nonresident taxes divided by resident taxes.

Finally, we calculate the revenue-raising capacity after exporting by multiplying capacity without exporting by one plus the export ratio.

**Revenue-Raising Capacity Through Charges and Miscellaneous Income.** Revenue-raising capacity through charges and miscellaneous income is calculated in three steps.

First, we sum all the charges and miscellaneous revenue collected by school districts in the state. Second, we divide this sum by the total aggregate income for school districts. This number becomes the average burden of charges and miscellaneous revenue. Third, by multiplying the average charge burden by each districts aggregate income and then dividing by the number of enrolled students we arrive at the revenue-raising capacity per student from charges and miscellaneous income.

**Revenue-Raising Capacity Adjustments for Interschool District Tuition Payments.** Many school districts in the state either send some of their students to other districts or receive students from other districts; in some cases they both send and receive students. The reasons for these exchanges vary, but each student sent or received must be accounted for in the capacity

measurements. We adjusted for interschool tuition payments by first summing all the tuition payment receipts across the state and dividing by the total number of nonresident students reported for all districts to obtain the average tuition payment for nonresident students. The capacity of each district that reported nonresident attendees is increased by the result of the average tuition payment multiplied by the number of nonresident attendees in the school. In addition, some districts receive payments for transporting students, and the actual transportation payments received by a district are also added to its capacity.

A district's capacity is reduced when it makes tuition payments to another district. If those payments were supported entirely by the property taxes of the residents we would simply subtract them from the revenue base available for that district's capacity. However, some state and federal aid payments go directly to a student's district of residence. Since these funds support a portion of the tuition payments, we subtract only 66 percent of tuition payments from the paying district's capacity, where on average 66 percent of total school district revenue comes from property taxes and other local sources..

Finally, total capacity per student is calculated by adding the capacity through property taxes and the capacity from charges and miscellaneous revenue and adjusting this sum by capacity gained or lost from interschool tuition and transportation payments.

### **Expenditure Need**

Education spending per pupil in the average district is found using the U.S. Bureau of the Census methodology for calculating current operating expenses of school districts. We make only one adjustment in the census method, namely to net out the payments made to other districts for tuition. This step eliminates the double counting of these payments, once for the payment from one district to another and once for the payment by the receiving district to its teachers, drivers, etc. Thus our basic measure of responsibility is equal to the average current expenditure per student, net of interschool payments.

We measure the costs associated with activities such as pre-kindergarten, summer school or adult education but found that, on average, offering these activities does not increase a district's average spending per student.

In addition, we could find no systematic variation in average spending due to participation or abstention from the ESU system. In order to better assess the cost effectiveness of the ESU system, one would have to have more complete data on the nature of the services provided by ESUs to each district, information on the number of students served directly by the ESUs, and data on expenditures by the nonparticipating districts on services that ESUs normally provide.

**Calculation of Public Service Costs.** Our measure of public service costs is calculated in three steps.

First, we calculate the impact of the various responsibility and costs factors, which we are described in the text, on spending for education, special education and transportation, controlling for other factors that influence spending. Spending can be defined as the service level multiplied by the cost per unit of services. Because we control for the determinants of the service level, we can isolate the impact of cost variables on the cost of education. (For more on this interpretation, see the references at the beginning of this appendix.)

In our approach, changes in any cost variable has a specific dollar impact on the spending per student. Let  $b_j$  be the estimated impact of the cost factor  $j$  on education and let  $C_{ij}$  be the observed value of the cost factor  $j$  in school district  $i$ . Then the cost of education in the school district  $i$  is the sum across all values of  $j$  of  $b_j * C_{ij}$ . Label this sum as  $SC_i$ , namely the sum of cost factors for education in school district  $i$ .

Third, we calculate the differences between  $SC_i$ , or predicted spending due to cost variations, and the average value of  $SC$  across for all districts. This difference, if positive, is the dollar amount per student above average that a school district must spend to reach an average

service level due to higher-than-average public service costs. If the difference is negative, the school district faces lower public service costs than average and therefore needs to spend less per student than the average district to provide an average service level.

A school district's expenditure need equals average spending per student in the state plus the difference calculated for variation between  $SC_i$  for that district and the average value of  $SC$  across all districts.

### **The Need-Capacity Gap**

The need-capacity gap is simply expenditure need minus revenue-raising capacity. For ease of interpretation, we standardize the gap so that it equals zero in the average school district. This step is done by calculating an adjustment factor, which equals to the ratio of average capacity to average expenditure need. We then multiply each district's capacity by this adjustment factor. In the average district, this adjusted capacity will equal expenditure need.

The enrollment, income per student, revenue-raising capacity, expenditure need, and need-capacity gap for 863 school districts are presented in Appendix 11-C. Districts left out of this table for one reason or another are listed in Appendix 11-B.

### **The Determinant of School District Spending**

We examined the determinants of school district spending using multiple regression analysis. We eliminate districts for which we had insufficient information as well as districts that contract all of their students. In addition, we exclude 4 districts with expenditures per student vastly greater than the average (in excess of \$10,000 per student). These districts are all very small and because of their unusually high spending per pupil, including them in our statistical analysis yields misleading results.

These regressions are based on the conceptual framework outlined in the text. They include two key demand variables, income and tax price; aid variables, from both the state and

federal government; miscellaneous revenue sources, such as charges; interschool receipts and payments for transportation and special education; and cost factors, including class of district, the proportion of secondary students, and the ratio of special education students to total enrollment. We found that for two variables, the estimated coefficients were quite different for school districts with enrollments of fewer than 20 students. So we defined a variable to identify small districts and interacted it with both the ratio of handicapped students and the ratio of eligible students. All of the variables included in our final regressions are defined in Table 11-A1. Our final expenditure regression results are presented in Tables 11-A2.

### **Policy Options**

In our evaluation of current state aid programs we employ two regression equations. In the first regression school districts' direct state aid receipts is the dependent variable and school districts' revenue-raising capacity and expenditure need are the independent variables. The results of this regression indicate that for every \$1 increase in a district's revenue-raising capacity, state aid receipts will increase about \$0.02. The results also indicate that there is no significant link between state-aid payments and a district's expenditure need.

In our second state-aid regression, direct state-aid receipts is the dependent variable and the need-capacity gap of school districts is the independent variable. The results indicate that for every increase of \$1 in need-capacity gap, state-aid receipts actually decline by about \$0.02. Our first state-aid regression reveals that the significant positive relationship between state-aid payments and revenue-raising capacity is responsible for the inverse relationship between state-aid payments and the need-capacity gap.

The details of the state-aid regressions are presented in Table 11-A3.

TABLE 11-A1

**DETERMINANTS OF SCHOOL DISTRICT SPENDING:  
VARIABLE DEFINITIONS**

**Dependent Variables**

TSPNDSTR Total current operating expense per student

**Explanatory Variables****Demand Variables**

LINCST Natural log of aggregate household income per student  
 TAXSHR Tax price ( $=1/(\text{total property}/\text{total students})$ )  
 SCALE Total district population 1979/total students

**Aid and Resource Variables**

FEDAIDST Total direct & indirect federal aid per student  
 STAIDST Total direct state aid per student  
 OTHLCLST Other local government aid per student  
 AMTC9ST Transportation payments received/total students  
 AMTC10ST Tuition payments received/total students  
 AMT253ST Transport payments/total students  
 AMT254ST Transport payments special ed./total students

**Cost Variables**

LSRESP Average current expenditure \* total students  
 COUNTST Special education students/total students  
 ELIGBLST Students eligible for transport/total students  
 PROPS Secondary students/total students

**Miscellaneous Variables**

PRILLOP County ratio private school students/  
total public students  
 POVRATE # of families with children in poverty/  
total # of families with children  
 CLASS1 =1 if Class 1;  
=0 if not Class 1  
 CLASS3 =1 if Class 3,4,5;  
=0 if not Class 3,4,5  
 ESUFLAG =1 if district is part of ESU;  
=0 if district is not part of ESU  
 RURAL Proportion of population living in rural area  
 SPCEDRST Special education tuition received/total students  
 SPCEDEST Special Education tuition paid/total students  
 TINY =1 if enrollment is fewer than 20 students;  
=0 if enrollment is greater than 20 students

**Interaction Variables**

ELGRUR ELIGBLST \* RURAL  
 ELGPROPS ELIGBLST \* PROPS  
 ELRURPS ELIGBLST \* RURAL \* PROPS  
 TINT1 TINY \* COUNTST  
 TINT2 TINY \* ELIGBLST

TABLE 11-A2

**DETERMINANTS OF SCHOOL DISTRICT SPENDING:  
REGRESSION RESULTS**

<u>INDEPENDENT VARIABLE</u>	<u>ESTIMATED COEFFICIENT</u>	<u>STANDARD ERROR</u>	<u>t-STATISTIC</u>
INTERCEP	8137.06925	1164.65910	0.0001
LINCST	233.74445	88.79167595	0.0086
TAXSHR	-40686070.66	9247348.34	0.0001
SCALE	23.57881630	5.97977049	0.0001
FEDAIDST	1.06017558	0.17104990	0.0001
STAIIDST	1.25520241	0.10269081	0.0001
OTHLCLST	0.88958456	0.22090753	0.0001
PRIROLLP	-1699.31662	399.17522	0.0001
SPCEDEST	-0.89407470	0.20441381	0.0001
LSRESP	-538.90744	48.54737720	0.0001
COUNTST	905.80011	528.34671	0.0868
ELIGBLST	8446.71731	4386.60408	0.0545
POVRATE	-191.39293	140.65849	0.1740
CLASS1	-2810.42791	264.67659	0.0001
CLASS3	-344.96837	128.81400	0.0076
SPCEDRST	0.69749224	2.45208686	0.7761
ESUFLAG	111.99026	96.26390252	0.2450
PROPS	790.89688	379.30079	0.0374
RURAL	-257.12848	228.17024	0.2601
ELGRUR	-7749.13329	4382.27555	0.0774
ELGPROPS	-19321.33184	9891.99085	0.0511
ELGRURPS	18326.88831	9864.47783	0.0635
AMTC9ST	3.34583330	6.58819486	0.6117
AMTC10ST	9.39489347	17.84887995	0.5988
AMT253ST	0.25358364	0.45751115	0.5795
AMT254ST	0.34663252	0.38657866	0.3702
TINT1	-1322.96983	576.00394	0.0219
TINT3	-805.65914	244.25479	0.0010
Number of Observations		865	
R <sup>2</sup>		0.6435	
Corrected R <sup>2</sup>		0.6320	
Sum of Squared Residuals		1103479384	
Standard Error of the Regression		611228873	
Mean of Dependent Variable		3501.409	

SOURCE: Nebraska Comprehensive Tax Study



TABLE 11-A3

STATE AID PAYMENTS:  
REGRESSION RESULTSVARIABLE DEFINITION**Independent Variable**

STAIDST = Direct state aid payments per student

**Dependent Variables**

TCAPF = Total revenue-raising capacity per student

NEED = Total expenditure need per student

GAP = Need-capacity gap per student

REGRESSION RESULTS                      Coefficients                      Error                      t-statisticRegression #1**Dependent Variable**

STATST

**Independent Variables**

Constant                      660.93325                      48.748948                      0.0001

TCAPF                      0.01756083                      0.000439257                      0.0001

NEED                      0.01500435                      0.01350842                      0.2676

**Regression Statistics**R<sup>2</sup>                      .0196Regression #2**Dependent Variable**

STATST

**Independent Variables**

Constant                      775.04429                      11.39387171                      0.0001

GAP                      -0.01589098                      0.004349438                      0.0003

**Regression Statistics**R<sup>2</sup>                      .0141

## APPENDIX 11-B

## SCHOOL DISTRICTS ELIMINATED FROM THE ANALYSIS

<u>District Number</u>	<u>District Name</u>	<u>Class</u>	<u>Enrollment (Average Daily Membership)</u>	<u>Status 1986-1987</u>
<b>Districts Eliminated Because Contracting District, No School Held, No Students, or Missing Median Household Aggregate Income:</b>				
10008	DIST 008 - ADAMS COUNTY	1	.	Contracting
20060	DIST 060 - ANTELOPE COUNTY	1	.	Contracting
30007	DIST 007 - ARTHUR COUNTY	1	.	Contracting
30033	DIST 033 - ARTHUR COUNTY	1	.	Contracting
60018	DIST 018 - BOONE COUNTY	1	.	Contracting
70008	DIST 008 - BOX BUTTE COUNTY	1	.	No Students
70016	DIST 016 - BOX BUTTE COUNTY	1	17.71	
70025	DIST 025 - BOX BUTTE COUNTY	1	32.31	
70100	DIST 100 - BOX BUTTE COUNTY	1	.	Contracting
70124	DIST 124 - BOX BUTTE COUNTY	1	11.76	
80007	DIST 007 - BOYD COUNTY	1	1.67	
80040	DIST 040 - BOYD COUNTY	1	.	Contracting
90013	DIST 013 - BROWN COUNTY	1	7.00	
90019	DIST 019 - BROWN COUNTY	1	.	Contracting
90065	DIST 065 - BROWN COUNTY	1	14.32	
100120	DIST 120 - BUFFALO COUNTY	1	57.83	
160114	DIST 114 - CHERRY COUNTY	1	3.00	
170014	DIST 014 - CHEYENNE COUNTY	1	.	Contracting
170039	DIST 039 - CHEYENNE COUNTY	1	.	Contracting
170075	DIST 075 - CHEYENNE COUNTY	1	10.42	
200010	DIST 010 - CUMING COUNTY	1	.	Contracting
200016	DIST 016 - CUMING COUNTY	1	.	Contracting
240003	DIST 003 - DAWSON COUNTY	1	29.63	
240048	DIST 048 - DAWSON COUNTY	1	.	No Students
270042	DIST 042 - DODGE COUNTY	1	.	Contracting
450009	DIST 009 - HOLT COUNTY	1	5.55	
450018	DIST 018 - HOLT COUNTY	1	12.00	
450039	DIST 039 - HOLT COUNTY	1	11.00	
450090	DIST 090 - HOLT COUNTY	1	6.00	
450205	DIST 205 - HOLT COUNTY	1	4.00	
490006	DIST 006 - JOHNSON COUNTY	1	.	Contracting
510009	DIST 009 - KEITH COUNTY	1	.	Contracting
510022	DIST 022 - KEITH COUNTY	1	5.00	
510027	DIST 027 - KEITH COUNTY	1	.	No School Held 85-86
520076	DIST 076 - KEYS COUNTY	1	8.97	

## APPENDIX 11-B (CONT.)

District Number	District Name	Class	Enrollment (Average Daily Membership)	Status 1986-1987
620093	DIST 093 - MORRILL COUNTY	1	.	No Students
630013	DIST 013 - NANCE COUNTY	1	4.00	
630055	DIST 055 - NANCE COUNTY	1	.	Contracting
660001	DIST 001 - OTOE COUNTY	1	8.00	
750055	DIST 055 - ROCK COUNTY	1	2.00	
810022	DIST 022 - SHERIDAN COUNTY	1	5.67	
810032	DIST 032 - SHERIDAN COUNTY	1	.	Contracting
810044	DIST 044 - SHERIDAN COUNTY	1	1.98	
810062	DIST 062 - SHERIDAN COUNTY	1	11.01	
810064	DIST 064 - SHERIDAN COUNTY	1	8.00	
810069	DIST 069 - SHERIDAN COUNTY	1	10.55	
810078	DIST 078 - SHERIDAN COUNTY	1	.	No Students
810127	DIST 127 - SHERIDAN COUNTY	1	10.00	
810132	DIST 132 - SHERIDAN COUNTY	1	.	
810141	DIST 141 - SHERIDAN COUNTY	1	5.56	
830047	DIST 047 - SIOUX COUNTY	1	.	Contracting 85-86
830065	DIST 065 - SIOUX COUNTY	1	.	Contracting
830068	DIST 068 - SIOUX COUNTY	1	2.00	
830073	DIST 073 - SIOUX COUNTY	1	6.00	
840002	DIST 002 - STANTON COUNTY	1	.	Contracting
880019	DIST 019 - VALLEY COUNTY	1	4.00	
880029	DIST 029 - VALLEY COUNTY	1	.	Contracting
900068	DIST 068 - WAYNE COUNTY	1	.	Contracting

**Additional Districts Removed from Regression Analysis Only:**

20015	DIST 015 - ANTELOPE COUNTY	1	1
30500	ARTHUR COUNTY HIGH SCHOOL	6	36
40038	DIST 038 - HALL COUNTY	1	3
930073	DIST 073 - YORK COUNTY	1	2

Note: In 1985-86 there were 33 contracting districts and four no school held districts; in 1986-87 there were 36 contracting districts and seven no school held districts. Between the two years, there was an overlap of 20 contracting districts and one no school held.

SOURCE: Nebraska Comprehensive Tax Study.

## APPENDIX 11-C

NEED-CAPACITY GAPS IN NEBRASKA SCHOOL DISTRICTS,  
FY 1986

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
10001	JUNIATA ELEMENTARY SCHOOL	1	1942	( 11)	1923	(197)	19	(300)	142
10003	KENESAW PUBLIC SCHOOLS	3	4506	(736)	3343	(517)	1163	(581)	247
10011	DIST 011 - ADAMS COUNTY	1	2611	( 86)	1749	(165)	862	(490)	38
10015	DIST 015 - ADAMS COUNTY	1	2619	( 88)	7368	(816)	-4750	( 35)	57
10018	HASTINGS PUBLIC SCHOOLS	3	3234	(417)	4985	(734)	-1750	(118)	3,264
10029	DIST 029 - ADAMS COUNTY	1	2961	(266)	15589	(856)	-12628	( 8)	13
10033	DIST 033 - ADAMS COUNTY	1	2638	( 91)	3504	(546)	-867	(181)	42
10053	DIST 053 - ADAMS COUNTY	1	2603	( 85)	3324	(510)	-721	(197)	29
10060	DIST 060 - ADAMS COUNTY	1	2325	( 34)	2474	(324)	-150	(271)	86
10067	DIST 067 - ADAMS COUNTY	1	2809	(162)	2341	(287)	468	(384)	25
10075	DIST 075 - ADAMS COUNTY	1	3101	(351)	3748	(596)	-647	(207)	23
10090	ADAMS CENTRAL JR-SR HIGH SCH	6	4826	(786)	4943	(730)	-117	(277)	349
10123	SILVER LAKE PUBLIC SCHOOLS	3	4357	(697)	3104	(450)	1253	(606)	277
20004	DIST 004 - ANTELOPE COUNTY	1	2862	(196)	1842	(184)	1020	(537)	21
20006	CLEARWATER PUBLIC SCHOOLS	2	4783	(782)	1869	(190)	2913	(854)	224
20009	NELIGH-OAKDALE SCHOOLS	3	3919	(601)	3304	(503)	615	(423)	567
20018	ELGIN PUBLIC SCHOOLS	3	4538	(743)	3654	(575)	885	(496)	174
20024	DIST 024 - ANTELOPE COUNTY	1	2837	(182)	2076	(237)	761	(468)	15
20035	DIST 035 - ANTELOPE COUNTY	1	3276	(439)	1891	(194)	1385	(645)	8
20038	DIST 038 - ANTELOPE COUNTY	1	3156	(382)	1066	( 54)	2090	(788)	10
20049	ORCHARD PUBLIC SCHOOLS	2	4951	(796)	3331	(512)	1620	(711)	192
20052	DIST 052 - ANTELOPE COUNTY	1	2944	(258)	1237	( 73)	1707	(722)	14
20097	DIST 097 - ANTELOPE COUNTY	1	3431	(501)	2454	(319)	977	(521)	6
20113	DIST 113 - ANTELOPE COUNTY	1	3072	(331)	2272	(269)	800	(479)	20
20114	DIST 114 - ANTELOPE COUNTY	1	3157	(385)	0	( 6)	3157	(859)	9
30001	DIST 001 - ARTHUR COUNTY	1	3341	(464)	2266	(264)	1076	(553)	6
30012	DIST 012 - ARTHUR COUNTY	1	3054	(319)	1635	(135)	1419	(656)	11
30032	DIST 032 - ARTHUR COUNTY	1	2735	(116)	2338	(285)	397	(371)	48
40001	BANNER COUNTY PUBLIC SCHOOLS	3	4583	(751)	2799	(379)	1785	(738)	212
50071	SANDHILLS PUBLIC SCHOOLS	3	4654	(764)	2479	(326)	2175	(806)	204
60001	ALBION PUBLIC SCHOOLS	3	4126	(641)	3895	(623)	231	(337)	478
60006	CEDAR RAPIDS PUBLIC SCHOOLS	3	4583	(750)	3919	(628)	664	(437)	187
60009	DIST 009 - BOONE COUNTY	1	2902	(228)	1752	(168)	1150	(577)	15
60013	DIST 013 - BOONE COUNTY	1	2869	(203)	3323	(509)	-454	(231)	16
60017	ST EDWARD PUBLIC SCHOOLS	3	4440	(714)	3376	(524)	1064	(548)	235
60020	DIST 020 - BOONE COUNTY	1	2938	(250)	1657	(138)	1281	(614)	15
60036	PETERSBURG PUBLIC SCHOOLS	2	5218	(836)	3684	(586)	1534	(692)	92
60041	DIST 041 - BOONE COUNTY	1	2595	( 81)	1838	(183)	757	(464)	33
60045	DIST 045 - BOONE COUNTY	1	2748	(122)	1030	( 47)	1718	(723)	25
60049	DIST 049 - BOONE COUNTY	1	2928	(247)	6829	(800)	-3901	( 53)	14
60057	DIST 057 - BOONE COUNTY	1	2742	(119)	2253	(262)	489	(388)	19
60060	DIST 060 - BOONE COUNTY	1	3038	(308)	7287	(814)	-4249	( 41)	12
60074	DIST 074 - BOONE COUNTY	1	2705	(104)	1251	( 75)	1454	(669)	29
70001	DIST 001 - BOX BUTTE COUNTY	1	2862	(198)	3685	(587)	-823	(187)	17
70002	DIST 002 - BOX BUTTE COUNTY	1	3008	(294)	5567	(763)	-2558	( 90)	19
70006	ALLIANCE CITY SCHOOLS	3	3268	(433)	4290	(682)	-1023	(167)	2,204
70010	HEMINGFORD PUBLIC SCHOOLS	3	4147	(644)	3327	(511)	820	(483)	377
70022	DIST 022 - BOX BUTTE COUNTY	1	3398	(489)	359	( 11)	3040	(857)	21
70039	DIST 039 - BOX BUTTE COUNTY	1	2730	(112)	3016	(431)	-286	(253)	33
70040	DIST 040 - BOX BUTTE COUNTY	1	3134	(367)	2115	(242)	1019	(536)	32
70042	DIST 042 - BOX BUTTE COUNTY	1	2801	(155)	3665	(582)	-865	(182)	38
70044	DIST 044 - BOX BUTTE COUNTY	1	3141	(370)	1585	(122)	1556	(701)	36
70065	DIST 065 - BOX BUTTE COUNTY	1	2905	(233)	1456	( 98)	1449	(665)	15
80005	BUTTE PUBLIC SCHOOLS	2	5047	(809)	3088	(445)	1959	(767)	150
80017	SPENCER PUBLIC SCHOOLS	3	4460	(722)	2411	(307)	2049	(783)	231
80021	NAPER PUBLIC SCHOOLS	2	5604	(859)	3459	(540)	2144	(800)	56

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
80036	LYNCH PUBLIC SCHOOLS	3	4746	(777)	2920	(407)	1826	(747)	148
90003	DIST 003 - BROWN COUNTY	1	2763	(130)	1676	(144)	1087	(555)	20
90004	DIST 004 - BROWN COUNTY	1	2204	( 25)	1408	( 89)	795	(475)	72
90007	DIST 007 - BROWN COUNTY	1	3268	(434)	3212	(474)	56	(309)	8
90009	DIST 009 - BROWN COUNTY	1	2400	( 45)	1994	(214)	406	(374)	47
90010	AINSWORTH PUBLIC SCHOOLS	3	3993	(611)	3708	(589)	285	(348)	539
90014	DIST 014 - BROWN COUNTY	1	3149	(376)	1065	( 53)	2083	(787)	11
90017	DIST 017 - BROWN COUNTY	1	3085	(342)	2106	(240)	979	(524)	11
90020	DIST 020 - BROWN COUNTY	1	2835	(181)	2840	(387)	-5	(295)	18
90021	DIST 021 - BROWN COUNTY	1	2881	(213)	3657	(578)	-776	(191)	16
90053	DIST 053 - BROWN COUNTY	1	3344	(465)	3405	(529)	-61	(284)	7
90576	DIST 576 - BROWN COUNTY	1	3805	(586)	4529	(698)	-724	(196)	3
100002	GIBBON PUBLIC SCHOOLS	3	3999	(612)	2418	(310)	1582	(706)	575
100007	KEARNEY PUBLIC SCHOOLS	3	3084	(340)	4263	(680)	-1179	(156)	3,898
100009	ELM CREEK PUBLIC SCHOOLS	3	4365	(700)	2917	(405)	1448	(663)	286
100012	DIST 012 - BUFFALO COUNTY	1	3094	(344)	1652	(137)	1443	(660)	25
100014	DIST 014 - BUFFALO COUNTY	1	2163	( 22)	0	( 1)	2163	(803)	110
100015	DIST 015 - BUFFALO COUNTY	1	2494	( 61)	3655	(576)	-1161	(158)	56
100016	DIST 016 - BUFFALO COUNTY	1	3029	(301)	1210	( 68)	1818	(745)	23
100019	SHELTON PUBLIC SCHOOLS	3	4354	(696)	3284	(496)	1070	(549)	298
100028	DIST 028 - BUFFALO COUNTY	1	2865	(201)	7066	(807)	-4201	( 44)	17
100036	DIST 036 - BUFFALO COUNTY	1	2956	(265)	1492	(105)	1464	(673)	20
100045	DIST 045 - BUFFALO COUNTY	1	3530	(526)	1736	(161)	1793	(740)	5
100052	DIST 052 - BUFFALO COUNTY	1	3363	(480)	1878	(192)	1485	(681)	7
100065	DIST 065 - BUFFALO COUNTY	1	3348	(466)	3224	(479)	125	(320)	7
100069	RAVENNA PUBLIC SCHOOLS	3	4216	(660)	3406	(530)	810	(480)	424
100071	DIST 071 - BUFFALO COUNTY	1	3222	(413)	2211	(253)	1011	(532)	8
100094	DIST 094 - BUFFALO COUNTY	1	3072	(330)	2313	(279)	759	(467)	12
100105	PLEASANTON PUBLIC SCHOOLS	3	4457	(721)	2040	(232)	2417	(828)	248
100114	DIST 114 - BUFFALO COUNTY	1	2774	(135)	4731	(717)	-1957	(108)	38
100119	AMHERST PUBLIC SCHOOLS	2	5123	(821)	4150	(660)	973	(520)	153
110001	TEKAMAH-HERMAN SCHOOLS	3	3859	(596)	3211	(473)	648	(434)	686
110014	OAKLAND CRAIG PUBLIC SCHOOLS	3	4248	(669)	3938	(633)	310	(353)	389
110020	LYONS-DECATUR NORTHEAST	3	4128	(642)	4054	(643)	74	(316)	495
110031	DIST 031 - BURT COUNTY	1	3213	(406)	716	( 24)	2497	(831)	9
110037	DIST 037 - BURT COUNTY	1	3463	(512)	445	( 13)	3018	(856)	6
120001	DIST 001 - BUTLER COUNTY	1	3161	(388)	1241	( 74)	1920	(757)	10
120002	DIST 002 - BUTLER COUNTY	1	3037	(306)	4142	(658)	-1105	(162)	12
120003	DIST 003 - BUTLER COUNTY	1	2938	(255)	1714	(154)	1224	(594)	13
120017	DIST 017 - BUTLER COUNTY	1	3136	(368)	1750	(166)	1386	(646)	31
120024	DIST 024 - BUTLER COUNTY	1	4023	(619)	17258	(859)	-13235	( 7)	2
120025	DIST 025 - BUTLER COUNTY	1	2731	(113)	2329	(284)	402	(373)	28
120032	RISING CITY PUBLIC SCHOOLS	2	5123	(820)	4231	(676)	892	(500)	121
120056	DAVID CITY PUBLIC SCHOOLS	3	4207	(655)	6806	(799)	-2599	( 88)	370
120080	DIST 080 - BUTLER COUNTY	1	2814	(167)	3578	(564)	-764	(193)	22
120086	DIST 086 - BUTLER COUNTY	1	2421	( 49)	1059	( 52)	1362	(640)	50
120501	DIST 501 - BUTLER COUNTY	1	3003	(292)	3053	(440)	-50	(286)	25
120502	EAST BUTLER PUBLIC SCHOOLS	3	4442	(717)	3280	(493)	1162	(579)	318
120503	BELLWOOD ELEMENTARY SCHOOL	1	2208	( 26)	2038	(231)	170	(329)	139
130001	PLATTSMOUTH PUBLIC SCHOOLS	3	3778	(579)	3245	(483)	533	(403)	1,444
130010	DIST 010 - CASS COUNTY	1	2964	(268)	2839	(386)	124	(319)	20
130012	DIST 012 - CASS COUNTY	1	3758	(577)	17458	(861)	-13699	( 6)	3
130022	WEEPING WATER PUBLIC SCHOOLS	3	4278	(676)	3756	(597)	521	(398)	324
130025	DIST 025 - CASS COUNTY	1	3678	(566)	7532	(820)	-3854	( 57)	4
130028	DIST 028 - CASS COUNTY	1	2455	( 54)	2316	(281)	139	(323)	57
130030	DIST 030 - CASS COUNTY	1	2938	(251)	1683	(147)	1254	(607)	15
130032	LOUISVILLE PUBLIC SCHOOLS	3	4305	(681)	3895	(621)	411	(375)	379
130041	DIST 041 - CASS COUNTY	1	3348	(467)	1877	(191)	1471	(675)	7

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
130056	CONESTOGA PUBLIC SCHOOLS	3	4132	(643)	3124	(454)	1008	(530)	518
130058	DIST 058 - CASS COUNTY	1	3105	(356)	865	( 35)	2239	(813)	11
130079	DIST 079 - CASS COUNTY	1	3053	(318)	1688	(148)	1365	(641)	12
130088	DIST 088 - CASS COUNTY	1	3142	(371)	3363	(521)	-222	(261)	10
130095	ELMWOOD PUBLIC SCHOOLS	3	4725	(775)	4085	(649)	640	(431)	176
130096	DIST 096 - CASS COUNTY	1	3058	(321)	2989	(420)	69	(315)	12
130507	MURDOCK PUBLIC SCHOOLS	2	4991	(801)	3661	(580)	1330	(630)	167
140008	HARTINGTON PUBLIC SCHOOLS	3	4342	(693)	5388	(753)	-1046	(166)	356
140011	DIST 011 - CEDAR COUNTY	1	2875	(207)	3563	(561)	-688	(203)	17
140045	RANDOLPH PUBLIC SCHOOLS	3	4167	(647)	2711	(364)	1456	(670)	448
140054	LAUREL-CONCORD PUBLIC SCHOOLS	3	4162	(646)	2719	(366)	1443	(659)	442
140057	DIST 057 - CEDAR COUNTY	1	2851	(191)	6353	(784)	-3502	( 64)	18
140101	WYNOT PUBLIC SCHOOLS	3	4807	(784)	3255	(486)	1552	(697)	158
140541	COLERIDGE COMMUNITY SCHOOL	3	4572	(748)	3013	(430)	1559	(703)	203
150003	IMPERIAL ELEMENTARY SCHOOL	1	1494	( 3)	1827	(179)	-333	(248)	422
150012	DIST 012 - CHASE COUNTY	1	2462	( 56)	1081	( 57)	1381	(643)	76
150015	CHASE COUNTY HIGH SCHOOL	6	4994	(803)	4749	(718)	245	(341)	233
150031	WAUNETA PUBLIC SCHOOLS	3	4416	(710)	3175	(465)	1241	(600)	239
150042	DIST 042 - CHASE COUNTY	1	2878	(210)	1671	(141)	1207	(589)	42
150066	DIST 066 - CHASE COUNTY	1	3269	(435)	1718	(156)	1551	(696)	22
160001	VALENTINE ELEMENTARY SCHOOLS	1	1533	( 4)	2500	(332)	-967	(170)	400
160004	DIST 004 - CHERRY COUNTY	1	2726	(109)	4755	(719)	-2029	(102)	20
160005	DIST 005 - CHERRY COUNTY	1	2862	(197)	2308	(278)	554	(409)	15
160006	VALENTINE RURAL HIGH SCHOOL	6	5220	(837)	7733	(826)	-2513	( 93)	252
160007	DIST 007 - CHERRY COUNTY	1	3216	(410)	2819	(385)	398	(372)	31
160016	DIST 016 - CHERRY COUNTY	1	2940	(256)	2972	(417)	-32	(289)	20
160026	DIST 026 - CHERRY COUNTY	1	3241	(423)	1729	(158)	1512	(686)	7
160030	CODY-KILGORE PUBLIC SCHOOL	2	5314	(848)	3053	(441)	2261	(815)	109
160031	DIST 031 - CHERRY COUNTY	1	3623	(550)	4010	(638)	-387	(241)	4
160045	DIST 045 - CHERRY COUNTY	1	3271	(436)	3206	(469)	65	(313)	7
160052	DIST 052 - CHERRY COUNTY	1	3151	(378)	7476	(819)	-4324	( 38)	9
160053	DIST 053 - CHERRY COUNTY	1	3105	(357)	9515	(844)	-6410	( 22)	11
160061	DIST 061 - CHERRY COUNTY	1	3258	(428)	565	( 16)	2693	(846)	8
160065	DIST 065 - CHERRY COUNTY	1	3654	(564)	2671	(357)	983	(525)	4
160070	DIST 070 - CHERRY COUNTY	1	2873	(205)	1784	(173)	1089	(558)	38
160071	DIST 071 - CHERRY COUNTY	1	3070	(327)	6633	(791)	-3563	( 63)	10
160078	DIST 078 - CHERRY COUNTY	1	3160	(386)	662	( 19)	2498	(832)	9
160083	DIST 083 - CHERRY COUNTY	1	3168	(393)	2061	(235)	1107	(564)	9
160100	DIST 100 - CHERRY COUNTY	1	3538	(539)	4482	(693)	-945	(172)	5
160101	DIST 101 - CHERRY COUNTY	1	3508	(521)	3879	(615)	-371	(242)	5
160117	DIST 117 - CHERRY COUNTY	1	3523	(523)	2028	(228)	1495	(683)	4
160127	DIST 127 - CHERRY COUNTY	1	2830	(175)	4255	(679)	-1425	(138)	15
160128	DIST 128 - CHERRY COUNTY	1	3072	(329)	863	( 34)	2208	(811)	22
160134	DIST 134 - CHERRY COUNTY	1	3465	(513)	2508	(333)	957	(512)	5
160136	DIST 136 - CHERRY COUNTY	1	2909	(237)	4567	(701)	-1659	(122)	13
160143	DIST 143 - CHERRY COUNTY	1	3429	(498)	4952	(731)	-1523	(132)	6
160167	DIST 167 - CHERRY COUNTY	1	3302	(453)	4243	(678)	-941	(173)	7
160170	DIST 170 - CHERRY COUNTY	1	3431	(502)	1713	(153)	1718	(724)	6
160178	DIST 178 - CHERRY COUNTY	1	3610	(549)	2589	(348)	1022	(538)	3
160180	DIST 180 - CHERRY COUNTY	1	2834	(178)	1586	(124)	1248	(602)	16
160190	DIST 190 - CHERRY COUNTY	1	3335	(462)	2410	(305)	925	(504)	6
170001	SIDNEY PUBLIC SCHOOLS	3	3795	(583)	4147	(659)	-352	(245)	1,160
170003	LEYTON PUBLIC SCHOOLS	3	4512	(739)	3216	(475)	1296	(622)	242
170009	POTTER PUBLIC SCHOOLS	3	4632	(762)	3625	(569)	1007	(529)	146
170012	DIST 012 - CHEYENNE COUNTY	1	3262	(429)	665	( 20)	2597	(839)	23
170032	DIST 032 - CHEYENNE COUNTY	1	3805	(587)	3251	(485)	554	(408)	3
170033	DIST 033 - CHEYENNE COUNTY	1	3363	(482)	2392	(300)	972	(519)	34
170077	DIST 077 - CHEYENNE COUNTY	1	3102	(352)	595	( 17)	2506	(834)	11

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
170097	DIST 097 - CHEYENNE COUNTY	1	3104	(355)	7325	(815)	-4222	( 43)	9
170504	LODGEPOLE PUBLIC SCHOOLS	2	4954	(797)	4542	(699)	412	(376)	144
180002	SUTTON PUBLIC SCHOOLS	3	4216	(659)	3417	(534)	799	(478)	408
180011	HARVARD PUBLIC SCHOOLS	3	4239	(668)	2809	(381)	1430	(657)	345
180064	DIST 064 - CLAY COUNTY	1	2990	(287)	3407	(531)	-417	(237)	14
180070	CLAY CENTER PUBLIC SCHOOLS	3	4484	(728)	3426	(536)	1058	(547)	218
180072	DIST 072 - CLAY COUNTY	1	3033	(304)	1108	( 60)	1925	(759)	13
180101	TRUMBULL PUBLIC SCHOOLS	2	5088	(814)	3542	(557)	1546	(694)	139
180501	SANDY CREEK SCHOOLS	3	4214	(658)	2963	(414)	1251	(605)	446
190001	DIST 001 - COLFAX COUNTY	1	2337	( 37)	1776	(171)	561	(410)	105
190002	SCHUYLER GRADE SCHOOLS	1	1390	( 2)	2339	(286)	-949	(171)	601
190024	DIST 024 - COLFAX COUNTY	1	2736	(117)	3307	(504)	-571	(215)	46
190030	DIST 030 - COLFAX COUNTY	1	2975	(277)	3141	(459)	-166	(268)	14
190039	LEIGH PUBLIC SCHOOLS	3	4491	(729)	2586	(347)	1905	(754)	232
190056	DIST 056 - COLFAX COUNTY	1	2889	(218)	2000	(217)	889	(497)	16
190058	CLARKSON PUBLIC SCHOOLS	3	4782	(781)	5683	(766)	-901	(178)	160
190059	HOWELLS PUBLIC SCHOOLS	3	4736	(776)	4471	(691)	264	(344)	193
190123	SCHUYLER CENTRAL HIGH SCHOOL	6	5117	(819)	6676	(794)	-1560	(129)	339
190501	DIST 501 - COLFAX COUNTY	1	2856	(192)	2345	(288)	510	(396)	23
190504	DIST 504 - COLFAX COUNTY	1	2967	(269)	2116	(243)	851	(489)	20
190505	DIST 505 - COLFAX COUNTY	1	2779	(141)	1516	(106)	1264	(609)	19
190511	DIST 511 - COLFAX COUNTY	1	2992	(288)	4660	(709)	-1669	(120)	14
200001	WEST POINT PUBLIC SCHOOLS	3	3892	(599)	5496	(759)	-1604	(126)	650
200017	DIST 017 - CUMING COUNTY	1	3249	(426)	35	( 7)	3214	(860)	8
200019	DIST 019 - CUMING COUNTY	1	3015	(299)	9565	(845)	-6551	( 21)	13
200020	BANCROFT-ROSALIE COMMUNITY SC	3	4301	(680)	2451	(318)	1850	(750)	239
200021	DIST 021 - CUMING COUNTY	1	3108	(361)	1448	( 97)	1660	(715)	11
200022	DIST 022 - CUMING COUNTY	1	3348	(475)	5709	(768)	-2361	( 97)	7
200030	WISNER-PILGER PUBLIC SCHOOLS	3	4068	(628)	3878	(614)	190	(332)	477
200032	DIST 032 - CUMING COUNTY	1	3026	(300)	1790	(174)	1236	(599)	13
200033	DIST 033 - CUMING COUNTY	1	2975	(278)	2408	(304)	567	(412)	14
200034	DIST 034 - CUMING COUNTY	1	3469	(516)	6914	(802)	-3446	( 65)	6
200055	BEEMER PUBLIC SCHOOLS	3	4547	(744)	3315	(506)	1232	(598)	201
200081	DIST 081 - CUMING COUNTY	1	3145	(374)	7080	(808)	-3934	( 52)	10
200082	DIST 082 - CUMING COUNTY	1	2536	( 70)	1442	( 96)	1095	(561)	55
210015	ANSELMO-MERNA PUBLIC SCHOOLS	3	4408	(709)	3255	(487)	1153	(578)	295
210017	DIST 017 - CUSTER COUNTY	1	3348	(468)	2651	(353)	697	(450)	7
210025	BROKEN BOW PUBLIC SCHOOLS	3	3808	(592)	3525	(552)	283	(347)	952
210039	DIST 039 - CUSTER COUNTY	1	2815	(168)	2372	(296)	444	(380)	18
210044	ANSLEY PUBLIC SCHOOLS	3	4520	(742)	3893	(619)	627	(427)	216
210063	DIST 063 - CUSTER COUNTY	1	3219	(412)	551	( 15)	2669	(844)	9
210066	DIST 066 - CUSTER COUNTY	1	3078	(337)	1521	(107)	1558	(702)	11
210075	DIST 075 - CUSTER COUNTY	1	2784	(142)	856	( 32)	1929	(762)	18
210084	SARGENT PUBLIC SCHOOLS	3	4398	(705)	966	( 41)	3432	(862)	257
210089	ARNOLD PUBLIC SCHOOLS	3	4364	(699)	3895	(622)	468	(385)	269
210096	DIST 096 - CUSTER COUNTY	1	2728	(110)	1067	( 56)	1661	(716)	20
210122	DIST 122 - CUSTER COUNTY	1	3436	(506)	1457	(100)	1980	(771)	6
210153	DIST 153 - CUSTER COUNTY	1	3276	(440)	1389	( 84)	1887	(752)	8
210164	DIST 164 - CUSTER COUNTY	1	3207	(404)	303	( 9)	2905	(852)	9
210169	DIST 169 - CUSTER COUNTY	1	2663	( 94)	1968	(208)	695	(449)	41
210180	CALLAWAY PUBLIC SCHOOLS	3	4589	(754)	3515	(549)	1074	(551)	213
210234	DIST 234 - CUSTER COUNTY	1	2487	( 60)	1768	(170)	719	(455)	45
210256	DISTRICT 256-OCONTO	1	2797	(150)	1274	( 76)	1522	(688)	36
210284	DIST 284 - CUSTER COUNTY	1	2907	(236)	1603	(127)	1303	(623)	13
210523	DIST 523 - CUSTER COUNTY	1	2920	(242)	1798	(175)	1122	(567)	36
220004	DIST 004 - DAKOTA COUNTY	1	2444	( 52)	1475	(102)	969	(518)	65
220006	DIST 006 - DAKOTA COUNTY	1	2728	(111)	1859	(189)	869	(492)	31
220011	SOUTH SIOUX CITY PUBLIC SCHOO	3	3302	(452)	3538	(555)	-236	(258)	2,487

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
220031	HOMER COMMUNITY SCHOOLS	3	4329	(687)	2781	(377)	1548	(695)	381
230002	CHADRON PUBLIC SCHOOLS	3	3799	(584)	3979	(637)	-179	(267)	978
230003	DIST 003 - DAWES COUNTY	1	2773	(134)	1628	(134)	1145	(576)	55
230028	DIST 028 - DAWES COUNTY	1	3132	(365)	3545	(558)	-414	(238)	25
230039	DIST 039 - DAWES COUNTY	1	2989	(286)	1399	( 87)	1591	(707)	12
230041	DIST 041 - DAWES COUNTY	1	3073	(332)	2497	(331)	576	(415)	9
230044	DIST 044 - DAWES COUNTY	1	3431	(500)	2729	(368)	702	(451)	6
230047	DIST 047 - DAWES COUNTY	1	3317	(457)	2520	(336)	798	(477)	7
230049	DIST 049 - DAWES COUNTY	1	2947	(260)	4374	(687)	-1427	(137)	30
230053	DIST 053 - DAWES COUNTY	1	2901	(227)	1672	(143)	1229	(595)	15
230060	DIST 060 - DAWES COUNTY	1	2818	(169)	1985	(211)	833	(485)	18
230062	DIST 062 - DAWES COUNTY	1	2748	(121)	3003	(425)	-255	(256)	20
230069	DIST 069 - DAWES COUNTY	1	3075	(334)	1066	( 55)	2009	(776)	37
230070	DIST 070 - DAWES COUNTY	1	2956	(264)	2008	(220)	948	(508)	14
230071	CRAWFORD PUBLIC SCHOOLS	3	4383	(701)	3804	(607)	579	(416)	253
230084	DIST 084 - DAWES COUNTY	1	3407	(492)	1851	(188)	1556	(700)	6
230092	DIST 092 - DAWES COUNTY	1	3443	(508)	5248	(744)	-1805	(116)	5
240001	LEXINGTON PUBLIC SCHOOLS	3	3567	(543)	3799	(604)	-232	(259)	1,602
240002	DIST 002 - DAWSON COUNTY	1	2797	(151)	3020	(432)	-223	(260)	19
240004	VERTON PUBLIC SCHOOLS	3	4443	(718)	2967	(415)	1476	(676)	251
240007	DIST 007 - DAWSON COUNTY	1	2841	(185)	1396	( 86)	1446	(662)	32
240011	COZAD CITY SCHOOLS	3	3950	(604)	4100	(653)	-150	(272)	929
240012	DIST 012 - DAWSON COUNTY	1	2879	(211)	1615	(131)	1263	(608)	17
240013	DIST 013 - DAWSON COUNTY	1	2833	(177)	3408	(532)	-575	(214)	17
240015	DIST 015 - DAWSON COUNTY	1	2901	(226)	3395	(526)	-494	(224)	45
240016	DIST 016 - DAWSON COUNTY	1	2954	(263)	1689	(149)	1265	(610)	23
240017	DIST 017 - DAWSON COUNTY	1	2554	( 77)	5536	(761)	-2982	( 73)	36
240018	DIST 018 - DAWSON COUNTY	1	3714	(569)	7891	(830)	-4178	( 46)	4
240019	DIST 019 - DAWSON COUNTY	1	2905	(235)	0	( 4)	2905	(853)	16
240020	GOTHENBURG PUBLIC SCHOOLS	3	3928	(603)	2915	(403)	1013	(533)	821
240022	DIST 022 - DAWSON COUNTY	1	2857	(193)	7102	(810)	-4245	( 42)	30
240025	DIST 025 - DAWSON COUNTY	1	2968	(270)	2133	(245)	835	(486)	14
240027	DIST 027 - DAWSON COUNTY	1	2969	(273)	3403	(528)	-434	(234)	16
240029	DIST 029 - DAWSON COUNTY	1	2942	(257)	1543	(113)	1399	(651)	38
240032	DIST 032 - DAWSON COUNTY	1	3161	(389)	2560	(345)	601	(421)	10
240044	DIST 044 - DAWSON COUNTY	1	3283	(447)	1007	( 45)	2276	(818)	8
240047	DIST 047 - DAWSON COUNTY	1	3462	(511)	17405	(860)	-13942	( 5)	8
240051	FARNAM PUBLIC SCHOOLS	2	5362	(850)	3322	(508)	2040	(780)	102
240081	DIST 081 - DAWSON COUNTY	1	2680	( 97)	1395	( 85)	1285	(616)	31
240100	DIST 100 - DAWSON COUNTY	1	2612	( 87)	1319	( 79)	1294	(620)	36
240101	SUMNER-EDDYVILLE-MILLER SCH	3	4566	(747)	3065	(443)	1501	(684)	186
250001	CHAPPELL PUBLIC SCHOOLS	3	4327	(685)	3717	(592)	610	(422)	283
250080	BIG SPRINGS PUBLIC SCHOOLS	3	4602	(756)	3635	(573)	966	(516)	171
260001	PONCA PUBLIC SCHOOLS	3	4295	(678)	3010	(428)	1285	(617)	330
260024	NEWCASTLE PUBLIC SCHOOLS	3	4472	(723)	1664	(140)	2808	(849)	265
260054	DIST 054 - DIXON COUNTY	1	2938	(252)	2888	(399)	49	(308)	15
260059	DIST 059 - DIXON COUNTY	1	3802	(585)	6607	(790)	-2805	( 81)	3
260062	DIST 062 - DIXON COUNTY	1	2839	(183)	2991	(421)	-152	(270)	18
260070	ALLEN PUBLIC SCHOOLS	3	4508	(738)	2548	(342)	1960	(768)	248
260561	EMERSON-HUBBARD PUB SCHOOLS	3	4399	(706)	3712	(591)	688	(445)	344
270001	FREMONT PUBLIC SCHOOLS	3	3053	(317)	4073	(646)	-1020	(168)	4,348
270008	NORTH BEND ELEMENTARY SCHOOL	1	1839	( 8)	2971	(416)	-1132	(161)	167
270012	DIST 012 - DODGE COUNTY	1	3247	(424)	3746	(595)	-500	(223)	8
270019	DIST 019 - DODGE COUNTY	1	2537	( 71)	2496	(330)	41	(305)	40
270024	DIST 024 - DODGE COUNTY	1	2891	(219)	0	( 3)	2891	(851)	16
270026	HOOPER ELEMENTARY SCHOOL	1	1905	( 10)	2812	(384)	-907	(177)	144
270027	DIST 027 - DODGE COUNTY	1	2930	(248)	1837	(182)	1093	(559)	15
270037	DIST 037 - DODGE COUNTY	1	3012	(296)	1763	(169)	1250	(604)	13



## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
270039	SNYDER PUBLIC SCHOOLS	2	5260	(842)	3207	(470)	2053	(784)	108
270046	DODGE PUBLIC SCHOOLS	3	4699	(770)	3802	(606)	897	(501)	185
270049	DIST 049 - DODGE COUNTY	1	2796	(149)	3710	(590)	-915	(176)	48
270062	SCRIBNER PUBLIC SCHOOLS	3	4391	(703)	3423	(535)	969	(517)	283
270063	DIST 063 - DODGE COUNTY	1	2806	(159)	18046	(862)	-15239	( 4)	33
270065	DIST 065 - DODGE COUNTY	1	2903	(232)	4235	(677)	-1332	(145)	16
270087	DIST 087 - DODGE COUNTY	1	2828	(173)	2841	(388)	-13	(292)	16
270088	DIST 088 - DODGE COUNTY	1	2723	(108)	2699	(361)	24	(302)	36
270089	DIST 089 - DODGE COUNTY	1	3078	(338)	4141	(657)	-1063	(164)	21
270091	DIST 091 - DODGE COUNTY	1	2775	(136)	20854	(863)	-18079	( 2)	23
270092	DIST 092 - DODGE COUNTY	1	2685	(100)	2149	(246)	536	(404)	35
270093	DIST 093 - DODGE COUNTY	1	2927	(245)	2355	(290)	572	(414)	42
270094	LOGAN VIEW JR-SR HIGH SCHOOL	6	4877	(790)	3682	(585)	1194	(588)	264
270095	NORTH BEND CENTRAL JR-SR HIGH	6	4846	(787)	5121	(741)	-275	(255)	301
280001	OMAHA PUBLIC SCHOOLS	5	1858	( 9)	5595	(764)	-3738	( 58)	40,613
280008	DIST 008 - DOUGLAS COUNTY	1	2860	(195)	5269	(746)	-2408	( 96)	17
280010	ELKHORN PUBLIC SCHOOLS	3	3238	(419)	3255	(488)	-18	(291)	1,752
280011	WATERLOO PUBLIC SCHOOLS	3	4335	(691)	3621	(568)	714	(454)	275
280015	DIST 015 - DOUGLAS COUNTY	1	2787	(143)	7587	(823)	-4800	( 34)	20
280017	MILLARD PUBLIC SCHOOLS	3	2402	( 47)	2753	(373)	-351	(246)	14,239
280023	DIST 023 - DOUGLAS COUNTY	1	2747	(120)	2605	(349)	142	(324)	31
280024	DIST 024 - DOUGLAS COUNTY	1	2637	( 90)	5379	(752)	-2742	( 85)	29
280027	DIST 027 - DOUGLAS COUNTY	1	3097	(348)	4698	(715)	-1600	(127)	11
280033	VALLEY PUBLIC SCHOOLS	3	4054	(625)	3237	(481)	817	(481)	546
280041	DIST 041 - DOUGLAS COUNTY	1	2903	(230)	6073	(776)	-3170	( 70)	16
280054	RALSTON PUBLIC SCHOOLS	3	3279	(445)	5449	(757)	-2170	(100)	3,115
280059	BENNINGTON PUBLIC SCHOOLS	3	4118	(638)	2110	(241)	2009	(777)	535
280066	WESTSIDE COMMUNITY SCHOOLS	3	2982	(281)	8326	(835)	-5344	( 29)	4,903
290117	DUNDY COUNTY PUBLIC SCHOOLS	3	4022	(618)	3293	(500)	729	(460)	457
300016	DIST 016 - FILLMORE COUNTY	1	3405	(491)	3922	(629)	-517	(219)	28
300019	FAIRMONT PUBLIC SCHOOLS	3	4604	(758)	3510	(547)	1094	(560)	192
300020	EXETER PUBLIC SCHOOLS	3	4552	(745)	3924	(630)	628	(429)	200
300036	DIST 036 - FILLMORE COUNTY	1	2760	(128)	1940	(202)	820	(482)	24
300040	DISTRICT 40-OHIOWA	1	3044	(309)	7097	(809)	-4053	( 50)	12
300054	SHICKLEY PUBLIC SCHOOLS	3	4608	(759)	4020	(641)	587	(419)	168
300071	MILLIGAN PUBLIC SCHOOLS	2	5381	(852)	4985	(735)	396	(370)	92
300075	GENEVA PUBLIC SCHOOLS	3	3960	(608)	3811	(609)	149	(327)	537
310009	DIST 009 - FRANKLIN COUNTY	1	2971	(274)	2081	(238)	890	(498)	14
310037	HILDRETH PUBLIC SCHOOLS	2	5083	(812)	3906	(624)	1177	(586)	134
310501	DIST 501 - FRANKLIN COUNTY	1	2874	(206)	5486	(758)	-2612	( 87)	16
310503	DIST 503 - FRANKLIN COUNTY	1	3095	(345)	2542	(339)	552	(407)	24
310506	FRANKLIN PUBLIC SCHOOLS	3	4248	(670)	3910	(625)	338	(359)	357
310513	CAMPBELL PUBLIC SCHOOLS	2	5262	(843)	3154	(463)	2108	(793)	105
320012	EUSTIS PUBLIC SCHOOLS	2	5058	(811)	3918	(627)	1141	(572)	159
320046	MAYWOOD PUBLIC SCHOOLS	3	4694	(768)	3648	(574)	1046	(545)	192
320125	MEDICINE VALLEY PUBLIC SCHOOL	3	4419	(711)	3380	(525)	1039	(542)	269
330015	DIST 015 - FURNAS COUNTY	1	2770	(131)	2260	(263)	510	(395)	30
330018	ARAPAHOE PUBLIC SCHOOLS	3	4324	(684)	3209	(471)	1115	(565)	275
330019	BEAVER CITY PUBLIC SCHOOLS	3	4446	(719)	3042	(438)	1404	(652)	219
330021	CAMBRIDGE PUBLIC SCHOOLS	3	3957	(607)	2022	(226)	1936	(764)	398
330103	HOLBROOK PUBLIC SCHOOLS	2	5211	(834)	1951	(205)	3260	(861)	98
330477	OXFORD COMMUNITY SCHOOLS	3	4449	(720)	3945	(634)	504	(392)	245
340001	SOUTHERN SCHOOL DIST 1	3	4055	(626)	3692	(588)	363	(366)	527
340015	BEATRICE PUBLIC SCHOOLS	3	3283	(448)	4646	(708)	-1363	(142)	2,131
340027	DIST 027 - GAGE COUNTY	1	2705	(103)	3632	(571)	-927	(174)	20
340030	ADAMS PUBLIC SCHOOLS	3	4629	(761)	3149	(462)	1480	(678)	192
340074	ODELL PUBLIC SCHOOLS	3	4658	(765)	3569	(562)	1089	(557)	185
340165	DISTRICT 165-BARNESTON	1	3724	(570)	2699	(360)	1025	(539)	26

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
340166	FILLEY PUBLIC SCHOOLS	2	5408	(854)	3012	(429)	2396	(825)	105
350001	GARDEN COUNTY HIGH SCHOOL	6	5513	(857)	7160	(811)	-1647	(124)	110
350003	LEWELLEN RURAL HIGH SCHOOL	6	6003	(864)	5058	(738)	945	(507)	48
350023	DIST 023 - GARDEN COUNTY	1	3650	(556)	2555	(344)	1095	(562)	4
350030	DIST 030 - GARDEN COUNTY	1	3508	(522)	3445	(537)	63	(312)	5
350033	DIST 033 - GARDEN COUNTY	1	3367	(483)	3044	(439)	324	(356)	6
350038	DIST 038 - GARDEN COUNTY	1	3049	(312)	1806	(177)	1243	(601)	11
350044	DIST 044 - GARDEN COUNTY	1	2377	( 41)	2398	(302)	-21	(290)	63
350131	OSHKOSH ELEMENTARY SCHOOL	1	1955	( 13)	2752	(372)	-798	(188)	154
350553	DIST 553 - GARDEN COUNTY	1	2808	(160)	1845	(185)	963	(515)	59
360005	DIST 005 - GARFIELD COUNTY	1	3105	(358)	1550	(114)	1555	(699)	11
360014	DIST 014 - GARFIELD COUNTY	1	2812	(166)	1018	( 46)	1795	(741)	18
360015	BURWELL ELEMENTARY SCHOOL	1	1958	( 14)	3103	(449)	-1144	(159)	123
360021	DIST 021 - GARFIELD COUNTY	1	2922	(243)	3129	(457)	-207	(262)	14
360025	DIST 025 - GARFIELD COUNTY	1	2843	(186)	2216	(255)	627	(428)	17
360070	DIST 070 - GARFIELD COUNTY	1	3315	(456)	1319	( 78)	1996	(773)	25
360100	BURWELL JR-SR HIGH SCHOOL	6	5147	(823)	3516	(550)	1631	(713)	202
360504	DIST 504 - GARFIELD COUNTY	1	2793	(146)	1571	(116)	1222	(593)	19
370004	DIST 004 - GOSPER COUNTY	1	3167	(392)	2323	(282)	845	(488)	26
370030	ELWOOD PUBLIC SCHOOLS	2	4826	(785)	3092	(446)	1734	(727)	220
380001	DISTRICT 1-HYANNIS ELEMENTARY	1	2480	( 59)	2948	(411)	-468	(229)	48
380002	DIST 002 - GRANT COUNTY	1	3065	(325)	973	( 42)	2092	(789)	11
380005	DIST 005 - GRANT COUNTY	1	3240	(420)	5345	(750)	-2105	(101)	7
380007	DIST 007 - GRANT COUNTY	1	3483	(518)	6323	(783)	-2839	( 79)	5
380009	DIST 009 - GRANT COUNTY	1	3051	(313)	1659	(139)	1392	(648)	11
380011	HYANNIS HIGH SCHOOL	6	5569	(858)	4679	(712)	891	(499)	98
390007	GREELEY PUBLIC SCHOOLS	2	5236	(838)	3099	(448)	2137	(798)	122
390028	DIST 028 - GREELEY COUNTY	1	2796	(148)	333	( 10)	2463	(829)	16
390043	WOLBACH PUBLIC SCHOOLS	2	5282	(844)	1744	(164)	3537	(864)	123
390055	SPALDING PUBLIC SCHOOLS	3	4908	(792)	4720	(716)	188	(331)	100
390501	NORTH LOUP SCOTIA PUB SCHOOLS	3	4498	(732)	2768	(374)	1730	(726)	260
400002	GRAND ISLAND PUBLIC SCHOOLS	3	2757	(126)	4106	(654)	-1350	(144)	7,024
400003	DIST 003 - HALL COUNTY	1	1989	( 15)	974	( 44)	1015	(534)	102
400004	DIST 004 - HALL COUNTY	1	2552	( 75)	6421	(786)	-3869	( 56)	32
400005	DIST 005 - HALL COUNTY	1	2928	(246)	2470	(323)	458	(382)	15
400008	WOOD RIVER ELEMENTARY SCHOOL	1	2020	( 16)	2863	(391)	-843	(183)	179
400012	DIST 012 - HALL COUNTY	1	2147	( 21)	4150	(661)	-2004	(106)	77
400016	DIST 016 - HALL COUNTY	1	2909	(238)	5684	(767)	-2775	( 83)	15
400024	DIST 024 - HALL COUNTY	1	2886	(217)	1835	(181)	1052	(546)	15
400026	DONIPHAN PUBLIC SCHOOLS	3	4250	(671)	2721	(367)	1530	(690)	357
400028	DIST 028 - HALL COUNTY	1	2284	( 30)	3934	(632)	-1649	(123)	55
400031	DIST 031 - HALL COUNTY	1	3213	(407)	1525	(109)	1688	(719)	9
400037	DIST 037 - HALL COUNTY	1	3389	(486)	5292	(748)	-1902	(109)	6
400082	NORTHWEST HIGH SCHOOL	6	4500	(734)	4367	(685)	134	(321)	704
400083	WOOD RIVER RURAL HIGH SCHOOL	6	4991	(800)	4195	(666)	796	(476)	293
400501	DIST 501 - HALL COUNTY	1	2212	( 27)	2550	(343)	-338	(247)	164
410001	MARQUETTE PUBLIC SCHOOLS	2	5053	(810)	2912	(402)	2140	(799)	154
410002	GILTNER PUBLIC SCHOOLS	2	5043	(808)	3037	(437)	2006	(775)	176
410061	HORDVILLE PUBLIC SCHOOLS	2	5469	(856)	3198	(468)	2271	(816)	71
410091	HAMPTON PUBLIC SCHOOLS	3	4720	(773)	3771	(599)	949	(509)	154
410504	AURORA PUBLIC SCHOOLS	3	3585	(546)	3258	(490)	326	(357)	1,135
420002	ALMA PUBLIC SCHOOLS	3	4229	(666)	4206	(668)	22	(301)	335
420018	DIST 018 - HARLAN COUNTY	1	2797	(152)	668	( 21)	2129	(797)	18
420503	DIST 503 - HARLAN COUNTY	1	3189	(399)	5199	(742)	-2010	(104)	9
420530	ORLEANS PUBLIC SCHOOLS	3	4747	(778)	3792	(603)	954	(511)	165
430079	HAYES CENTER PUBLIC SCHOOLS	3	4619	(760)	2463	(320)	2156	(802)	184
440001	CULBERTSON PUBLIC SCHOOLS	3	4310	(682)	2515	(334)	1795	(742)	283
440008	STRATTON PUBLIC SCHOOLS	2	5096	(816)	3579	(565)	1517	(687)	175

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
440011	TRENTON PUBLIC SCHOOLS	3	4506	(737)	2952	(412)	1555	(698)	214
440064	PALISADE PUBLIC SCHOOLS	2	5216	(835)	2671	(358)	2545	(838)	109
450001	DIST 001 - HOLT COUNTY	1	3436	(505)	3890	(617)	-454	(230)	6
450002	DIST 002 - HOLT COUNTY	1	2431	( 50)	1152	( 63)	1279	(613)	83
450003	DIST 003 - HOLT COUNTY	1	3168	(395)	1227	( 71)	1941	(765)	8
450004	DIST 004 - HOLT COUNTY	1	3340	(463)	973	( 43)	2367	(823)	7
450006	DIST 006 - HOLT COUNTY	1	3036	(305)	1583	(121)	1453	(668)	11
450007	ONEILL PUBLIC SCHOOLS	3	3957	(606)	4100	(652)	-143	(274)	770
450010	DIST 010 - HOLT COUNTY	1	3387	(485)	1155	( 64)	2231	(812)	7
450014	DIST 014 - HOLT COUNTY	1	3530	(527)	1205	( 67)	2324	(822)	5
450017	DIST 017 - HOLT COUNTY	1	2734	(115)	1718	(157)	1016	(535)	20
450020	DIST 020 - HOLT COUNTY	1	2805	(158)	1555	(115)	1250	(603)	33
450021	ATKINSON ELEMENTARY SCHOOL	1	1653	( 6)	2369	(294)	-716	(199)	186
450022	DIST 022 - HOLT COUNTY	1	3193	(400)	1906	(196)	1287	(618)	9
450025	WEST HOLT RURAL HIGH SCHOOL	6	5298	(846)	6089	(777)	-791	(190)	160
450027	DIST 027 - HOLT COUNTY	1	3348	(469)	3281	(494)	67	(314)	7
450029	EWING PUBLIC SCHOOLS	2	4909	(793)	3147	(461)	1763	(733)	189
450030	DIST 030 - HOLT COUNTY	1	2365	( 39)	1056	( 50)	1309	(624)	75
450035	DIST 035 - HOLT COUNTY	1	3153	(380)	2031	(229)	1122	(566)	10
450044	STUART PUBLIC SCHOOLS	3	4725	(774)	2204	(250)	2521	(836)	151
450046	DIST 046 - HOLT COUNTY	1	2968	(271)	1480	(104)	1489	(682)	14
450049	DIST 049 - HOLT COUNTY	1	3165	(390)	1412	( 90)	1753	(730)	9
450053	DIST 053 - HOLT COUNTY	1	3413	(493)	1672	(142)	1741	(729)	6
450060	DIST 060 - HOLT COUNTY	1	3217	(411)	1988	(212)	1229	(596)	8
450069	DIST 069 - HOLT COUNTY	1	3075	(335)	1934	(199)	1141	(573)	11
450074	DIST 074 - HOLT COUNTY	1	2841	(184)	1883	(193)	958	(513)	16
450076	DIST 076 - HOLT COUNTY	1	2918	(241)	817	( 31)	2101	(792)	16
450077	DIST 077 - HOLT COUNTY	1	3351	(476)	2020	(225)	1331	(631)	7
450081	DIST 081 - HOLT COUNTY	1	3232	(415)	4527	(696)	-1295	(148)	8
450088	DIST 088 - HOLT COUNTY	1	3276	(441)	1704	(151)	1573	(705)	8
450089	DIST 089 - HOLT COUNTY	1	2790	(144)	858	( 33)	1932	(763)	25
450092	DIST 092 - HOLT COUNTY	1	3969	(609)	8911	(836)	-4942	( 33)	2
450102	DIST 102 - HOLT COUNTY	1	2983	(283)	3493	(545)	-509	(221)	14
450137	CHAMBERS PUBLIC SCHOOLS	2	4869	(788)	2246	(259)	2623	(842)	199
450147	DIST 147 - HOLT COUNTY	1	3095	(346)	1611	(128)	1484	(680)	11
450165	DIST 165 - HOLT COUNTY	1	2857	(194)	1058	( 51)	1800	(743)	17
450169	DIST 169 - HOLT COUNTY	1	3102	(353)	1960	(207)	1142	(574)	10
450180	DIST 180 - HOLT COUNTY	1	2902	(229)	4357	(684)	-1455	(136)	15
450206	DIST 206 - HOLT COUNTY	1	4023	(620)	3256	(489)	768	(471)	2
450210	DIST 210 - HOLT COUNTY	1	3075	(336)	800	( 28)	2275	(817)	11
450228	DIST 228 - HOLT COUNTY	1	3124	(364)	3612	(567)	-489	(225)	10
450231	DIST 231 - HOLT COUNTY	1	3656	(565)	1982	(210)	1674	(717)	4
450233	DIST 233 - HOLT COUNTY	1	3165	(391)	540	( 14)	2625	(843)	9
450238	DIST 238 - HOLT COUNTY	1	3465	(514)	1999	(216)	1466	(674)	5
460001	MULLEN PUBLIC SCHOOLS	3	4421	(712)	2810	(383)	1611	(709)	243
470001	ST PAUL PUBLIC SCHOOL	3	4063	(627)	3477	(542)	585	(417)	555
470014	DIST 014 - HOWARD COUNTY	1	3119	(363)	1848	(186)	1272	(611)	11
470015	DIST 015 - HOWARD COUNTY	1	3085	(341)	1635	(136)	1450	(666)	21
470019	DIST 019 - HOWARD COUNTY	1	3430	(499)	5271	(747)	-1842	(111)	6
470067	DIST 067 - HOWARD COUNTY	1	2442	( 51)	1937	(201)	505	(393)	53
470100	CENTURA PUBLIC SCHOOLS	3	4097	(633)	2646	(351)	1451	(667)	611
470103	ELBA PUBLIC SCHOOLS	2	5256	(841)	2960	(413)	2295	(819)	119
470118	ST LIBORY ELEMENTARY SCHOOL	1	2027	( 17)	2324	(283)	-297	(250)	108
480001	DIST 001 - JEFFERSON COUNTY	1	3320	(459)	10587	(846)	-7267	( 19)	7
480007	DIST 007 - JEFFERSON COUNTY	1	2776	(137)	2215	(254)	561	(411)	25
480008	FAIRBURY PUBLIC SCHOOLS	3	3823	(595)	4431	(689)	-608	(210)	962
480047	DIST 047 - JEFFERSON COUNTY	1	3075	(333)	2809	(382)	265	(345)	12
480069	DIST 069 - JEFFERSON COUNTY	1	2885	(215)	2921	(408)	-36	(287)	16

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
480103	DILLER COMMUNITY SCHOOL	2	5112	(818)	2704	(363)	2408	(827)	156
480300	TRI COUNTY PUBLIC SCHOOL	3	4218	(662)	4171	(663)	47	(306)	496
480303	MERIDIAN PUBLIC SCHOOLS	3	4718	(772)	3927	(631)	791	(474)	193
490010	ELK CREEK PUBLIC SCHOOLS	2	5849	(862)	4774	(723)	1076	(552)	31
490019	DIST 019 - JOHNSON COUNTY	1	3348	(470)	4230	(675)	-881	(179)	7
490032	TECUMSEH PUBLIC SCHOOLS	3	4291	(677)	4802	(725)	-511	(220)	364
490033	STERLING PUBLIC SCHOOLS	3	4492	(730)	2446	(317)	2046	(782)	225
490041	DIST 041 - JOHNSON COUNTY	1	3605	(548)	2249	(261)	1356	(635)	4
490042	DIST 042 - JOHNSON COUNTY	1	2971	(275)	2421	(313)	550	(405)	14
490501	NEMAHA VALLEY SCHOOLS	3	4581	(749)	3603	(566)	978	(523)	226
500064	DIST 064 - KEARNEY COUNTY	1	2802	(156)	629	( 18)	2173	(804)	16
500501	AXTELL COMMUNITY SCHOOLS	3	4479	(727)	3962	(635)	516	(397)	250
500502	WILCOX PUBLIC SCHOOL	3	4587	(753)	3111	(451)	1477	(677)	197
500503	MINDEN PUBLIC SCHOOLS	3	4210	(656)	3789	(600)	422	(377)	772
500504	DIST 504 - KEARNEY COUNTY	1	3051	(314)	1736	(160)	1315	(627)	27
510001	OGALLALA PUBLIC SCHOOLS	3	3754	(576)	4369	(686)	-615	(209)	1,131
510002	DIST 002 - KEITH COUNTY	1	2778	(139)	1780	(172)	998	(528)	20
510006	PAXTON CONSOLIDATED SCHOOLS	3	4473	(724)	3029	(433)	1443	(661)	234
510007	DIST 007 - KEITH COUNTY	1	3266	(432)	1418	( 92)	1847	(749)	8
510012	DIST 012 - KEITH COUNTY	1	3029	(302)	4394	(688)	-1365	(141)	29
510014	DIST 014 - KEITH COUNTY	1	3586	(547)	3248	(484)	338	(358)	5
510015	DIST 015 - KEITH COUNTY	1	2883	(214)	0	( 2)	2883	(850)	17
510017	BRULE PUBLIC SCHOOLS	2	4980	(799)	3223	(478)	1757	(732)	144
510018	DIST 018 - KEITH COUNTY	1	3286	(449)	1530	(110)	1755	(731)	8
510051	DIST 051 - KEITH COUNTY	1	2972	(276)	2631	(350)	341	(361)	14
520001	DIST 001 - KEYA PAHA COUNTY	1	2968	(272)	725	( 26)	2243	(814)	11
520003	DIST 003 - KEYA PAHA COUNTY	1	2869	(204)	685	( 23)	2184	(809)	16
520017	DIST 017 - KEYA PAHA COUNTY	1	3486	(520)	3913	(626)	-426	(236)	4
520021	DIST 021 - KEYA PAHA COUNTY	1	2862	(199)	1998	(215)	865	(491)	15
520049	DIST 049 - KEYA PAHA COUNTY	1	3144	(372)	2005	(218)	1139	(571)	10
520056	DIST 056 - KEYA PAHA COUNTY	1	2401	( 46)	2464	(321)	-63	(283)	73
520064	DIST 064 - KEYA PAHA COUNTY	1	3360	(478)	7538	(821)	-4178	( 47)	6
520081	DIST 081 - KEYA PAHA COUNTY	1	3695	(567)	9410	(843)	-5714	( 27)	3
520100	KEYA PAHA COUNTY HIGH SCHOOL	6	5627	(860)	6981	(805)	-1354	(143)	59
530001	KIMBALL COUNTY HIGH SCHOOL	6	5377	(851)	6947	(804)	-1569	(128)	209
530002	DIX PUBLIC SCHOOLS	2	5308	(847)	4099	(651)	1209	(590)	92
530003	KIMBALL ELEMENTARY SCHOOLS	1	2675	( 95)	2363	(292)	312	(354)	555
540013	CREIGHTON PUBLIC SCHOOL	3	4160	(645)	4122	(656)	38	(304)	436
540096	CROFTON COMMUNITY SCHOOLS	3	4332	(690)	2937	(410)	1396	(650)	371
540501	NIOBRARA PUBLIC SCHOOLS	3	4698	(769)	2781	(376)	1917	(756)	167
540505	SANTEE PUBLIC SCHOOLS	2	5161	(824)	814	( 30)	4346	(865)	138
540576	WAUSA PUBLIC SCHOOLS	3	4499	(733)	3656	(577)	843	(487)	220
540583	VERDIGRE PUBLIC SCHOOL	3	4407	(708)	2289	(273)	2118	(795)	270
540586	BLOOMFIELD PUBLIC SCHOOLS	3	4225	(664)	3008	(426)	1217	(592)	403
550001	LINCOLN PUBLIC SCHOOLS	4	2123	( 19)	5505	(760)	-3382	( 67)	24,637
550005	DIST 005 - LANCASTER COUNTY	1	2495	( 62)	2234	(258)	261	(343)	43
550013	DIST 013 - LANCASTER COUNTY	1	3530	(528)	1586	(123)	1944	(766)	5
550038	DIST 038 - LANCASTER COUNTY	1	2977	(280)	4491	(694)	-1513	(133)	14
550069	DIST 069 - LANCASTER COUNTY	1	2938	(253)	6907	(801)	-3969	( 51)	15
550107	DIST 107 - LANCASTER COUNTY	1	2511	( 66)	3223	(477)	-712	(200)	39
550109	DIST 109 - LANCASTER COUNTY	1	3576	(544)	12033	(851)	-8457	( 14)	5
550145	WAVERLY PUBLIC SCHOOLS	3	3540	(540)	4309	(683)	-769	(192)	1,452
550148	MALCOLM PUBLIC SCHOOLS	3	4328	(686)	3450	(539)	878	(495)	321
550152	DIST 152 - LANCASTER COUNTY	1	3015	(297)	6718	(797)	-3703	( 59)	24
550153	DIST 153 - LANCASTER COUNTY	1	2661	( 92)	3356	(520)	-695	(202)	52
550158	DIST 158 - LANCASTER COUNTY	1	3652	(563)	4181	(664)	-529	(218)	4
550160	NORRIS SCHOOL DIST 160	3	3748	(575)	3127	(456)	622	(425)	1,133
550161	RAYMOND CENTRAL SCHOOL	3	3812	(594)	3225	(480)	587	(418)	686

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
560001	NORTH PLATTE PUBLIC SCHOOLS	3	3038	(307)	4858	(727)	-1821	(114)	4,521
560005	DISTRICT 5-HALL ELEMENTARY	1	2284	( 29)	2874	(396)	-590	(211)	111
560006	BRADY PUBLIC SCHOOLS	2	4961	(798)	3971	(636)	989	(526)	189
560007	MAXWELL PUBLIC SCHOOLS	2	4876	(789)	2730	(369)	2146	(801)	221
560008	DIST 008 - LINCOLN COUNTY	1	2498	( 63)	2701	(362)	-203	(264)	42
560031	DIST 031 - LINCOLN COUNTY	1	3263	(430)	7442	(818)	-4180	( 45)	8
560034	DIST 034 - LINCOLN COUNTY	1	3428	(497)	4662	(711)	-1234	(153)	6
560036	DIST 036 - LINCOLN COUNTY	1	3097	(347)	8141	(833)	-5044	( 30)	11
560037	HERSHEY PUBLIC SCHOOLS	3	4118	(637)	2306	(277)	1812	(744)	465
560039	DIST 039 - LINCOLN COUNTY	1	2532	( 69)	1943	(204)	589	(420)	38
560044	DIST 044 - LINCOLN COUNTY	1	2905	(234)	9109	(838)	-6203	( 24)	22
560055	SUTHERLAND PUBLIC SCHOOLS	3	4212	(657)	3547	(559)	666	(438)	337
560082	DIST 082 - LINCOLN COUNTY	1	3105	(360)	4767	(721)	-1662	(121)	11
560098	DIST 098 - LINCOLN COUNTY	1	3348	(471)	1168	( 66)	2181	(808)	7
560109	DIST 109 - LINCOLN COUNTY	1	3053	(316)	1678	(145)	1375	(642)	12
560565	WALLACE PUBLIC SCHOOLS	2	4992	(802)	3894	(620)	1098	(563)	182
570501	STAPLETON PUBLIC SCHOOLS	3	4587	(752)	2475	(325)	2112	(794)	209
580025	LOUP COUNTY PUBLIC SCHOOLS	2	5170	(826)	6992	(806)	-1821	(113)	133
590001	MADISON PUBLIC SCHOOLS	3	4120	(639)	4200	(667)	-80	(280)	424
590002	NORFOLK PUBLIC SCHOOLS	3	3102	(354)	3819	(610)	-717	(198)	3,450
590003	DIST 003 - MADISON COUNTY	1	2808	(161)	29967	(865)	-27159	( 1)	34
590005	BATTLE CREEK PUBLIC SCHOOLS	3	4343	(694)	4791	(724)	-448	(232)	318
590008	DIST 008 - MADISON COUNTY	1	3400	(490)	6636	(792)	-3236	( 69)	6
590013	NEWMAN GROVE PUBLIC SCHOOLS	3	4276	(675)	3134	(458)	1142	(575)	305
590016	DIST 016 - MADISON COUNTY	1	2791	(145)	1616	(132)	1175	(585)	20
590020	DIST 020 - MADISON COUNTY	1	2739	(118)	6435	(787)	-3696	( 60)	36
590024	DIST 024 - MADISON COUNTY	1	3428	(496)	4264	(681)	-836	(184)	6
590025	DIST 025 - MADISON COUNTY	1	2326	( 35)	1036	( 48)	1290	(619)	50
590037	DIST 037 - MADISON COUNTY	1	2332	( 36)	1715	(155)	618	(424)	58
590043	DIST 043 - MADISON COUNTY	1	2799	(154)	2271	(267)	528	(401)	19
590047	DIST 047 - MADISON COUNTY	1	3214	(409)	7626	(824)	-4412	( 37)	9
590048	DIST 048 - MADISON COUNTY	1	3065	(324)	5647	(765)	-2582	( 89)	10
590080	ELKHORN VALLEY SCHOOLS	3	4201	(652)	2920	(406)	1281	(615)	413
590087	DISTRICT 87 - VICTORY SCHOOL	1	2168	( 23)	3184	(466)	-1016	(169)	104
590088	DIST 088 - MADISON COUNTY	1	3363	(481)	6071	(775)	-2708	( 86)	7
590091	DIST 091 - MADISON COUNTY	1	3058	(322)	8064	(832)	-5006	( 31)	12
590095	DIST 095 - MADISON COUNTY	1	2694	(101)	1421	( 93)	1273	(612)	24
590096	DIST 096 - MADISON COUNTY	1	2831	(176)	3333	(513)	-502	(222)	18
590097	DIST 097 - MADISON COUNTY	1	2897	(223)	1415	( 91)	1483	(679)	37
600004	DIST 004 - MC PHERSON COUNTY	1	2719	(106)	1991	(213)	727	(459)	37
600007	DIST 007 - MC PHERSON COUNTY	1	3395	(487)	4596	(703)	-1200	(155)	6
600009	DIST 009 - MC PHERSON COUNTY	1	3564	(542)	2916	(404)	648	(435)	4
600026	DIST 026 - MC PHERSON COUNTY	1	3226	(414)	1817	(178)	1410	(653)	9
600028	DIST 028 - MC PHERSON COUNTY	1	3150	(377)	5424	(755)	-2275	( 99)	8
600059	DIST 059 - MC PHERSON COUNTY	1	3263	(431)	887	( 37)	2376	(824)	8
600090	MC PHERSON COUNTY HIGH SCHOOL	6	6116	(865)	6679	(795)	-562	(217)	33
610001	DIST 001 - MERRICK COUNTY	1	2529	( 67)	1742	(162)	786	(472)	55
610002	DIST 002 - MERRICK COUNTY	1	3031	(303)	5989	(773)	-2958	( 74)	13
610004	CENTRAL CITY PUBLIC SCHOOLS	3	3793	(582)	3035	(434)	758	(465)	847
610006	SILVER CREEK PUBLIC SCHOOLS	2	4912	(794)	2871	(395)	2041	(781)	180
610009	DIST 009 - MERRICK COUNTY	1	2169	( 24)	2998	(423)	-829	(186)	88
610011	CLARKS PUBLIC SCHOOLS	2	4916	(795)	2301	(274)	2615	(841)	186
610015	DIST 015 - MERRICK COUNTY	1	3348	(472)	2371	(295)	977	(522)	7
610049	PALMER PUBLIC SCHOOLS	3	4598	(755)	2985	(419)	1613	(710)	198
610050	DIST 050 - MERRICK COUNTY	1	3733	(573)	7793	(829)	-4060	( 49)	3
620005	DIST 005 - MORRILL COUNTY	1	3281	(446)	1218	( 69)	2063	(785)	5
620021	BAYARD PUBLIC SCHOOLS	3	3954	(605)	2542	(340)	1412	(654)	578
620041	DIST 041 - MORRILL COUNTY	1	2682	( 98)	1223	( 70)	1460	(671)	20

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
620044	DIST 044 - MORRILL COUNTY	1	3529	(525)	5813	(769)	-2285	( 98)	5
620063	BRIDGEPORT PUBLIC SCHOOLS	3	4082	(631)	3398	(527)	683	(442)	484
620128	DIST 128 - MORRILL COUNTY	1	2900	(225)	2180	(248)	720	(456)	34
630001	FULLERTON PUBLIC SCHOOLS	3	4017	(615)	3292	(498)	725	(458)	389
630002	DIST 002 - NANCE COUNTY	1	2875	(209)	2348	(289)	527	(400)	16
630003	GENOA PUBLIC SCHOOLS	3	4268	(673)	2389	(299)	1880	(751)	346
630008	DIST 008 - NANCE COUNTY	1	2661	( 93)	1894	(195)	767	(470)	33
630011	DIST 011 - NANCE COUNTY	1	3530	(529)	2355	(291)	1175	(584)	5
630018	DIST 018 - NANCE COUNTY	1	3805	(588)	4215	(672)	-410	(240)	3
630023	DIST 023 - NANCE COUNTY	1	2804	(157)	1363	( 82)	1441	(658)	22
630025	DIST 025 - NANCE COUNTY	1	3048	(310)	724	( 25)	2324	(821)	22
640006	DIST 006 - NEMAHA COUNTY	1	3624	(551)	1523	(108)	2101	(791)	4
640018	DIST 018 - NEMAHA COUNTY	1	3276	(442)	1571	(117)	1705	(721)	8
640021	DIST 021 - NEMAHA COUNTY	1	3240	(421)	4638	(707)	-1398	(140)	9
640023	JOHNSON-BROCK PUBLIC SCHOOLS	3	4473	(726)	3145	(460)	1328	(629)	289
640029	AUBURN PUBLIC SCHOOLS	3	3810	(593)	4016	(640)	-205	(263)	880
640032	DIST 032 - NEMAHA COUNTY	1	2984	(284)	1622	(133)	1362	(639)	14
640034	DIST 034 - NEMAHA COUNTY	1	2821	(171)	2904	(401)	-83	(279)	23
640039	DIST 039 - NEMAHA COUNTY	1	3100	(350)	3571	(563)	-472	(228)	11
640082	DIST 082 - NEMAHA COUNTY	1	2582	( 80)	1167	( 65)	1415	(655)	32
650006	DISTRICT 6-RUSKIN	1	2385	( 42)	2420	(312)	-35	(288)	51
650011	SUPERIOR PUBLIC SCHOOLS	3	4111	(636)	3320	(507)	790	(473)	718
650015	NELSON PUBLIC SCHOOLS	3	4642	(763)	4073	(647)	568	(413)	199
650045	DIST 045 - NUCKOLLS COUNTY	1	3650	(557)	7784	(827)	-4134	( 48)	4
650071	LAWRENCE PUBLIC SCHOOLS	3	5361	(849)	5548	(762)	-187	(266)	74
650088	DIST 088 - NUCKOLLS COUNTY	1	2903	(231)	2469	(322)	434	(379)	16
650502	DIST 502 - NUCKOLLS COUNTY	1	3805	(589)	3757	(598)	48	(307)	3
660002	DIST 002 - OTOE COUNTY	1	3213	(408)	4432	(690)	-1219	(154)	9
660011	DIST 011 - OTOE COUNTY	1	3309	(455)	7584	(822)	-4275	( 39)	8
660013	DIST 013 - OTOE COUNTY	1	3001	(290)	2005	(219)	996	(527)	13
660017	DIST 017 - OTOE COUNTY	1	3431	(503)	5441	(756)	-2009	(105)	6
660018	DIST 018 - OTOE COUNTY	1	3275	(437)	6125	(779)	-2851	( 78)	8
660020	DIST 020 - OTOE COUNTY	1	2307	( 32)	2282	(270)	25	(303)	86
660027	SYRACUSE-DUNBAR-AVOCA SCHOOLS	3	3925	(602)	4066	(645)	-141	(275)	638
660030	DIST 030 - OTOE COUNTY	1	3156	(383)	1377	( 83)	1780	(737)	10
660031	DIST 031 - OTOE COUNTY	1	2983	(282)	7935	(831)	-4952	( 32)	15
660036	DIST 036 - OTOE COUNTY	1	2684	( 99)	2665	(356)	19	(299)	24
660037	DIST 037 - OTOE COUNTY	1	2951	(262)	2771	(375)	181	(330)	15
660044	DOUGLAS PUBLIC SCHOOLS	2	5390	(853)	3416	(533)	1974	(770)	95
660053	DIST 053 - OTOE COUNTY	1	3276	(443)	5082	(739)	-1806	(115)	8
660074	DIST 074 - OTOE COUNTY	1	3650	(558)	6443	(788)	-2793	( 82)	4
660078	DIST 078 - OTOE COUNTY	1	2554	( 76)	2412	(308)	142	(325)	34
660101	DIST 101 - OTOE COUNTY	1	2989	(285)	3278	(492)	-289	(252)	14
660111	NEBRASKA CITY PUBLIC	3	3738	(574)	4219	(673)	-480	(227)	1,272
660501	PALMYRA DISTRICT O R 1	3	4299	(679)	3161	(464)	1138	(570)	382
670001	PAWNEE CITY PUBLIC SCHOOLS	3	4385	(702)	3627	(570)	758	(466)	290
670033	TABLE ROCK PUBLIC SCHOOLS	2	5166	(825)	3535	(554)	1631	(712)	136
670054	DIST 054 - PAWNEE COUNTY	1	3235	(418)	2284	(271)	952	(510)	25
670069	LEWISTON CONSOLIDATED SCHOOLS	2	5033	(807)	3347	(518)	1686	(718)	192
680033	GRANT ELEMENTARY SCHOOL	1	1578	( 5)	1942	(203)	-363	(243)	299
680065	VENANGO PUBLIC SCHOOLS	2	5240	(839)	3053	(442)	2187	(810)	97
680074	PERKINS COUNTY HIGH SCHOOL	6	5439	(855)	6914	(803)	-1475	(135)	107
680112	WHEATLAND PUBLIC SCHOOLS	2	4996	(805)	2315	(280)	2680	(845)	185
690044	HOLDREGE PUBLIC SCHOOLS	3	3806	(591)	4868	(728)	-1062	(165)	1,109
690054	BERTRAND PUBLIC SCHOOLS	3	4347	(695)	2740	(371)	1607	(708)	331
690055	LOOMIS PUBLIC SCHOOLS	2	4897	(791)	2411	(306)	2486	(830)	231
690074	DIST 074 - PHELPS COUNTY	1	2951	(261)	2209	(252)	742	(462)	55
690504	DIST 504 - PHELPS COUNTY	1	2362	( 38)	2364	(293)	-1	(297)	53

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
690506	DIST 506 - PHELPS COUNTY	1	3049	(311)	2017	(224)	1032	(540)	33
690507	DIST 507 - PHELPS COUNTY	1	2542	( 74)	1233	( 72)	1309	(625)	82
700002	PIERCE PUBLIC SCHOOLS	3	4051	(624)	3363	(522)	688	(446)	532
700005	PLAINVIEW PUBLIC SCHOOLS	3	4173	(649)	4165	(662)	8	(298)	387
700006	DIST 006 - PIERCE COUNTY	1	3426	(495)	6380	(785)	-2953	( 75)	6
700015	DIST 015 - PIERCE COUNTY	1	2677	( 96)	3340	(515)	-663	(206)	33
700036	DIST 036 - PIERCE COUNTY	1	3304	(454)	4634	(706)	-1330	(146)	8
700046	DIST 046 - PIERCE COUNTY	1	3650	(559)	3512	(548)	138	(322)	4
700055	DIST 055 - PIERCE COUNTY	1	4025	(623)	16332	(858)	-12307	( 9)	2
700542	OSMOND PUBLIC SCHOOLS	3	4556	(746)	3880	(616)	676	(440)	230
710001	COLUMBUS PUBLIC SCHOOLS	3	3289	(450)	5118	(740)	-1828	(112)	2,853
710003	DIST 003 - PLATTE COUNTY	1	3183	(398)	11477	(849)	-8294	( 16)	10
710009	DIST 009 - PLATTE COUNTY	1	2142	( 20)	2208	(251)	-66	(282)	141
710010	DIST 010 - PLATTE COUNTY	1	1947	( 12)	2303	(276)	-356	(244)	209
710024	DIST 024 - PLATTE COUNTY	1	2070	( 18)	2012	(222)	57	(310)	146
710029	DIST 029 - PLATTE COUNTY	1	3168	(394)	9381	(841)	-6213	( 23)	20
710033	DIST 033 - PLATTE COUNTY	1	2476	( 58)	2246	(260)	230	(336)	35
710040	DIST 040 - PLATTE COUNTY	1	2772	(133)	770	( 27)	2003	(774)	22
710067	HUMPHREY PUBLIC SCHOOLS	3	4682	(767)	5820	(770)	-1137	(160)	218
710076	MONROE PUBLIC SCHOOLS	2	5254	(840)	3477	(541)	1777	(736)	115
710083	DIST 083 - PLATTE COUNTY	1	2602	( 84)	1592	(126)	1009	(531)	42
710084	DIST 084 - PLATTE COUNTY	1	2502	( 64)	3299	(501)	-797	(189)	57
710502	LAKEVIEW HIGH SCHOOL	6	5109	(817)	6518	(789)	-1410	(139)	250
720010	STROMSBURG PUBLIC SCHOOLS	3	4170	(648)	2874	(397)	1296	(621)	359
720019	OSCEOLA PUBLIC SCHOOLS	3	4330	(688)	4011	(639)	319	(355)	297
720028	DIST 028 - POLK COUNTY	1	3153	(381)	0	( 5)	3153	(858)	10
720032	SHELBY PUBLIC SCHOOLS	3	4332	(689)	2806	(380)	1525	(689)	302
720072	POLK PUBLIC SCHOOLS	3	4762	(779)	2993	(422)	1769	(734)	151
730004	DIST 004 - RED WILLOW COUNTY	1	3373	(484)	1979	(209)	1393	(649)	22
730008	DIST 008 - RED WILLOW COUNTY	1	3233	(416)	5252	(745)	-2019	(103)	23
730017	MC COOK PUBLIC SCHOOLS	3	3628	(552)	4954	(732)	-1326	(147)	1,508
730023	DIST 023 - RED WILLOW COUNTY	1	2762	(129)	2032	(230)	730	(461)	36
730031	DIST 031 - RED WILLOW COUNTY	1	2754	(123)	2398	(301)	356	(364)	29
730041	DIST 041 - RED WILLOW COUNTY	1	3099	(349)	1744	(163)	1355	(634)	42
730070	BARTLEY PUBLIC SCHOOLS	2	5187	(831)	3548	(560)	1639	(714)	120
730109	REPUBLICAN VALLEY SCHOOL	3	4234	(667)	2269	(266)	1965	(769)	373
730111	BEAVER VALLEY PUBLIC SCHOOLS	3	4705	(771)	4545	(700)	160	(328)	134
740037	HUMBOLDT PUBLIC SCHOOLS	3	4424	(713)	4222	(674)	202	(333)	258
740047	DIST 047 - RICHARDSON COUNTY	1	2756	(124)	2062	(236)	694	(448)	21
740056	FALLS CITY PUBLIC SCHOOLS	3	4203	(654)	4521	(695)	-318	(249)	871
740059	DIST 059 - RICHARDSON COUNTY	1	2892	(220)	1531	(111)	1361	(638)	28
740501	SOUTHEAST CONSOLIDATED SCHOOL	3	4473	(725)	3792	(602)	681	(441)	265
740515	DAWSON-VERDON PUBLIC SCHOOLS	3	4680	(766)	3217	(476)	1464	(672)	170
750018	DISTRICT 18-NEWPORT	1	2602	( 83)	1424	( 95)	1178	(587)	60
750030	DIST 030 - ROCK COUNTY	1	2846	(189)	1934	(198)	912	(503)	17
750041	DIST 041 - ROCK COUNTY	1	2835	(180)	1110	( 61)	1725	(725)	16
750072	DIST 072 - ROCK COUNTY	1	3462	(510)	1476	(103)	1985	(772)	30
750074	BASSETT GRADE SCHOOL	1	1803	( 7)	2288	(272)	-485	(226)	205
750077	DIST 077 - ROCK COUNTY	1	3333	(461)	3035	(435)	298	(349)	7
750100	ROCK COUNTY HIGH SCHOOL	6	5292	(845)	5938	(771)	-646	(208)	132
760001	DIST 001 - SALINE COUNTY	1	4021	(617)	15944	(857)	-11923	( 10)	2
760002	CRETE PUBLIC SCHOOLS	3	3484	(519)	4065	(644)	-581	(213)	1,230
760011	DIST 011 - SALINE COUNTY	1	3437	(507)	6211	(781)	-2774	( 84)	6
760018	DIST 018 - SALINE COUNTY	1	2798	(153)	1752	(167)	1046	(544)	21
760025	DIST 025 - SALINE COUNTY	1	3015	(298)	1092	( 58)	1922	(758)	13
760031	DIST 031 - SALINE COUNTY	1	3779	(580)	13897	(855)	-10118	( 13)	3
760044	DORCHESTER PUBLIC SCHOOLS	3	4505	(735)	3334	(514)	1171	(583)	235
760057	DIST 057 - SALINE COUNTY	1	3431	(504)	3491	(544)	-60	(285)	6

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
760068	FRIEND PUBLIC SCHOOLS	3	4441	(716)	4086	(650)	354	(363)	269
760082	WILBER-CLATONIA PUBLIC SCHOOL	3	4126	(640)	3661	(581)	464	(383)	496
760087	DIST 087 - SALINE COUNTY	1	3533	(535)	4207	(669)	-674	(205)	5
760088	DIST 088 - SALINE COUNTY	1	3085	(343)	1311	( 77)	1774	(735)	11
760100	DIST 100 - SALINE COUNTY	1	3160	(387)	181	( 8)	2979	(855)	10
760163	DIST 163 - SALINE COUNTY	1	2538	( 72)	2418	(311)	120	(318)	59
770001	BELLEVUE PUBLIC SCHOOLS	3	2707	(105)	2646	(352)	61	(311)	8,000
770022	DIST 022 - SARPY COUNTY	1	3536	(538)	2893	(400)	643	(432)	5
770027	PAPILLION-LAVISTA PUBLIC SCH	3	2835	(179)	2974	(418)	-139	(276)	5,975
770037	GRETNA PUBLIC SCHOOLS	3	3725	(571)	3036	(436)	690	(447)	857
770046	SOUTH SARPY DIST 46	3	3533	(536)	3287	(497)	246	(342)	1,399
780001	ASHLAND GREENWOOD PUB SCHOOLS	3	3780	(581)	3283	(495)	498	(391)	757
780003	DIST 003 - SAUNDERS COUNTY	1	3652	(562)	7258	(812)	-3606	( 62)	4
780005	DIST 005 - SAUNDERS COUNTY	1	3058	(323)	3307	(505)	-249	(257)	12
780009	YUTAN PUBLIC SCHOOLS	3	4071	(629)	2539	(338)	1532	(691)	441
780011	DIST 011 - SAUNDERS COUNTY	1	2464	( 57)	895	( 38)	1569	(704)	46
780014	DIST 014 - SAUNDERS COUNTY	1	2507	( 65)	2013	(223)	494	(389)	56
780018	DIST 018 - SAUNDERS COUNTY	1	4397	(704)	11100	(848)	-6703	( 20)	1
780019	DIST 019 - SAUNDERS COUNTY	1	3530	(530)	7400	(817)	-3871	( 55)	5
780020	DIST 020 - SAUNDERS COUNTY	1	2567	( 79)	1119	( 62)	1448	(664)	31
780023	DIST 023 - SAUNDERS COUNTY	1	3249	(427)	6178	(780)	-2928	( 77)	8
780024	DIST 024 - SAUNDERS COUNTY	1	3530	(531)	7790	(828)	-4260	( 40)	5
780034	DIST 034 - SAUNDERS COUNTY	1	3105	(359)	3210	(472)	-105	(278)	11
780036	DIST 036 - SAUNDERS COUNTY	1	2825	(172)	2120	(244)	704	(452)	19
780039	WAHOO PUBLIC SCHOOLS	3	4221	(663)	5396	(754)	-1175	(157)	590
780044	DIST 044 - SAUNDERS COUNTY	1	3200	(402)	3353	(519)	-153	(269)	23
780050	DIST 050 - SAUNDERS COUNTY	1	3152	(379)	3071	(444)	81	(317)	21
780051	DIST 051 - SAUNDERS COUNTY	1	3348	(473)	4614	(704)	-1266	(150)	7
780054	DIST 054 - SAUNDERS COUNTY	1	3453	(509)	2930	(409)	523	(399)	6
780060	DIST 060 - SAUNDERS COUNTY	1	3071	(328)	11036	(847)	-7965	( 18)	11
780070	DIST 070 - SAUNDERS COUNTY	1	2935	(249)	1574	(118)	1361	(637)	15
780072	MEAD PUBLIC SCHOOLS	3	4441	(715)	3719	(593)	722	(457)	260
780074	DIST 074 - SAUNDERS COUNTY	1	4023	(621)	12390	(852)	-8367	( 15)	2
780075	DIST 075 - SAUNDERS COUNTY	1	3210	(405)	2524	(337)	686	(443)	9
780091	DIST 091 - SAUNDERS COUNTY	1	3276	(444)	2060	(234)	1217	(591)	8
780103	DIST 103 - SAUNDERS COUNTY	1	2865	(200)	5332	(749)	-2467	( 94)	17
780104	PRAGUE PUBLIC SCHOOLS	2	5209	(833)	2687	(359)	2522	(837)	132
780105	DIST 105 - SAUNDERS COUNTY	1	2778	(140)	1615	(130)	1163	(580)	22
780107	CEDAR BLUFFS PUBLIC SCHOOLS	3	4603	(757)	4116	(655)	487	(386)	202
780110	DIST 110 - SAUNDERS COUNTY	1	2812	(165)	1582	(120)	1230	(597)	35
780111	DIST 111 - SAUNDERS COUNTY	1	3631	(553)	2868	(394)	763	(469)	4
780115	DIST 115 - SAUNDERS COUNTY	1	3249	(425)	3449	(538)	-200	(265)	8
780117	DIST 117 - SAUNDERS COUNTY	1	2821	(170)	3522	(551)	-702	(201)	19
780118	DIST 118 - SAUNDERS COUNTY	1	3530	(532)	6645	(793)	-3115	( 72)	5
780119	DIST 119 - SAUNDERS COUNTY	1	3083	(339)	4591	(702)	-1508	(134)	11
790001	LYMAN PUBLIC SCHOOLS	3	4771	(780)	2266	(265)	2505	(833)	166
790002	MINATARE PUBLIC SCHOOLS	3	4335	(692)	2408	(303)	1927	(760)	278
790005	DIST 005 - SCOTTS BLUFF COUNT	1	2455	( 53)	2731	(370)	-276	(254)	56
790007	DIST 007 - SCOTTS BLUFF COUNT	1	2562	( 78)	2011	(221)	551	(406)	35
790008	DIST 008 - SCOTTS BLUFF COUNT	1	2306	( 31)	2717	(365)	-411	(239)	55
790011	MORRILL PUBLIC SCHOOLS	3	4110	(635)	3873	(613)	237	(340)	447
790013	DIST 013 - SCOTTS BLUFF COUNT	1	2734	(114)	1423	( 94)	1311	(626)	32
790016	GERING PUBLIC SCHOOLS	3	3328	(460)	3095	(447)	234	(338)	2,363
790020	DIST 020 - SCOTTS BLUFF COUNT	1	2392	( 43)	1456	( 99)	936	(505)	61
790031	MITCHELL PUBLIC SCHOOLS	3	3906	(600)	2999	(424)	907	(502)	666
790032	SCOTTSBLUFF PUBLIC SCHOOLS	3	3207	(403)	4041	(642)	-834	(185)	2,969
790034	DIST 034 - SCOTTS BLUFF COUNT	1	2938	(254)	4474	(692)	-1537	(131)	15
790060	DIST 060 - SCOTTS BLUFF COUNT	1	2538	( 73)	2041	(233)	497	(390)	64



## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
790064	DIST 064 - SCOTTS BLUFF COUNT	1	2369	( 40)	1730	(159)	639	(430)	76
790065	DIST 065 - SCOTTS BLUFF COUNT	1	2229	( 28)	1701	(150)	528	(402)	72
800005	MILFORD PUBLIC SCHOOLS	3	3890	(598)	3244	(482)	646	(433)	640
800009	SEWARD PUBLIC SCHOOLS	3	3481	(517)	4770	(722)	-1289	(149)	1,161
800093	DIST 093 - SEWARD COUNTY	1	2886	(216)	3635	(572)	-749	(194)	26
800567	CENTENNIAL PUBLIC SCHOOLS	3	4074	(630)	4084	(648)	-9	(294)	559
810001	GORDON ELEMENTARY SCHOOL	1	1235	( 1)	1959	(206)	-724	(195)	401
810002	RUSHVILLE PUBLIC SCHOOLS	3	4217	(661)	2868	(393)	1349	(633)	339
810003	HAY SPRINGS PUBLIC SCHOOLS	3	4515	(741)	4209	(670)	306	(351)	168
810004	GORDON HIGH SCHOOL	6	5173	(827)	7695	(825)	-2522	( 92)	216
810013	DIST 013 - SHERIDAN COUNTY	1	2829	(174)	6726	(798)	-3897	( 54)	17
810014	DIST 014 - SHERIDAN COUNTY	1	2875	(208)	4762	(720)	-1887	(110)	17
810026	DIST 026 - SHERIDAN COUNTY	1	2810	(163)	3682	(584)	-872	(180)	19
810027	DIST 027 - SHERIDAN COUNTY	1	3317	(458)	2380	(297)	938	(506)	7
810030	DIST 030 - SHERIDAN COUNTY	1	2398	( 44)	2162	(247)	236	(339)	54
810035	DIST 035 - SHERIDAN COUNTY	1	3361	(479)	9398	(842)	-6037	( 25)	6
810036	DIST 036 - SHERIDAN COUNTY	1	3275	(438)	5014	(736)	-1739	(119)	8
810043	DIST 043 - SHERIDAN COUNTY	1	3156	(384)	9182	(839)	-6026	( 26)	10
810060	DIST 060 - SHERIDAN COUNTY	1	3890	(597)	3892	(618)	-2	(296)	3
810075	DIST 075 - SHERIDAN COUNTY	1	3133	(366)	4210	(671)	-1076	(163)	10
810083	DIST 083 - SHERIDAN COUNTY	1	2918	(240)	1577	(119)	1341	(632)	20
810085	DIST 085 - SHERIDAN COUNTY	1	3118	(362)	4661	(710)	-1543	(130)	11
810088	DIST 088 - SHERIDAN COUNTY	1	2881	(212)	1341	( 80)	1539	(693)	14
810091	DIST 091 - SHERIDAN COUNTY	1	2702	(102)	1346	( 81)	1356	(636)	20
810096	DIST 096 - SHERIDAN COUNTY	1	2961	(267)	5372	(751)	-2411	( 95)	11
810100	DIST 100 - SHERIDAN COUNTY	1	3561	(541)	6089	(778)	-2528	( 91)	4
810119	DIST 119 - SHERIDAN COUNTY	1	3578	(545)	7260	(813)	-3682	( 61)	5
810122	DIST 122 - SHERIDAN COUNTY	1	2925	(244)	4187	(665)	-1261	(151)	15
810129	DIST 129 - SHERIDAN COUNTY	1	2913	(239)	1831	(180)	1083	(554)	27
810131	DIST 131 - SHERIDAN COUNTY	1	3465	(515)	2423	(314)	1041	(543)	5
810133	DIST 133 - SHERIDAN COUNTY	1	3171	(396)	1469	(101)	1701	(720)	9
810154	DIST 154 - SHERIDAN COUNTY	1	3144	(373)	1405	( 88)	1740	(728)	9
810166	DIST 166 - SHERIDAN COUNTY	1	4023	(622)	3722	(594)	301	(350)	2
820001	LOUP CITY PUBLIC SCHOOLS	3	4020	(616)	2230	(257)	1790	(739)	546
820002	DIST 002 - SHERMAN COUNTY	1	2844	(187)	2494	(329)	350	(362)	14
820014	DIST 014 - SHERMAN COUNTY	1	3001	(291)	2790	(378)	211	(334)	13
820015	LITCHFIELD PUBLIC SCHOOLS	2	5094	(815)	2494	(328)	2600	(840)	151
820032	DIST 032 - SHERMAN COUNTY	1	2945	(259)	1044	( 49)	1901	(753)	41
820073	DIST 073 - SHERMAN COUNTY	1	3775	(578)	8297	(834)	-4522	( 36)	3
830002	DIST 002 - SIOUX COUNTY	1	3052	(315)	2544	(341)	508	(394)	10
830006	DIST 006 - SIOUX COUNTY	1	3196	(401)	1101	( 59)	2094	(790)	8
830007	DIST 007 - SIOUX COUNTY	1	2620	( 89)	3539	(556)	-919	(175)	50
830012	DIST 012 - SIOUX COUNTY	1	3703	(568)	13855	(854)	-10153	( 12)	3
830014	DIST 014 - SIOUX COUNTY	1	3359	(477)	3369	(523)	-10	(293)	6
830023	DIST 023 - SIOUX COUNTY	1	3240	(422)	3826	(611)	-585	(212)	7
830043	DIST 043 - SIOUX COUNTY	1	2794	(147)	880	( 36)	1914	(755)	14
830046	DIST 046 - SIOUX COUNTY	1	3805	(590)	2843	(389)	962	(514)	3
830048	DIST 048 - SIOUX COUNTY	1	3969	(610)	20910	(864)	-16940	( 3)	2
830051	DIST 051 - SIOUX COUNTY	1	3141	(369)	2104	(239)	1037	(541)	9
830500	SIOUX COUNTY HIGH SCHOOL	6	5949	(863)	9363	(840)	-3413	( 66)	52
840003	STANTON COMMUNITY SCHOOLS	3	4179	(650)	3789	(601)	390	(368)	403
840010	DIST 010 - STANTON COUNTY	1	3413	(494)	13655	(853)	-10242	( 11)	6
840013	DIST 013 - STANTON COUNTY	1	3006	(293)	3299	(502)	-293	(251)	13
840019	DIST 019 - STANTON COUNTY	1	2757	(127)	1936	(200)	821	(484)	19
840028	DIST 028 - STANTON COUNTY	1	2898	(224)	2516	(335)	382	(367)	14
840030	DIST 030 - STANTON COUNTY	1	3146	(375)	3292	(499)	-146	(273)	10
840031	DIST 031 - STANTON COUNTY	1	3065	(326)	1682	(146)	1383	(644)	11
840035	DIST 035 - STANTON COUNTY	1	2895	(221)	2272	(268)	623	(426)	23

## APPENDIX 11-C (CONT.)

District Number	District Name	Class	Need		Capacity		Gap		Enrollment
			\$/Per Student	Rank	\$/Per Student	Rank	\$/Per Student	Rank	
840036	DIST 036 - STANTON COUNTY	1	2756	(125)	1589	(125)	1168	(582)	21
840055	DIST 055 - STANTON COUNTY	1	2811	(164)	413	( 12)	2398	(826)	19
840081	DIST 081 - STANTON COUNTY	1	3348	(474)	9033	(837)	-5685	( 28)	7
850007	HEBRON PUBLIC SCHOOLS	3	4097	(634)	3669	(583)	428	(378)	458
850026	DIST 026 - THAYER COUNTY	1	2601	( 82)	1848	(187)	753	(463)	28
850047	DAVENPORT COMMUNITY SCHOOLS	2	5183	(829)	4960	(733)	223	(335)	132
850054	CHESTER-HUBBELL-BYRON SCHOOLS	3	4791	(783)	5223	(743)	-432	(235)	151
850060	DESHLER PUBLIC SCHOOLS	3	4497	(731)	3810	(608)	688	(444)	247
850089	DIST 089 - THAYER COUNTY	1	3012	(295)	5953	(772)	-2940	( 76)	10
850094	BRUNING PUBLIC SCHOOLS	2	5084	(813)	3265	(491)	1820	(746)	156
860001	THEDFORD RURAL HIGH SCHOOL	6	5656	(861)	4528	(697)	1129	(568)	83
860004	DIST 004 - THOMAS COUNTY	1	2417	( 48)	2855	(390)	-439	(233)	77
870001	PENDER PUBLIC SCHOOLS	3	4226	(665)	3830	(612)	395	(369)	384
870013	WALTHILL PUBLIC SCHOOLS	3	4401	(707)	2224	(256)	2176	(807)	291
870015	DIST 015 - THURSTON COUNTY	1	3530	(533)	6697	(796)	-3167	( 71)	5
870016	MACY PUBLIC SCHOOLS	3	4275	(674)	810	( 29)	3464	(863)	360
870017	WINNEBAGO PUBLIC SCHOOLS	3	4320	(683)	2197	(249)	2123	(796)	287
880005	ORD PUBLIC SCHOOLS	3	3731	(572)	3801	(605)	-70	(281)	702
880006	DIST 006 - VALLEY COUNTY	1	3642	(554)	11670	(850)	-8028	( 17)	4
880010	DIST 010 - VALLEY COUNTY	1	2777	(138)	1706	(152)	1072	(550)	22
880021	ARCADIA PUBLIC SCHOOLS	2	5184	(830)	2867	(392)	2317	(820)	121
880023	DIST 023 - VALLEY COUNTY	1	2992	(289)	917	( 40)	2075	(786)	20
880026	DIST 026 - VALLEY COUNTY	1	3056	(320)	2567	(346)	489	(387)	11
880032	DIST 032 - VALLEY COUNTY	1	3650	(560)	896	( 39)	2754	(848)	4
880056	DIST 056 - VALLEY COUNTY	1	3650	(561)	1613	(129)	2037	(779)	4
880063	DIST 063 - VALLEY COUNTY	1	2975	(279)	4617	(705)	-1642	(125)	14
890001	BLAIR COMMUNITY SCHOOLS	3	3395	(488)	3114	(452)	281	(346)	1,877
890003	FORT CALHOUN PUBLIC SCHOOLS	3	4096	(632)	3008	(427)	1088	(556)	558
890014	DIST 014 - WASHINGTON COUNTY	1	2866	(202)	1542	(112)	1324	(628)	27
890024	ARLINGTON PUBLIC SCHOOLS	3	4015	(614)	3658	(579)	357	(365)	551
890025	DIST 025 - WASHINGTON COUNTY	1	2897	(222)	6238	(782)	-3341	( 68)	16
890100	DIST 100 - WASHINGTON COUNTY	1	2531	( 68)	2385	(298)	146	(326)	47
890517	DIST 517 - WASHINGTON COUNTY	1	2850	(190)	4821	(726)	-1971	(107)	18
900005	DIST 005 - WAYNE COUNTY	1	3293	(451)	5050	(737)	-1756	(117)	8
900009	DIST 009 - WAYNE COUNTY	1	2310	( 33)	2878	(398)	-568	(216)	63
900015	DIST 015 - WAYNE COUNTY	1	3181	(397)	6011	(774)	-2831	( 80)	10
900017	WAYNE PUBLIC SCHOOLS	3	4012	(613)	4694	(714)	-683	(204)	795
900025	DIST 025 - WAYNE COUNTY	1	2772	(132)	2432	(315)	340	(360)	20
900033	DIST 033 - WAYNE COUNTY	1	3533	(537)	2660	(355)	873	(494)	5
900047	DIST 047 - WAYNE COUNTY	1	3530	(534)	2027	(227)	1502	(685)	5
900051	DIST 051 - WAYNE COUNTY	1	2722	(107)	2415	(309)	307	(352)	27
900057	DIST 057 - WAYNE COUNTY	1	2456	( 55)	1801	(176)	656	(436)	43
900076	DIST 076 - WAYNE COUNTY	1	2846	(188)	672	( 22)	2174	(805)	18
900077	DIST 077 - WAYNE COUNTY	1	3526	(524)	2653	(354)	872	(493)	5
900560	WAKEFIELD PUBLIC SCHOOLS	3	4254	(672)	3125	(455)	1129	(569)	351
900595	WINSIDE PUBLIC SCHOOLS	3	4513	(740)	3122	(453)	1391	(647)	227
910002	RED CLOUD PUBLIC SCHOOLS	3	4203	(653)	3491	(543)	711	(453)	349
910074	BLUE HILL PUBLIC SCHOOLS	3	4361	(698)	2433	(316)	1928	(761)	305
910501	GUIDE ROCK PUBLIC SCHOOLS	2	5202	(832)	3192	(467)	2009	(778)	116
920045	WHEELER CENTRAL SCHOOLS	2	5011	(806)	2301	(275)	2709	(847)	201
930012	YORK PUBLIC SCHOOLS	3	3646	(555)	4891	(729)	-1245	(152)	1,311
930056	BRADSHAW PUBLIC SCHOOLS	2	5130	(822)	4681	(713)	449	(381)	131
930083	MC COOL JUNCTION PUB SCHOOLS	2	4995	(804)	2484	(327)	2510	(835)	175
930095	HENDERSON PUBLIC SCHOOLS	3	4197	(651)	3530	(553)	667	(439)	391
930503	BENEDICT PUBLIC SCHOOLS	2	5176	(828)	3342	(516)	1834	(748)	139

## Appendix 11-D

### Data Sources

Data for this study is taken from a variety of sources. This section describes each data source and the variables used from that source.

Total enrollment of handicapped students by district for 1985-86 was provided by the Nebraska Department of Education, Division of Instructional Services, Special Education Section. The total number blurs the distinctions and maybe the costs of particular groups of handicapped students. The Special Education Section records data on nine groups of students: autistic, behavioral impaired, educationally mental handicapped, specific learning disability, mental retardation, orthopedic handicapped, speech handicapped, visual handicapped, and multiple handicapped.

We had two sources of financial information. The Nebraska State Department of Education provided the 1985-86 Annual Financial Report for each district on magnetic tape. The chapter contains information for 480 items for, where applicable, elementary schools, secondary schools, and district totals in 955 districts. The Bureau of the Census provided similar information in a nationally standardized format. The Census information also included revenues and expenditures for Educational Service Units.

Information on enrollments, classes of districts, and nonresident students was taken from *Statistics and Facts About Nebraska Schools, 1985-86*, published by the Nebraska Department of Education. Management Information Services of the Nebraska Department of Education supplied information on transportation for 1985/86.

The Census of Population and Housing Summary Tape File 3F (STF3F) from 1980 was used as a source for information on the demographic characteristics of the general population residing in each district. The data in STF3F was collected in 1979-80 and contains only estimates based on a sample of persons and housing units. The Bureau of the Census notes that

"The reliability of those estimates...can be problematic for small numbers," (User's Guide, Part C. Index to Summary Tape Files 1 to 4, Census of Population and Housing, U.S. Department of Commerce, Bureau of the Census, p.3).

Data obtained from STF3F provided information on those school districts which the Bureau of the Census recognized as operational as of 1980. Since that time, many school districts in Nebraska have been effected by closings and mergers. In order to utilize the Census information, adjustments in the data were made to reflect all school district closings, creations and mergers during 1980-86. The Nebraska State Department of Education provided State Aid Merger Lists which indicate the new allocation distributions for State Aid which resulted as a consequence of the mergers. These distribution ratios are used to apportion 1980 demographic characteristics such as district population, aggregate household (1979) income and poverty status, from the closed or merged district to the newly formed or aggregated district. Unfortunately, this methodology precludes the use of certain data from STF3F which we otherwise would have employed, such as median income estimates.

## Appendix 11-E

### Description of a School District Data Base

This appendix describes a set of indicators that could form the basis of a school district data base. The focus here is on specific measures of needs and costs. The need indicators attempt to include measures that reflect the differential costs per unit of service provided. The cost indicators attempt to include measures that analyze the impact of environmental costs on the production of local services. For convenience, the description of indicators are broken out into categories: public and private enrollments, transportation, economic and financial, demographic information, and service levels. This list is intended to be suggestive rather than comprehensive. Ideally, it would be useful to have a set of indicators going back several years.

#### **Public and Private Enrollments**

*resident enrollment in district public schools*--the number of school district residents attending public schools in the district in grades pre-kindergarten through twelfth grade.

*resident enrollment sent outside the district to public schools*--the number of students a district pays tuition or user fees to be educated by another district

*resident enrollment of private schools in a district*--the number of resident students being educated in private, non-locally tax supported schools.

*nonresident students enrolled in district schools*--the number of students from outside the district for whom tuition or user fee is paid to the district.

*special student enrollment in district*--the number of students in a district receiving special education in public schools. The measure may be broken down by the kind of primary student handicap.

*special student enrollment sent outside the district*--the number of students in a district receiving special education in public schools outside the district.

*percent change in resident enrollment for the last five years*--to measure how much change the district has had to respond to

## Transportation

*average number of daily miles traveled by buses to carry students eligible for transportation as required by the state--school districts may decide to offer transportation to more than the minimum number of students or to transport the elderly. The measure only looks at the minimum number of miles.*

*average number of daily miles traveled by buses to carry students as mandated by an agency or court--a school district may be required by an agency or court to provide transportation for students to achieve some policy goal.*

*size of district in square miles--to show if a district is spread out or compact.*

## Economic and Financial

*estimated aggregate household income for residents in a district--this measure could be taken from published figures from a recent census or, alternatively, if the state income tax form asked for a school district number, then the Nebraska Department of Revenue could supply aggregate income figures by school district.*

*percent of population with income below the poverty level and/or number of families receiving Aid for Dependent Children--these are possible measures of the amount of poverty in a district.*

*average wage in school district--this measures the overall labor costs a district faces.*

*total assessed value of property in a school district--total dollar value of property the forms the property tax base.*

*total assessed value of commercial property in a school district--a breakdown of above.*

*total assessed value of residential property in a school district--a breakdown of above.*

*total assessed value of utility property in a school district--a breakdown of above.*

*total Federal aid received by a district including state pass-through excluding school lunch program*

*total state aid received by a school district--while a total amount is most important, it may be useful to define subcategories.*

*total Federal aid received for school lunch program*

## Demographic Information

*total population of a district--total resident population of a district.*

*estimated percentage change in school district total population--how much is the district population changing.*

*percent of population 65 and over--this population may have property that is exempt from property taxes and its members may be dependent on others in the community for income and support.*

*percent of district that is urban (city, village)--rural school districts may face harsher environments for providing school services.*

### **Service Levels**

*total per-student operating expenditure for instruction--this should only measure the costs of a "standard" education and exclude costs of after school programs, summer schools, or other preferred services.*

*total per-student operating expenditure for mandated transportation--this should only measure the costs of required transportation as described above.*

*total per-student operating expenditures for other mandated programs--there may be other mandated programs that fall outside instruction and transportation such as counseling.*

It may be useful to breakdown expenditures by service level: pre-kindergarten or kindergarten to sixth grade, seventh to ninth grade, tenth to twelfth grade, or some other arrangement.

*number of resident students enrolled in a pre-kindergarten program--pre-kindergarten programs are not standard in the state so this may be viewed as a nonstandard service.*

*number of class room in use--how many class rooms does a district have in operation to support its student population. A district may have to support a large number of low populated class rooms.*

*number of school building in a district in use with the average age--is the district burdened with an aging or antiquated physical plant.*

*indicators for program required for special student populations other than handicapped such as bilingual or native American programs.*

*indicators for school districts providing services to a Federal installation such a military base.*

*indicators for school districts providing summer school services and/or adult education programs.*

*indicators for special programs required by problems brought into the school such as drugs or alcoholism.*



CHAPTER 12  
TAX AND EXPENDITURE LIMITATIONS<sup>1</sup>

by Bernard Jump, Jr.

**Introduction**

Like many other states, Nebraska has long imposed limitations on the tax rates that local jurisdictions may exact from owners of taxable property. Despite these constitutionally and statutorily prescribed caps, however, effective property tax rates in Nebraska are among the highest in the nation.<sup>2</sup>

The existence of relatively high property tax rates in Nebraska suggests that existing tax limitations have not been particularly effective in lowering local property taxes. In fact, this lack of effectiveness is not surprising given the fact that schools districts, which collect most of the property taxes in the state, are not subject to the rate limit.<sup>3</sup> The question we address in this paper is whether more stringent tax or expenditure limitations would be an appropriate policy for bringing down Nebraska's high property tax rates.

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<sup>1</sup>The author is grateful to Deborah Thomas and Eric Will of Nebraska Senator Vard Johnson's office, for their careful review of an earlier draft of this chapter. He would also like to thank Julie Eberhardy, a research assistant at Syracuse University for her assistance in preparation of this chapter. This chapter is based on Bernard Jump, Jr., "Tax and Expenditure Limitations," Nebraska Comprehensive Tax Study Staff Paper No. 12, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, March 1988).

<sup>2</sup>In 1985 the United States average effective property tax rates for existing single family homes with FHA insured mortgages was 1.21 percent of market value. Nebraska's average effective rate in 1985 was 2.29 percent, which made it the third highest rate in the nation. Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism: 1987 Edition*, M-151 (Washington: U.S. Government Printing Office, 1987), Table 64, p. 99.

<sup>3</sup>Revenue Committee, Nebraska legislature, *A Layman's Guide to State and Local Revenue and Taxation in the State of Nebraska*, January 1986 edition, p. 15.

By way of background, it may be useful to point out that the cause of high property taxes in Nebraska is not that the state's local governments provide an extravagant level and range of public services. Indeed, by a variety of measures, local spending in Nebraska is somewhat below the national average. Instead of extravagant spending, the principal explanations for Nebraska's high property taxes are that the state provides far less aid than the national average and that, for the most part, local governments in the state do not employ any broad-based revenue sources other than the property tax.<sup>4</sup>

Nebraska is not unique in having relatively high property tax rates despite the existence of legal limits on property tax rates. Its legislators would also not be the first in the country to be concerned enough about high property tax rates to consider possible remedies. More than a few other states that have found themselves in a similar situation have resorted to alternative forms of control over local government finance. As a matter of fact, the last two decades have witnessed the proliferation across the country of new and far more elaborate forms of statutory and constitutional controls over the revenue raising and spending practices of local governments. Many of the most restrictive of newer tax and expenditure limitations (TEs) have been adopted by states that already had tax rate limitations in force.<sup>5</sup> Evidently we should not be too surprised

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<sup>4</sup>Admittedly there is no single, best measure of how one state's public services compare with those provided by other states. In general, however, service levels are probably reasonably well-correlated with fiscal measures such as revenues and expenditures per capita or as a percentage of personal income. On that basis Nebraska does not place in the top ranks among the states. For example, Census Bureau data for state and local and local only taxes and expenditures (per capita and in relation to personal income) place Nebraska below the United States average. See Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism: 1987 Edition*, pp. 23, 24, 26, 51. For more detailed comparisons, see J. Miner and P. Joyce, "The Nebraska State and Local Revenue and Expenditure System: A Comparative Analysis of Structure and Levels," Chapter 1 in this volume.

<sup>5</sup>Interestingly, California, the state whose 1978 constitutional amendment known as Proposition 13 is still the most restrictive of all state limitations on local governments, had enacted a property tax rate and levy limit as recently as 1972. J. Shannon, M. Bell, and R. Fisher, "Recent State Experience with Local Tax and Expenditure Controls," *International Assessor* (October 1976): 5.

to discover that property tax rate limitations may fail to produce the results expected by their advocates.

We do three things in this paper. In the first section we provide descriptions of each of the major types of TELs that are used by states to limit (or attempt to limit) what their local units may raise in tax revenues or how much they may spend. Second, by drawing from the experience that various states have had with their TELs, as well as from the academic literature, we describe how the newer TELs have worked in practice and identify the major problems that appear to be associated with each form of TEL. Although our interpretation of the evidence about the operation of most TELs does not lead us to be strong proponents of any except those known as full disclosure limitations, we conclude this paper by offering some guidelines for consideration by Nebraska policy makers in the event they decide to implement such policies.

### **Types of Tax and Expenditure Limitations**

Although state constitutional and statutory limitations on local government fiscal activities have been commonplace in the United States for well over a century, widespread use of the full array of fiscal control devices that have recently come to be known as tax and expenditure limitations is a phenomenon that began in the 1970s. Traditionally, states attempted to control local government taxation and current operations spending by limiting the extent to which local units could exploit the revenue potential of their primary source of tax revenue, the property tax. The most common form of control, and the form currently used in Nebraska is a limit was placed on the rate at which property taxes could be levied against the assessed value of taxable property. As the data contained in Table 12-1 show, property tax rate limits remain the most widely used form of TEL.

TABLE 12-1

RESTRICTIONS ON STATE AND LOCAL GOVERNMENT  
TAX AND EXPENDITURE POWERS  
(October 1985)

State-Imposed Limits on Local Governments							
States	Overall Property Tax Rate Limit	Specific Property Tax Rate Limit	Tax Levy Limit	General Revenue Limit	General Expenditure Limit	Limits on Assessment Increases	Full Disclosure
Total Number	12	31	22	6	6	7	14
Alabama	CMSA	CMSB					
Alaska	CMSD		CMD				
Arizona			CMA		CMSA	CMSA	
Arkansas		CMSB	CMSA <sup>a</sup>				
California	CMSA				CMSA	CMSA	
Colorado		CSB	CMB		SD		CMSA
Connecticut							
Delaware		SD	CA <sup>a</sup>				
Washington, DC							C
Florida	CMA	CMSB					CMSD
Georgia		SB					
Hawaii							CD
Idaho		CMSB	CMSA				
Illinois		CMSB	CMSA				CMSA
Indiana			CMSA				
Iowa		CMB				CMSA	CMSB
Kansas		c	CMD		SD		
Kentucky	CMSB	CMSA					CMSA
Louisiana		CMSD	CMSA <sup>a</sup>				
Maine							
Maryland				CMA		CMD	CMD
Massachusetts			CMSA				
Michigan	CSB	MB	CMSA				CMSA
Minnesota		CMSB	CMSD	MB	SD		
Mississippi		CMSB	CMSA	CMSA			
Missouri		CMSB		CMSA			
Montana		CMSB					
Nebraska		CMB					CMSD

TABLE 12-1 (CONT)

State-Imposed Limits on Local Governments							
States	Overall Property Tax Rate Limit	Specific Property Tax Rate Limit	Tax Levy Limit	General Revenue Limit	General Expenditure Limit	Limits on Assessment Increases	Full Disclosure
Nevada	CMSB	SB	CMD				
New Hampshire							
New Jersey			CD		MSD		
New Mexico	CMSB	CMSB	CMSA			CMSA <sup>b</sup>	
New York		CMSB				CMA	
North Carolina		CMD					
North Dakota			CMSA				
Ohio	CMSB		CMSD <sup>a</sup>				
Oklahoma	CMSB	CMSB					
Oregon			CMSB			CMSA	
Pennsylvania		CMSB <sup>d</sup>					
Rhode Island			M				M
South Carolina							
South Dakota		CMSB					
Tennessee							CMSA
Texas		CMSD					CMSA
Utah		CMSB					
Vermont							
Virginia							CMD
Washington	CMSD	CMSD	CMSD	SD			
West Virginia	CMSB	CMSB					
Wisconsin		CMSB					
Wyoming		CMSA					

C = County

B = Enacted before 1970

M = Municipal

D = 1970 to 1977

S = School District

A = 1978 and after

TABLE 12-1 (CONT)

Explanation of Column Headings

**Overall Property Tax Rate Limit:** refers to the maximum rate that may be applied against the assessed value of property without a vote of the local electorate. The rate is usually expressed as millions per dollar of assessed value. The overall limit refers to the aggregate tax rate of all local governments--municipal, county, school districts, and special districts (if applicable).

**Specific Property Tax Rate Limit:** same as above, except the specific rate limit refers to limits on individual types of local governments (i.e., separate limits for cities, counties, etc.) or limits on narrowly defined services (excluding debt).

**Property Tax Levy Limit:** refers to the maximum revenue that a jurisdiction can raise from the property tax. This is typically enacted as an allowed annual percentage increase in the property tax levy.

**General Revenue Limit:** refers to the total amount of revenue, both from property and nonproperty tax sources, that a local government is allowed to collect during a fiscal year.

**General Expenditure Limit:** refers to the maximum amount that a jurisdiction can either appropriate or spend during a fiscal year. This is usually legislated as an allowed annual percentage increase in operating expenses.

**Limits on Assessment Increases:** by limiting increases in assessments, taxpayers are protected from escalating tax bills caused by appreciating property values. This forces local governments to increase tax rates for needed additional revenue, rather than rely on this automatic revenue windfall caused by rising property values.

**Full Disclosure or Truth-in-Property Taxation:** refers to a procedure designed to promote public discussion and political accountability requiring local governing bodies to advertise and hold public hearings on proposed tax rate increases.

<sup>a</sup> Limits follow reassessment.

<sup>b</sup> Applicable to only New York City and Nassau County.

<sup>c</sup> Only for selected districts (Fire, Library, Cemetery, etc.).

<sup>d</sup> Jurisdictions with home rule charters are not subject to limits.

SOURCE: Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism: 1987 Edition, M-151 (Washington: U.S. Government Printing Office, 1987), pp. 116-117; and Revenue Committee, Nebraska Legislature, A Layman's Guide to State and Local Revenue and Taxation in the State of Nebraska, January 1986 Edition, p. 15.

Beginning in the early 1970s, other forms of TELs began to proliferate.<sup>6</sup> In some states one or another of the alternative TELs was adopted as a supplement or companion to a property tax rate limit. In other states a newer form of TEL became the sole legal limit on local taxing or spending.

While close examination of the contents of each state's TELs would reveal a considerable amount of variation among the states in the exact provisions in force, it is convenient for purposes of describing the principal features of TELs to classify these fiscal control devices into the following six general types:

- 1) Property tax rate limitations
- 2) Property tax levy limitations
- 3) Assessment increase limitations
- 4) General revenue limitations
- 5) General expenditure limitations
- 6) Full disclosure limitations

### **Principal Features of Tax and Expenditure Limitations**

**Property Tax Rate Limitations.** As noted above, limits on property tax rates are the most common form of TEL in use today, and the form that is in force in Nebraska.<sup>7</sup> By specifying the maximum rate in either mills or dollars per \$100 of officially appraised taxable property values, tax rate limits give at least the appearance of imposing an effective ceiling on tax burdens to which property owners are subjected. In some states tax rate limits set an overall rate that controls the taxation of all overlapping units of local government. But like Nebraska, a

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<sup>6</sup>Shannon, Bell, and Fisher, "Recent State Experience with Local Tax and Expenditure Controls"; D. Merriman, *The Control of Municipal Budgets: Toward the Effective Design of Tax and Expenditure Limitation* (New York: Quorum Books, 1987), p. 25.

<sup>7</sup>Each political subdivision group in Nebraska, except school districts, is subject to property tax rate limitations. The limit on county property tax rates is constitutional; limits on all other jurisdictions are statutory. Despite Nebraska's dubious status as the state with the third highest tax rate, most of the state's local governments have not reached their tax rate limits--"which indicates [that the limits] really have no effect as a lid." Revenue Committee, Nebraska Legislature, *A Layman's Guide*, p. 15.

larger number of states impose individual rate limits on some or all local government categories (e.g., cities, counties, school districts). In practice, when its tax rate ceiling is reached by a jurisdiction the only ways that the governmental unit can increase its property tax revenues are by increasing the assessed value of its property tax base or (where permitted) by obtaining from local residents a favorable vote to increase the rate.

**Property Tax Levy Limitations.** Levy limitations specify the total amount of revenue that a local government may obtain from the property tax, regardless of the growth in taxable property values experienced by the community. A levy limit is typically stated in terms of a maximum percentage increase in property tax revenue that is allowed each year. Therefore, in instances where property values or assessment ratios (i.e., taxable property values divided by market values of property) increase sufficiently so that the previous year's tax rate would produce a percentage increase in revenue in excess of the levy limit percentage, the taxing unit must lower its tax rate enough to conform with the levy limit requirements. The well-known Proposition 2 1/2 in Massachusetts contains a levy limit.

**Assessed Value Limitations.** A few states have begun to limit the rate of increase in the taxable or assessed property values set by their local governments. Like tax levy limitations, this approach prevents local jurisdictions from capturing automatically all of the property value increases that are attributable to general inflation. Thus, to gain additional property tax revenues, local officials are required to formally raise tax rates--if that option is even available to them. Proposition 13 in California includes an assessed value limit, which applies until a home is sold.

**General Tax Revenue Limitations.** While local governments in many states are required to rely almost exclusively on property as their source of tax revenues, some states have granted to their local governments the right to draw on other taxes (e.g., sales and income taxes)



as well. Even in these instances, however, some states specify a limit on the annual growth in a local government's total tax revenues.<sup>8</sup>

**General Expenditure Limitations.** A small number of states limit the percentage by which local units are permitted to increase their expenditures (or their appropriations) during a year. Expenditure limitations often exempt certain types of spending (e.g., debt service and pension expenditure) and some spending that is financed from nontax revenue.

**Full Disclosure Limitations.** Full disclosure (or truth-in-property taxation) laws are among the newest forms of tax limitations. Where full disclosure limits apply, "the governing body of the local jurisdiction sets a [property] tax rate that will yield revenues equal to those of the previous year when applied to the same percentage of the current year's tax base (total assessed valuation of property). Any proposed increase above the amount provided in this rate must be advertised and subjected to public hearing. The intent is to place the responsibility for increasing the rate on the government body rather than on the assessor whose duty it is to determine the taxable value."<sup>9</sup> Subsequent to the public hearing the local governing body may vote to raise property taxes. Thus, the objective of this form of control is not so much to limit a government's freedom to raise taxes as it is to provide a procedure to insure that the electorate is aware of and able to voice their opinion about any increase in tax rates.

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<sup>8</sup>This type of limit is reminiscent of Nebraska's lid law that was adopted in 1979 and allowed to expire in 1985. Applicable to all local governments that levied a property tax, the lid "limited the annual growth in each local government's budgeted tax receipts to not more than 7 percent." Revenue Committee, Nebraska Legislature, *A Laymen's Guide*, p. 14.

<sup>9</sup>Advisory Commission on Intergovernmental Relation, *The Question of State Government Capability*, A-98 (Washington: U.S. Government Printing Office, 1985), p. 323. There are substantial similarities between levy limits and truth in taxation laws. But where a levy limit requires a favorable vote by the jurisdiction's voters, a truth in taxation limit gives the power to raise the levy to the local governing body after a public notice and hearing. Thus, the latter type of limit "aims at improving the processes by which local taxing and spending decisions are made" and its focus is "on the quality of the information made available to voters." George F. Break, *Financing Government in a Federal System* (Washington: The Brookings Institution, 1980), p. 260.

## Tax and Expenditure Limitations: An Assessment

TELS, especially the newer versions, have been the source of much debate and controversy. They have also received an enormous amount of attention from academic researchers in the last decade, particularly in the wake of enactment of the widely publicized California Proposition 13 and its Massachusetts counterpart, Proposition 2 1/2. Even with all of the scrutiny that recent TELS have received, they continue to be the source of more heat than light. What is clear, however, is that we still know comparatively little about how to design a TEL that will both produce the results desired by its proponents and not carry with it a host of undesirable and unintended side effects.<sup>10</sup>

### Objectives of TELS

Judging from the rhetoric that often accompanies enactment of TELS, both proponents and opponents expect more from them than is reasonable. Indeed, a review of the history of recent TEL movements suggests that there has been little in the way of consensus regarding the causes of the so-called tax revolt or the desired outcomes from imposition of TELS.<sup>11</sup> But we can identify certain recurring targets or objectives that TEL proponents frequently aim to accomplish.<sup>12</sup> Perhaps the most commonly sought after target for TELS is the relatively straightforward and apparently simple one of limiting the burden of the property tax, the tax that

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<sup>10</sup>"One difficulty faced by anyone trying to evaluate the possibilities of tax and expenditure limitations is to discern exactly what the public has in mind in passing them. Are such limits seen as the only reliable route to increased government efficiency, as a means of changing the tax or intergovernmental structure by limiting some sources of revenue so that others can expand to take their place, or as a curb on the size of government so that private goods and services can supplant public ones? Public opinion polls, not surprisingly, give conflicting answers to these questions." Break, *Financing Government in a Federal System*, pp. 258-259.

<sup>11</sup>R. Esty, *The Effect of State Fiscal Caps on Expenditures*, unpublished Ph.D. dissertation, Department of Economics, University of Maryland, 1983, p. 9; Merriman, *The Control of Municipal Budgets*, p. 51.

<sup>12</sup>Esty, *The Effect of State Fiscal Caps on Expenditures*, pp. 9-10.

is usually the major source of tax revenue raised at the local government level. When capping the property tax is the main or sole objective, the traditional approach has been to impose a ceiling on the property tax rate, as Nebraska does, or to specify the percentage that property tax revenues can increase in a year by means of a tax levy limit.

As Nebraska's experience shows, however, state-imposed legal limitations do not guarantee that property tax rates will be close to the national average.<sup>13</sup> Even in states whose limit laws are accompanied by tax rates that are more nearly comparable to the country's norms, the apparent success of the limits is sometimes as much because state aid has been increased substantially and local governments have been given access to new taxes as it is because limits are in place.<sup>14</sup>

A second objective that sometimes is the motivating force behind TEL movements is a desire to force local governments to become more efficient in their use of resources. Growth in the size of local government budgets (and in locally-raised tax revenues) is frequently taken as prima facie evidence that government units are managed inefficiently. According to this view, local decisionmakers are not sufficiently motivated to take the necessary, but unpopular, steps required to curb waste, to hold public employee compensation in check, and to eliminate redundant and ineffective employees and programs as long as they have the alternative of tapping taxpayers for additional revenues. As a consequence, those who embrace this view can

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<sup>13</sup>This is not to deny, however, that some TELs have produced absolute declines in property tax burdens. California's Proposition 13, for an example, had an enormous impact on that state's property tax burden. Nevertheless, Proposition 13 "has led neither to the millennium promised by the proponents nor to the apocalypse predicted by its detractors." J. Citrin and D. P. Green, "Policy and Opinion in California After Proposition 13," *National Tax Journal* (March 1985): 15-16.

<sup>14</sup>S. D. Gold, "Results of Local Spending and Revenue Limitations: A Survey," in John M. Quigley, ed., *Perspectives on Local Public Finance and Public Policy*, Vol. 1 (Greenwich, Conn.: JAI Press, Inc., 1983), p. 139.

be expected to favor limits on elected officials' ability to tax and spend. There exists no evidence, however, that TELS have actually brought about such management improvements.

Some who have taken the lead in drives for sweeping and highly restrictive TELs openly seek a limitation on or even reduction in the size and scope of government activities. A cap on either expenditures or revenues would appear to be consistent with the goal; limits on both would be even better. With an intent actually to effect something as dramatic and unusual in a political sense as curbing the role of governments, proponents are likely to press for TEL packages that contain far more restrictive revenue and spending caps than those intended simply to hold tax burdens in check or to stimulate local officials to seek efficiency gains.

#### **Needed: A Theory of TEL Design**

Regardless of their objectives, TEL supporters are handicapped in designing suitable limitation laws because there exists no settled and comprehensive body of theory and principles covering the architecture of TELs. The absence of generally-accepted TEL design guidelines also helps to explain why both the proponents and opponents have so frequently exaggerated the predicted outcomes of particular TEL movements.

Whether the goal for which a TEL is intended is to limit tax burdens, to stimulate efficiency improvements, or to restrict the size and functions of governments, what is perhaps the most problematic aspect of TEL design and evaluation is that there is no consensus among even public finance specialists with respect to the factors that actually determine the effects of TELs. The result, as one specialist has observed is that "the public, political debate of TELs occurs in something of a vacuum; combatants pick sides almost randomly, because they have little information about what their values imply for the design of TELs. A person who favors decreased use of the property tax but little change in the level of local government spending (both arguably questions of value), for instance, would have little idea about whether or not to support a TEL or, more important, how to design a TEL that he or she could support, even if the

available academic literature was consulted."<sup>15</sup> Despite the fact that the available academic literature does not provide all that we would like to know about how TELs work,<sup>16</sup> there has been enough experience with TELs to enable us to identify some of the major difficulties that are likely to accompany the various forms of limitations.

### Unintended Consequences

The history of TELs is a history of frequently successful efforts, given enough time, to devise ways to reduce or neutralize the nominal restrictions contained in limitation laws.<sup>17</sup> That the restrictions contained in even the most seemingly Draconian TEL may be weakened over time is not really surprising. After all, few are the number whose enthusiasm for tax relief is accompanied by an equivalent degree of enthusiasm for cutbacks in the services their governments furnish to them.

Very often one result of a limitation on property taxes will be resort by affected jurisdictions to alternate revenue sources. Indeed, state policy makers who favor TELs that effectively curb local governments' access to the property tax base should be prepared for demands from their localities to allow them access to other revenue sources not currently authorized by state law. They should also be prepared to feel steadily growing pressure on the

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<sup>15</sup>Merriman, *The Control of Municipal Budgets*, p. 52.

<sup>16</sup>Merriman's, *The Control of Municipal Budgets* and Gold's "Results of Local Spending and Revenue Limitations" contain excellent reviews of the available literature pertaining to local government TELs. Merriman's book also contains an empirical study of New Jersey's TEL, and this study is probably the best such analysis of a local TEL to be published. Although Esty's unpublished doctoral dissertation, *The Effect of State Fiscal Caps on Expenditure*, focuses on state TELs, both its literature review and its empirical analysis are very relevant to local TELs, too.

<sup>17</sup>Merriman, *The Control of Municipal Budgets*, p. 154; Gold, "Results of Local Spending and Revenue Limitations," p. 140; and Esty, *The Effect of State Fiscal Caps on Expenditures*, p. 26. Several aspects of New Jersey's complex cap on municipal expenditures have been modified since the law's enactment in 1976. See Merriman, *The Control of Municipal Expenditures*, Chapter 5. Good reviews of the experience with TELs in 14 states are contained in Gold, "Results of Local Spending and Revenue Limitations."

state to assume at least financial responsibility for some services that local governments have been required to provide and pay for.<sup>18</sup>

Where they are permitted to do so, local communities that are constrained by TELs have long resorted to a variety of evasive measures. Even when the state denies to a local government the right to enact non-property taxes, the municipality may resort to the creation of special<sup>19</sup> districts that are free either to levy property taxes on their authority or to impose user charges that will finance services formerly provided by the general purpose government.<sup>20</sup>

Admittedly, a measure that brings about the substitution of a revenue source other than the property tax makes property owners better off in terms of their property tax burden.<sup>21</sup> At the same time, however, the substitution of an alternative revenue source is likely to alter the distribution of the community's aggregate tax burdens among income classes. If the substitute

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<sup>18</sup>That state-imposed restraint on local fiscal positions logically leads back to pressure on the state has long been recognized by public finance specialists. What we are suggesting, in effect, is that there is interdependency between state and local budgets. See Esty, *The Effect of State Fiscal Caps on Expenditures*, p. 15; and Shannon, Bell, and Fisher, "Recent State Experience with Local Tax and Expenditure Controls," p. 7.

<sup>19</sup>Creation of special districts at the will of local governments is not a privilege that every state permits. There is, however, very weak evidence of greater use of special districts in states with TELs than in those that have none. Advisory Commission on Intergovernmental Relations, *The Question of State Government Capability*, p. 326. Until the state amended its spending cap law to close the loophole, New Jersey communities could partially evade the law by creating special districts--and some units did just that. According to Merriman, however, relatively few local governments took advantage of this opportunity to increase their spending ability. *The Control of Municipal Budgets*, p. 90.

<sup>20</sup>A disadvantage associated with a shift toward user charges (or sales taxes) as partial replacements of property tax revenues is that the former are not deductible from federal income taxes while the latter are.

<sup>21</sup>The situation is not always a simple matter of TEL-induced relief for property owners at the expense of groups who will bear the burden of a substitute tax or user charge. A TEL such as California's Proposition 13 that limits the annual percentage increase in assessed values of property until the property is sold may produce a reduction in the business share of the tax (because turnover of business property is usually less than residential property turnover). Given enough time, "the widely differing assessment rates this process [of turnover] will create will produce serious horizontal inequities and provide an obvious disincentive for Californians to move from one home to another within the state." Break, *Financing Government in a Federal System*, p. 265.

revenue source is more regressive than the property tax that it partially replaces, the community's lower income groups will fare worse in the tradeoff than will those in higher income groups. This is not an option that many lawmakers would admit to favoring.

A major shortcoming of the usual TEL is that it is not designed to take account of differing fiscal conditions among a state's communities. As John Yinger emphasizes in another paper in the Nebraska Comprehensive Tax Study series, "All counties in Nebraska do not have the same fiscal condition. Some counties are in good fiscal condition because they have relatively low responsibility for providing services, relatively low public service costs, and relatively high revenue-raising capacity."<sup>22</sup> In like fashion, some counties (or cities or school districts) are in poor fiscal condition. Therefore, a TEL will not affect all jurisdictions equally, and its impact may add to the fiscal distress of those already in bad shape and add to the inequity that exists among a state's communities. TELs can also lead to the unfair treatment of some households. The assessed value limit in Proposition 13, for example, has led to dramatic differences across households in assessment-to-sale ratios.<sup>23</sup>

Despite expectations to the contrary, tax and expenditure ceilings may impair rather than improve the efficiency with which a community allocates its resources. For example, certain categories of expenditures may be exempt from the direct effects of TELs.<sup>24</sup> Exempt categories frequently include debt service,<sup>25</sup> cost of public employee pensions, capital spending and,

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<sup>22</sup>J. Yinger, "The Fiscal Condition of County Government in Nebraska," Chapter 9 in this volume.

<sup>23</sup>See M. Wiseman, "Proposition 13 and Effective Property Tax Rates," Institute of Business and Economic Research Paper No. 86-8 (Berkeley, CA: University of California, 1987).

<sup>24</sup>See the survey of TELs in Gold, "Results of Local Spending and Revenue Limitations," for illustrations of the kinds of exemptions permitted in some states.

<sup>25</sup>Exemption of debt service from a TEL--either the actual debt service expenditure under an expenditure limit or the taxes required to finance the debt service expenditure under a tax limit--may be regarded as a necessity to assure the municipal debt community that a government's debt security has not been impaired. See E. L. Dickson and G. D. Friedlander, "The Impact of Tax and Expenditure Limitation Initiatives on the Quality of Municipal Bonded Debt," Municipal Bond Research: Special Report, Smith Barney, July 1987; and N. Barbe,

perhaps, services that are financed on a shared or matching basis with the assistance of intergovernmental aid. In the face of restrictions on their freedom to choose how they will make budgetary allocations, local government decisionmakers may adopt a strategy that involves allocating more spending for exempt items than would have been favored had the full range of choices been available to them.<sup>26</sup>

An even more undesirable result of TELs than their contributions to inefficient resource allocation is that they weaken the role of local government vis-a-vis the state by denying to individual communities the right to decide independently the service level-tax burden package they prefer. This outcome is especially ironic because TELs are so often put forth as measures intended to protect local residents.<sup>27</sup>

Equally ironic, imposition of TELs may allow local lawmakers to evade responsibility for fundamental budgetary decisions--although TELs are commonly proposed as being necessary to force local officials to accept greater responsibility for the hard choices involved in resource

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"Assessing Revenue and Spending Limitations: A Look at the GANN Initiative in California," *Moody's Municipal Issues*, May 1987.

Exemptions such as those sometimes provided for prospective employee pension costs appear to be less easily justified. While accrued pension benefits earned by employees are ordinarily construed to be contractual obligations (and, in some states, constitutionally guaranteed), no such legal reasoning supports exemption from TELs of a government's future costs of employee pension benefits that are attributable to future service. In general, the risk involved when TEL designers open the door for any exemptions is that someone can always mount a superficially plausible case for excluding virtually any expenditure item.

<sup>26</sup>One of the lessons derived by Merriman in what is probably the most thorough theoretical and empirical study of a TEL (New Jersey's) is that "[i]f certain goods or revenue are made exempt from the provisions of a TEL, decisionmakers should be expected to use them more intensively." Merriman, *The Control of Municipal Budgets*, p. 154.

<sup>27</sup>Shannon, Bell, and Fisher, "Recent State Experience with Local Tax and Expenditure Controls," p. 8. The distinction that we are making here is that residents in individual communities in a state might prefer higher levels of local spending (and the higher tax rates required to provide them) than do the majority of the state's residents. Thus, statewide initiatives that have frequently brought about TELs limit the choice available to a particular jurisdiction's residents. See also H. F. Ladd, "An Economic Evaluation of State Limitations on Local Taxing and Spending Powers," *National Tax Journal* (March 1978): 1-18.



allocation. Instead of having to accept full responsibility for cutting popular programs, for imposing fees on some services that were previously financed with general revenues, or for otherwise altering the distribution of the burden of financing public service, TELs present local officials with the opportunity to avoid making controversial budgetary decisions and to lay the blame on legal limitations.<sup>28</sup>

### **Summary and Conclusion**

In our judgment, tax and expenditure limitations appear to promise more in the way of social benefits than they are usually able to deliver. Although it would be difficult for anyone to quarrel with objectives such as keeping tax burdens within reasonable bounds, eliminating wasteful spending, and generally promoting efficient use of public resources, one should be skeptical about the likelihood that TELs will be permitted to achieve such objectives. Despite the technical simplicity involved in designing a TEL that is capable of, say, holding taxes or spending at some predetermined level or rate of increase, there is ample evidence to suggest that voters will ordinarily support, if not demand, action to make limits less restrictive when their effects take a sufficient toll on desired programs.

Even when TELs are enacted at the direct behest of taxpayers who see themselves as hard-pressed to carry the weight of the cost of financing local services, state decisionmakers should not expect voters to be equally enthusiastic about service cutbacks and the other fairly predictable responses and adjustments that local governments can be expected to make in the face of the pressure that restrictive TELs produce. Instead, given sufficient time for the initial effects of TELs to be realized, legislators should be prepared for demands that they relax the

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<sup>28</sup>Obviously, this is conjecture. But its basic plausibility has long been recognized by TEL specialists. See Advisory Commission on Intergovernmental Relations, *State Limitations on Local Taxes and Expenditures* (Washington: U.S. Government Printing Office, 1977), p. 6.

restrictions, permit some exemption from the formal limitations, and shift some of the burden of service provision to the state.

### **Controlling Property Tax Burdens in Nebraska: Some Guidelines**

As we noted at the beginning of this chapter, property owners in Nebraska face effective tax rates that are among the highest in the nation. Evidently then, Nebraska's constitutional and statutory limitations on property tax rates have failed to do the job for which they were intended. Under these circumstances, it is appropriate to ask what Nebraska can do to provide some tax relief to hard-pressed property owners while avoiding resorting to measures that would impair the ability of local governments to provide a reasonable menu of services. We conclude this chapter by offering some guidelines for consideration.

In general, Nebraska is unlikely to achieve substantial reduction in its property tax burdens unless local governments are permitted access to other revenue sources such as sales and income taxes. But even if local governments in Nebraska are allowed to tap other tax sources, as we recommend, some jurisdictions might still find it difficult to provide adequate services without having to impose heavy tax burdens on their residents. Nebraska's communities are not equally situated with respect to their revenue-raising capacities or their expenditure needs. Therefore, provision by all communities of equal levels of services will continue to produce substantial disparity among communities in the tax burdens imposed on their residents. A desirable step in the direction of equalizing burdens among the state's communities could involve either state assumption of financial responsibility for some of the functions presently assigned to local governments or, at least, more generous formula-based state aid programs that take localities' fiscal capacities and conditions into account.

The most glaring form of inequity among local governments in Nebraska involves the quite unusual and, we think, indefensible, county-township arrangement. Because townships are

granted their own property tax rate limit, those counties that are fortunate enough to contain townships have, in effect, access to a greater share of the property tax base than their nontownship county counterparts have. If tax rate limits are to be retained in Nebraska, we support the recommendation made in another paper in this series that the county rate limit be raised to the level equal to the sum of the current county and township rate limit, and that this rate apply to all counties, whether or not they have townships.<sup>29</sup>

Better still, Nebraska could substitute a full disclosure law for its current system of property tax rate limits. This would permit local residents to play a more significant role than they do now in the process whereby their communities decide how much to spend and to tax. Such participation by voter-taxpayers would also improve the likelihood that taxpayers would understand the relationship between local government budgets and the level of taxation.<sup>30</sup> Undoubtedly too, full disclosure in an open forum would also improve the accountability of elected officials to the voters. In any case, local officials would know the sentiments of the local electorate, and the electorate would be able to pinpoint responsibility for decisions about tax and expenditure levels.

Finally, even though the current limitations on property tax rates have not prevented tax rates from reaching levels that are high by national standards, state legislators should resist the temptation to grasp for an even more stringent form of fiscal limitation to impose on Nebraska's local governments. Our review of the experience of states that have chosen to impose TELs that are of a more stringent kind than those in place in Nebraska does not make us confident that they

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<sup>29</sup>Yinger, "The Fiscal Condition of County Governments in Nebraska," p. 51.

<sup>30</sup>There exists substantial evidence that many voters do not understand the inherent linkage between budgets and taxation. To what extent a full disclosure law and the required public hearings will enhance voters' understanding we cannot say. But one clear virtue of the full disclosure process is that it will make it more difficult for "politicians...to spread the illusion of costless progress." Citrin and Green, "Policy and Opinion in California After Proposition 13," p. 18.

are more effective in holding down tax rates, in restraining local spending, or in stimulating more efficient local government. But we are persuaded that it is difficult to design fiscal control devices with foolproof safeguards that prevent unexpected and sometimes undesirable side effects that add to, rather than reduce, the existing inequities and inefficiencies of local government finances.

The task faced by the legislature is a challenging one. Nebraska's property tax rates are high, and property owners deserve some relief. But in deliberating about how to provide such relief, the state's legislators need to recognize that the root of the problem is structural and not a matter of local units going out of control with respect to their spending levels. Therefore, imposition of a more stringent TEL would be no more than a temporary palliative. A long-term solution will require new local tax sources or more state assistance to local governments.

CHAPTER 13  
ECONOMIC DEVELOPMENT IN NEBRASKA<sup>1</sup>

by Michael Wasylenko

**Introduction**

Few words stir business representatives, policy makers, and students of economic development more than "business climate". Most of these people have given this matter at least some thought and have firm opinions on the subject. The debate among these actors in the policy process is often lively and stimulating. But so often what is called for is an objective assessment of the business climate in a state and some very specific recommendations about how to improve the business climate. This chapter supplies an analysis of the business climate in Nebraska.

Employment growth has slowed down in Nebraska between 1980 and 1985, and it has slowed both relative to the rate of employment growth in the United States during that same period, and relative to the employment growth in Nebraska during the 1970 to 1980 period. Moreover, the employment growth slowdown is not entirely attributable to the downturn in the agricultural sector of the state economy. But according to the results in this study, the employment growth slowdown can also not be assigned to the business climate in Nebraska. Of course, in most states the business climate can always be improved. The major problems with Nebraska's business climate are the very high property tax burdens that local governments in

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<sup>1</sup>The author is grateful to Robert Carroll and Jin-Gyu Oh of the Metropolitan Studies Program for helpful research assistance. He also thanks Deborah Thomas and Eric Will from the Office of Nebraska Senator Vard Johnson for their helpful comments on a previous version of this chapter. Without implicating them, he is very indebted to the business community in Nebraska for educating him on many business issues in Nebraska. This chapter is based on Michael Wasylenko, "Economic Development in Nebraska," Nebraska Comprehensive Tax Study Staff Paper No. 1, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, April 1987 [revised February 1988]).

Nebraska impose, and levying the sales tax on investment purchases of machinery and equipment.

In the other major areas, such as the level of the wage rate and the level of education of the labor force, Nebraska has a comparative advantage both relative to the nation as a whole and among the eight neighboring states. Moreover, Nebraska's tax rates for the major taxes, with the exception of the property tax, are moderate to low relative to the United States average and to its neighboring states. Per capita state and local expenditure levels are also in line with those for the nation as a whole and with those in neighboring states.

Three recommendations are made here for Nebraska. First, the sales and use tax should not apply to investment purchases of machinery and equipment. This reform goes beyond the refund of sales and use taxes on machinery and equipment for large investors as provided in Legislative Bill 775. Second, other findings suggest that Nebraska's employment growth might be increased, if it increased its subsidy to train unemployed workers and targeted the subsidy to firms to pay for part of the costs of training its new workers. Third, fiscal reform much beyond local government expenditure reduction is required to bring the property tax in-line with that in other states.

This chapter is organized into six more sections. After a section that gives some background on the Nebraska economy, the following section reviews employment trends by industry between 1970 and 1980 and between 1980 and 1985 for Nebraska, eight neighboring states and for the United States as a whole. A third section reviews the existing literature on business location decisions and the important factors that determine economic development. The fourth section discusses the business climate in Nebraska, and is followed by a section that contains an analysis of the empirical determinants of employment growth among states during the 1980 to 1985 period. A concluding section contains recommendations for improving the Nebraska business climate.

## Background

The economic activity in the agricultural sector in Nebraska, like that in other Plains states, has declined since 1982. As a result, agricultural land values reached \$730 per acre in 1982 and have declined steadily since then to \$364 per acre in 1986.<sup>2</sup> Nebraska has a greater proportion of its counties dependent on agriculture than other states, but the decline in agricultural land values occurred in all of the midwestern states. Only in one state, Iowa, have land prices declined more than in Nebraska. In fact, the Advisory Commission on Intergovernmental Affairs (ACIR) judges that the agricultural recession has put fiscal stress on the state and local governments in both Iowa and Nebraska. More specifically, each state will have trouble balancing their budgets given their existing expenditure obligations, tax bases and tax rates.<sup>3</sup>

A variety of causes contribute to the agricultural recession. The once overvalued U.S. dollar and the reduction of agricultural exports that ensues was often cited as a major cause of the decline in the agricultural sector. But developing countries have also experienced the green revolution and they have become less dependent on U.S. agricultural exports. As a result, one cannot be too optimistic about strong economic recovery in the agricultural sector.

There are reasons to be even less optimistic about the agricultural sector's recovery in Nebraska than in the U.S. as a whole. Due to the dry summers in Nebraska, compared to Ohio, Illinois and Indiana, farmers must irrigate their corn crop. With the proposed removal of the Federal government subsidies to agriculture, Nebraska's comparative disadvantage in corn production compared to Ohio, Illinois, and Indiana will become apparent. The lack of

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<sup>2</sup>See Advisory Commission on Intergovernmental Relations, "The Agricultural Recession: Its Impact on the Finances of State and Local Governments," (June 1986), Appendix Table 1, p. 34.

<sup>3</sup>Ibid.

agricultural subsidies will mean that for many Nebraska farmers their production costs without the subsidy will become higher than the market price of corn. Farmers in Ohio, Illinois and Indiana will have lower production cost, as they do not have irrigation costs. This implies that agriculture in Nebraska will probably not return to its former economic heights.

On a more positive note, federal ranching subsidies are also being scrutinized and the removal of these subsidies may mean that Nebraska's inherent comparative advantage in this area relative to Montana, Utah and Wyoming will cause Nebraska's share of the ranching and feedlot industry to increase. Should these subsidies disappear and more feedlots appear in Nebraska, it will become an even more attractive location for meat processing. The caveat that must be mentioned before becoming too optimistic is that the per capita consumption of red meat is at its lowest point ever and it is not clear that it has bottomed out.

Stemming the reduction in red meat consumption will require leaner meat and also meat that has less antibiotic residuals. Fewer antibiotics means fattening cattle more efficiently and more quickly so that fewer antibiotics are required to keep the cattle healthy. It would therefore appear that biotech research in raising livestock for leaner meat would be an interesting research area to develop both at the State University and in the private sector. This topic will be addressed further below when the issue of business and government partnership is discussed.

### **Employment Structure and Growth: Nebraska and Neighboring States**

The present structure of employment in Nebraska gives some indication of its existing comparative advantage. However, high employment growth rates in industries with low concentrations of employees could indicate that the comparative advantage may be shifting to these industries. More specifically, if employment in Nebraska's traditional industries grows more rapidly than in other industries, there would not be any shift in comparative advantage. But rapid employment growth in a few sectors other than the traditional industries may mean that comparative advantage has shifted to these new industries.



In what follows, I report the employment structure for Nebraska in 1985 and employment growth rates for Nebraska and its neighbors (Colorado, Iowa, Kansas, Minnesota, Missouri, North Dakota, South Dakota, Wyoming) and the United States as a whole from 1970 to 1980 and for the more recent period from 1980 to 1985.

Both the Bureau of Economic Analysis (BEA) and the Bureau of Labor Statistics (BLS) publish data on employment. The former source includes the agricultural sector in their employment figures, while the latter does not. Given the importance of agriculture in Nebraska, it seems appropriate to use the BEA employment figures.

From the data in Table 13-1, farm and agricultural services represent 10 percent of 1985 total employment in Nebraska. Manufacturing employment also represents about 10 percent of total employment, and durable and nondurable manufacturing have about equal shares of the manufacturing employment. Within manufacturing, food and kindred produces account for 28 percent of Nebraska's manufacturing employment, and machinery, except electrical, and electric and electronic equipment account for another 23 percent of the state's manufacturing employment. Retail trade and services have 16.5 and 22.5 percent of total employment, respectively.

Except for manufacturing and the farm sector, Nebraska's distribution of employment among industries looks very much like that of the United States. In the U.S., farm and agricultural services have only 4 percent of the total employment, while manufacturing has about 18 percent of total U.S. employment. The government sector represents a lower share of Nebraska's employment (16.7 percent) than in the U.S., where government's employment share is 18 percent of total employment.

In Table 13-2 the employment growth patterns in Nebraska compared to its neighboring states and the U.S. are reported. During the 1970 to 1980 period, Nebraska's 2.1 percent annual growth rate for total employment kept pace with the 2.3 annual growth rate in the U.S. as a

TABLE 13-1

PERCENTAGE OF NEBRASKA TOTAL EMPLOYMENT BY INDUSTRY  
(1985) AND NEBRASKA EMPLOYMENT GROWTH BY  
INDUSTRY: 1970-1985  
(in percent)

SIC Group	Percentage of Employment by Industry, 1985 Nebraska	Employment Growth Rates	
		1970-80	1980-85
<b>Total</b>	100.0	23.2	4.5
Farm	9.0	5.7	-10.8
Agricultural Services	1.0	54.0	44.4
Mining	0.3	19.0	20.2
Construction	4.8	20.4	1.6
Manufacturing	10.3	13.4	- 5.1
Durable	5.0	14.4	-10.6
Nondurable	5.3	12.3	0.8
Transportation	5.7	30.2	- 3.9
Wholesale and Retail Trade	22.1	27.7	2.9
Wholesale Trade	5.6	74.3	- 0.7
Retail Trade	16.5	16.6	4.3
Finance	7.6	58.0	17.3
Services	22.5	36.5	21.2
Government	16.7	11.5	0.1

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

TABLE 13-2

ANNUAL RATES OF EMPLOYMENT GROWTH FOR NEBRASKA, EIGHT  
NEIGHBORING STATES AND THE U.S. BY INDUSTRY:  
1970-80 AND 1980-85

Employment Growth: 1970-1980

SIC Group	United	Colorado	Iowa	Kansas	Minnesota	
	States					
Total Employment	2.3	4.9	1.8	2.6	2.9	
Farm	-0.4	-0.1	-0.5	-0.0	0.3	
Agricultural Services	5.5	8.0	-0.9	-1.2	6.5	
Mining	5.6	9.6	-2.7	6.0	0.8	
Construction	2.5	6.2	1.5	3.3	2.7	
Manufacturing	0.5	4.5	1.2	3.5	1.8	
Nondurable	0.0	2.7	0.2	2.0	0.7	
Durable	0.9	5.7	1.9	4.4	2.5	
Transportation	1.5	4.3	1.1	2.4	2.0	
Wholesale and Retail	2.8	5.3	2.4	2.8	3.6	
Wholesale Trade	3.3	5.3	5.2	5.9	3.8	
Retail Trade	2.7	5.3	1.6	1.9	3.6	
Finance	4.4	8.0	3.9	4.9	5.1	
Services	3.9	6.6	3.3	3.9	4.8	
Government	1.4	2.2	1.3	0.7	1.5	
		Missouri	Nebraska	North Dakota	South Dakota	Wyoming
Total Employment	1.5	2.1	2.3	1.6	5.7	
Farm	-0.9	0.6	0.6	-1.0	0.2	
Agricultural Services	4.8	4.4	4.4	1.7	4.7	
Mining	-0.9	1.8	1.8	15.6	11.8	
Construction	1.5	1.9	1.9	5.0	10.7	
Manufacturing	-0.1	1.3	1.3	4.7	3.0	
Nondurable	-0.3	1.2	1.2	2.5	2.5	
Durable	0.1	1.4	1.4	7.4	3.7	
Transportation	1.1	2.7	2.7	3.3	5.2	
Wholesale and Retail	1.8	2.5	2.5	3.6	6.1	
Wholesale Trade	2.2	5.7	5.7	6.4	9.3	
Retail Trade	1.6	1.5	1.5	2.7	5.5	
Finance	3.2	4.7	4.7	2.9	8.4	
Services	3.8	3.2	3.2	4.2	5.5	
Government	0.8	1.1	1.1	0.0	3.1	

TABLE 13-2 (CONT.)

Employment Growth: 1980-1985

SIC Group	United	Colorado	Iowa	Kansas	Minnesota
	States				
Total Employment	1.9	3.3	-0.2	1.2	1.4
Farm	-1.9	-1.3	-1.8	-1.6	- 0.6
Agricultural Services	7.2	9.6	5.8	7.8	7.0
Mining	0.4	0.8	-0.1	7.5	-10.6
Construction	2.7	4.1	-2.6	0.6	0.6
Manufacturing	-1.0	1.5	-3.5	-1.7	0.3
Nondurable	-0.8	1.6	-1.6	1.0	0.8
Durable	-1.2	1.4	-4.7	-3.4	0.0
Transportation	0.9	2.6	-0.9	0.4	0.3
Wholesale and Retail	2.4	2.9	0.0	1.3	1.1
Wholesale Trade	1.7	1.6	-0.2	0.7	0.0
Retail Trade	2.6	3.2	0.1	1.5	1.4
Finance	4.0	6.0	2.5	3.7	3.8
Services	4.5	5.7	2.7	3.2	3.8
Government	0.4	0.9	-0.6	0.8	- 0.1

	Missouri	Nebraska	North Dakota	South Dakota	Wyoming
Total Employment	1.7	0.9	0.7	1.0	0.4
Farm	-1.0	-2.3	-2.2	-0.2	-2.6
Agricultural Services	8.8	7.6	4.8	6.0	7.6
Mining	-1.2	3.7	-1.7	-2.0	-5.9
Construction	3.4	0.3	-2.7	0.4	-0.7
Manufacturing	-0.5	-1.0	0.0	1.1	-3.0
Nondurable	-0.9	0.2	3.1	-0.1	-4.8
Durable	-0.2	-2.2	-3.4	2.1	-1.0
Transportation	0.4	-0.8	0.5	-0.4	-0.1
Wholesale and Retail	1.8	0.6	0.3	0.3	0.7
Wholesale Trade	-0.6	-0.1	-0.3	-1.0	0.3
Retail Trade	2.6	0.8	0.6	0.7	0.7
Finance	3.5	3.2	2.0	5.4	3.5
Services	4.0	3.9	3.9	3.0	3.1
Government	0.7	0.0	0.9	-0.5	2.5

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis.

whole. Except for Iowa, Missouri and South Dakota, where employment grew more slowly than in Nebraska, employment between 1970 and 1980 grew more rapidly in Wyoming (5.7 percent), Colorado (4.1 percent), Minnesota (2.9 percent), Kansas (2.6 percent), and North Dakota (2.3 percent) than in Nebraska. Thus, with the exception of three states, employment grew more rapidly in this region than in the U.S.

Generally employment growth during the 1970 to 1980 period occurred in most of the industries in these nine states. While employment on farms decreased during the 1970 to 1980 period in all of these states except Minnesota and Nebraska, several states (Colorado and Minnesota) show higher than U.S. average employment growth in agricultural services. Except for Missouri, manufacturing employment grew more rapidly in Nebraska and in its seven other neighboring states than in the U.S. Moreover, with the exception of mining in Iowa and Missouri, employment in all other industries in these states increased, although not faster than the increase for the industry in the U.S. in all cases. However, for this period, one must conclude that most of these states, including Nebraska, experienced increases in employment and five of the nine states in the region realized better employment growth than the U.S. average.

During the 1980 to 1985 period, total employment grew much more slowly both in the U.S. and for all of these nine states compared to the 1970 to 1980 period (see Table 13-2). Annual U.S. employment grew at 1.9 percent in the 1980 to 1985 period, compared to 2.3 percent in the 1970-1980 period. Moreover, during the 1980 to 1985 period, with the exception of Colorado, all of the other eight states in the region had annual employment growth rates lower than the overall growth rate in the U.S. In Iowa total employment declined at an annual rate of -0.2. Nebraska experienced a 0.9 percent annual increase in employment, and five of its eight neighboring states--Colorado (3.3 percent), Kansas (1.2 percent), Minnesota (1.4 percent), Missouri (1.7 percent and South Dakota (1.0 percent)--had higher employment growth rates.

The slower employment growth in Nebraska and the three other states during the 1980 to 1985 period is largely attributable to employment decreases in one or more of the following industries: mining, construction, manufacturing, transportation industries and wholesale trade. Nebraska lost employment in the manufacturing, transportation and wholesale trade industries during the 1980 to 1985 period, and Nebraska's employment in retail trade, finance, services and government has grown more slowly than national employment in these industries.

While Nebraska has experienced slow employment growth, Nebraska has not fared too badly compared to some of its neighbors, and especially Iowa. Moreover, the decline in manufacturing employment at the national level suggests that as a whole manufacturing may not lead the resurgence of Nebraska's economy. But about 52 percent of Nebraska's manufacturing employment is concentrated in three two-digit (sic) industries: food and kindred products (29 percent), machinery, except electrical (13 percent), and electric and electronic equipment (10 percent). For example, food and kindred products may grow nationally and in Nebraska.<sup>4</sup> The message here is that these three traditionally dominant sectors within manufacturing in Nebraska probably still represent strong potential for employment growth.

### **Review of Empirical Evidence on Inter-Regional Business Location Decisions**

#### **Survey Evidence**

A survey of firms is one way to analyze firm locational decisions. The three most influential studies are those of Mueller and Morgan for Michigan manufacturing firms, Greenhut

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<sup>4</sup>See K. Dreyback, "The Big Brands are Back in Style," *Business Week* (January 12, 1987): 74.

and Colberg for Florida manufacturing firms, and Schmenner for Fortune 500 firms.<sup>5</sup> The discussion here is confined to the results obtained for the Fortune 500 plants, because the results from this survey are both more recent and the responses are less regionally specific than the other surveys.

Schmenner<sup>6</sup> examined Dun and Bradstreet data on Fortune 500 plants in 1972 and 1978 to determine plant expansions, contractions, branching, relocations and deaths. He takes a sample of these plants and conducts a questionnaire survey on the characteristics of the plant and its location decisions.

One interesting result is that 9,499 plants in the Fortune 500 survey did not move or open new plants. Moreover, 18 percent (1,705 plants) of these stay-put plants expanded their plants on-site during the 1970s, while another 1,611 plants opened new branches during this period. By contrast, only 450 plants relocated.<sup>7</sup> This reconfirms Birch's point that most firms do not relocate, and that expansion on-site and, to a lesser extent, branching are the most frequent methods of altering production capacity.

In addition, Schmenner finds that 47 percent of establishments that have opened a new branch plant, rather than expand on-site, cite "no space to expand at their existing plant" as a reason for not expanding on-site.<sup>8</sup> From this particular response, plants seem to have a strong preference to stay in place. In the same data, 33 percent of the branching firms mention hedging against labor strife or natural disaster as a reason for opening a branch location. Twenty-six

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<sup>5</sup>E. Mueller and J.N. Morgan, "Locational Decisions of Manufacturers," *American Economic Review* Vol. 52 (1962): 204-217; M.L. Greenhut and M.R. Colbert, *Factors in the Location of Florida Industry* (Tallahassee, FL: Florida State University Press, 1962); and R.W. Schmenner, *Making Business Location Decisions* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1982).

<sup>6</sup>Schmenner, *Making Business Location Decisions*.

<sup>7</sup>Schmenner, *Making Business Location Decisions*, p. 88.

<sup>8</sup>Schmenner, *Making Business Location Decisions*, Table 3-6.

percent of the plants cite a desire to escape unproductive labor, and 25 percent mention too many workers at the existing plant. By contrast only one percent of the plants name escaping high taxes and bad business climate among the reasons for opening a branch plant.

The fact that relatively few firms relocate suggests incentive policies designed to attract relocating businesses may not produce significant employment gains. Schmenner's study among others, documents that changes in employment occur largely through existing employers expanding or shrinking at their present site. Therefore, it is particularly important to avoid business tax incentives designed to attract new firms, but that are not available to businesses that already exist in the state. Put another way, existing business are the "golden geese," and tax incentive programs that discriminate against existing business violate the "golden geese" adage.

### **Econometric Evidence**

Most of the econometric evidence on firm movement and employment growth is based on cross-sectional analysis. In this literature, regional differences in the number of firms and employment and the growth rate of firms and employment are generally related to regional differences in market and cost variables hypothesized to affect firm location. This literature is also heavily oriented toward manufacturing firm location choices, but some studies consider nonmanufacturing industries. The results for the fiscal variables used in these analyses and the data that are analyzed in these studies are reported in Table 13-3.

Carlton, in two separate analyses, examines the importance of taxes and fiscal incentives (among other variables) in explaining variations among SMSAs in the birth of single-establishment firms and in the number of branch plants in three manufacturing industries: fabricated plastics (SIC 3079), communication transmitting equipment (SIC 3662), and electronic components (SIC 3679).<sup>9</sup> He uses Dun and Bradstreet data to construct the dependent

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<sup>9</sup>D. Carlton, "Why New Firms Locate Where They Do: An Econometric Model," in *Interregional Movements and Regional Growth*, edited by W. Wheaton, Coupe Paper Vol. 2 (Washington, DC: Urban Institute, 1979), pp. 13-50.



TABLE 13-3

## SUMMARY OF INFLUENCE OF FISCAL VARIABLES IN INTERREGIONAL STUDIES OF BUSINESS LOCATIONS

Study	Industry and Data Analyzed	Results for Business Climate Variables
Carlton (1979)	<p>Dun &amp; Bradstreet data on SMSA's for manufacturing: SIC 3079, 3662, and 3679.</p> <p>Dependent Variables:</p> <ol style="list-style-type: none"> <li>1. Single establishment births:               <ul style="list-style-type: none"> <li>1967-1971</li> <li>1971-1975</li> </ul> </li> <li>2. Branch plant births: 1967-1971</li> </ol>	<p>Statistically insignificant:</p> <ol style="list-style-type: none"> <li>a. Business Climate Index</li> <li>b. Combined State Corporate and Personal Business Income Tax</li> <li>c. Property Tax Rate</li> </ol>
Carlton (1983)	<p>Same data as 1979 study:</p> <p>Examines: Employment size of branch plants</p>	<p>Statistically insignificant:</p> <ol style="list-style-type: none"> <li>a. Business Climate</li> <li>b. Combined Corporate and Personal Income Tax</li> </ol>
Plaut and Pluta (1983)	<p>Aggregate percentage change in manufacturing employment in 48 states between: 1967-1972 and 1972-1977.</p>	<p>Statistically significant:</p> <ol style="list-style-type: none"> <li>a. Business Climate Rank</li> <li>b. Overall Tax Effort</li> <li>c. Education Expenditures</li> </ol> <p>Statistically insignificant:</p> <ol style="list-style-type: none"> <li>a. Corporate Taxes</li> <li>b. Personal Taxes</li> <li>c. Sales tax</li> <li>d. Welfare expenditures</li> </ol>
Newman (1983)	<p>Employment growth for 13 SIC manufacturing industries and for aggregate manufacturing in 48 states between 1957 and 1965 and between 1965 and 1973</p>	<p>Statistically significant:</p> <ol style="list-style-type: none"> <li>a. Corporate Tax Rate for aggregate manufacturing and for 5 of 13 SIC manufacturing industries</li> <li>b. Right-to-Work Law for aggregate manufacturing and for 11 of 13 SIC manufacturing industries</li> </ol>
Bartik (1985)	<p>Branch plant locations for Fortune 500 firms in 48 states between 1972 and 1978.</p>	<p>Statistically significant:</p> <ol style="list-style-type: none"> <li>a. Corporate Income Tax</li> <li>b. Percentage Unionized</li> </ol> <p>Statistically Insignificant or Wrong Sign:</p> <ol style="list-style-type: none"> <li>a. Unemployed Insurance Tax</li> <li>b. Worker's Compensation Tax</li> <li>c. Property Tax Rate</li> </ol>

TABLE 13-3 (CONT.)

Study	Industry and Data Analyzed	Results for Business Climate Variables
Benson and Johnson (1986)	Manufacturing firms expenditure on plant and equipment in each state. Pooled cross section and time series: 1966-1978.	Statistically significant: a. Ratio of state and local taxes to personal income.  Statistically insignificant: a. Per Capita Expenditure on Welfare.
Wasylenko and McGuire (1985)	Employment growth for 48 states between 1973 and 1980 for total employment (TE) and employment in six major industries: Manufacturing (MFG), Transportation (T), Wholesale Trade (WT), Retail Trade (RT), Finance (F), and Services (S).	Statistically significant in industry (.) a. Education Expenditure in Industry (TE), (RT), (F) b. Change in Relative Tax Effort in (TE), (MFG), (S) c. Effective Personal Income Tax Rate in (WT), (RT), (F) d. Sales Tax in (WT)  Statistically insignificant in all industries: a. Welfare Expenditure b. Effective Corporate Income Tax c. Time Lost Due to Work Stoppages <sup>a</sup> d. Small-issue Industrial Revenue Bonds
Stutzer (1985)	Time series estimation of Minnesota employment 1960-1982	Small Issue Industrial Revenue Bonds do not add to the explanation of employment growth in Minnesota.
Helms (1985)	State personal income in 1967 dollars for 1965 through 1979 for 48 states	Statistically significant: a. Property tax b. Other taxes c. User fees d. Health expenditure e. Highway expenditure f. Expenditure on local schools g. Expenditure on higher education h. Other expenditures i. Deficit
Schmenner, Huber and Cooke (1987)	410 new Fortune 500 plants that were opened in the 1970s	Statistically insignificant: a. Corporate tax rates b. Property tax c. Worker's compensation benefits d. State and local spending per dollar of personal income. e. Unemployment compensation benefits  However, when factors that relate to specific plants are taken into account, the property tax, workers compensation and unemployment compensation benefits occasionally become statistically significant.

TABLE 13-3 (CONT.)

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<sup>a</sup> This variable is run for Stutzer using my data and the results are reported in Stutzer (1985).

SOURCE: D. Carlton, "Why New Firms Locate Where They Do: An Econometric Model," in W. Wheaton, ed., Interregional Movements and Regional Growth, Coupe Paper Vol. 2 (Washington, DC: Urban Institute, 1979); D. Carlton, "The Location and Employment Choices of New Firms: An Econometric Model with Discrete and Continuous Endogenous Variables," The Review of Economics and Statistics Vol. 65, No. 3 (1983), pp. 440-449; T.R. Plaut and J.E. Pluta, "Business Climate, Taxes and Expenditures, and State Industrial Growth in the U.S.," Southern Economic Journal Vol. 50 (1983), pp. 99-119; R.J. Newman, "Industry Migration and Growth in the South," Review of Economics and Statistics Vol. 65, No. 1 (February 1983), pp. 76-86; Timothy Bartik, "Business Location Decisions in the U.S.: Estimates of the Effect of Unionization, Taxes and Other Characteristics of States," Journal of Business and Economic Statistics Vol. 3, No. 1 (1985), pp. 14-22; B. Benson and R. Johnson, "Capital Formation and Interstate Tax Competition," in Dwight Lee, ed., Taxation and Capital Formation, forthcoming; M. Wasylenko and T. McGuire, "Jobs and Taxes: The Effects of Business Climate on States' Employment Growth Rates," National Tax Journal Vol. 38, forthcoming; M.J. Stutzer, "The Statewide Economic Impact of Small-Issue Industrial Revenue Bonds," Quarterly Review Federal Reserve Bank of Minneapolis (Spring 1985), pp. 2-13.

variables.

Carlton uses a comprehensive list of SMSA variables to explain the dependent variables. The variables include wages, supply of skilled labor, corporate and personal income taxes, property taxes, energy costs (electricity and natural gas), proximity to markets and raw materials, unemployment rates, number of recent work stoppages, construction costs, land costs, and a business climate index. The business climate index is composed of business tax exemptions and other fiscal incentives, as well as state right-to-work laws, state minimum wage laws, state fair employment practice codes, and the presence of statewide industrial noise abatement codes.<sup>10</sup>

Carlton analyzes single establishment births in SMSAs between 1967 and 1975, as well as between 1967 and 1971 and between 1971 and 1975 separately. The results from the econometric models are structurally stable over the two periods. Wages and electricity prices have relatively large and statistically significant effects on single establishment births, although the electricity coefficient is much smaller in magnitude for SIC 3662 than for the other two industries. The coefficients of agglomeration economies and the number of engineers variables are also important and statistically significant in explaining births of single establishments. On the tax side his results do not support the view that taxes are a major business location determinant, but, on the other hand, taxes cannot be ruled out as having some influence.<sup>11</sup>

Carlton examines branch plant births only during the 1967 to 1971 period, because data on branching for the 1971-1975 period are not available. The wage effect could not be estimated with much precision. It is statistically insignificant in the regression for SIC 3662 and 3679, but given the wide confidence interval on this coefficient a large wage effect could not be ruled out. Energy prices have a strong negative effect on the birth of branch plants in all three industries.

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<sup>10</sup>Carlton, "Why new Firms Locate Where They Do: An Econometric Model."

<sup>11</sup>Carlton, "Why new Firms Locate Where They Do: An Econometric Model."

The existing amount of industry activity in a particular industry also has a large influence on the number of births, and the availability of technical expertise in the labor force is an important factor in spurring branch births in technologically more sophisticated industries.<sup>12</sup>

In a subsequent article, Carlton shows that the decisions about where to establish a branch plant and the size (number of employees) of the branch plant are linked through the profit function by duality theory.<sup>13</sup> He then simultaneously models the probability of establishing a branch plant in any particular location and the size of the branch plant. He analyzes the same Dun and Bradstreet data for branch plants as in his 1979 study. The use of the same industries and the same time period obviously facilitates comparisons of the findings in the two studies.

The model generally predicts the size of branch plants very well. The wage effect could not be measured very precisely and its coefficient is statistically insignificant for each of these three industries. Higher energy costs have a large negative effect on the size of branch plants in these industries, and an existing concentration of the industry has a large positive effect on the size of the branch plant in a region. Available expertise is important for the highly sophisticated industry (SIC 3662), but taxes and business climate do not appear to have a major effect on branch births for any of the three industries.

Plaut and Pluta examine aggregate manufacturing growth for 48 states between 1967-72 and 1972-77.<sup>14</sup> They use the percentage change in employment, in real value added and in the real capital stock as dependent variables. They include a large number of variables representing

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<sup>12</sup>Carlton, "Why new Firms Locate Where They Do: An Econometric Model."

<sup>13</sup>D. Carlton, "The Location and Employment Choices of New Firms: An Econometric Model with Discrete and Continuous Endogenous Variables," *The Review of Economics and Statistics*, Vol. 65, No. 3 (1983): 440-449.

<sup>14</sup>T.R. Plaut and J.E. Pluta, "Business Climate, Taxes and Expenditures, and State Industrial Growth in the U.S.," *Southern Economic Journal*, Vol. 50 (1983): 99-119.

market accessibility, labor's wages and unionization, energy, land, climate and business climate as explanatory variables.

For employment change, they find that an adverse business climate rank and high overall tax effort in a state tend to slow employment growth. The coefficients of these two variables are negative and statistically significant. But corporate taxes, personal income taxes and the sales tax are not important. Surprisingly, higher property taxes are associated with more employment growth.

On the expenditure side, they find that higher education expenditures lead to more employment growth. In addition, contrary to what some casual observers have contended, welfare expenditures do not have a statistically significant effect on employment growth.

Newman examines employment growth in 13 two-digit SIC manufacturing industries for 48 states between 1957 and 1965 and between 1965 and 1973.<sup>15</sup> The three explanatory variables are the change in the corporate tax rate, the change in unionization and a dummy variable representing whether a state has a right-to-work law. He finds evidence that all three of these variables affect aggregate manufacturing employment growth rates in states. Higher state corporate tax rates are especially important for explaining lower state employment growth in capital-intensive manufacturing industries, while the right-to-work law variable enhances employment growth in 11 of the 13 industries studied.

Bartik examines new branch plant locations for all Fortune 500 firms in the 48 states between 1972 and 1978 using Schmenner's data on the number of new branch plants from his Fortune 500 study.<sup>16</sup> He uses variables that reflect labor costs, energy prices, taxes, and

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<sup>15</sup>R.J. Newman, "Industry Migration and Growth in the South," *Review of Economics and Statistics*, Vol. 65, No. 1 (February 1983): 76-86.

<sup>16</sup>T. Bartik, "Business Location Decisions in the U.S.: Estimates of the Effect of Unionization, Taxes and Other Characteristics of States," *Journal of Business and Economic Statistics*, Vol. 3, No. 1 (1985): 14-22.

agglomeration economies. Using conditional logit analysis, Bartik finds that the effective corporate income tax rate has a negative effect on the probability of locating a branch plant in a state, and that unionization also has a negative effect on the probability of branch plant location. In addition, the wage rate and energy prices are not statistically significant determinants of branch plant location. But the size of the coefficients of these two variables suggest that they may have relatively large effects on branch plant location, even though the data do not permit a very precise measure of their effect. Bartik also finds that agglomeration of manufacturing firms, as measured by manufacturing employment per acre, attracts branch plants, as does the number of highway miles in a state.

Benson and Johnson analyze a pooled cross-section and time series of per capita annual expenditure on manufacturing plant and equipment (MFGPE) in 48 states during the 1966 to 1978 period.<sup>17</sup> They regress the ratio of MFGPE to the average MFGPE in all 48 states against variables such as the wage rate in the state compared to the average in all other states (relative wage rate). Other independent variables include relative per capita welfare expenditure, relative ratio of state and local debt to personal income and the relative ratio of total state and local taxes to personal income. The lagged values of the tax variable for each of the six previous years are also included in the regression equation. They find that the tax variables are important determinants of MFGPE in a state. More specifically, the lagged tax variables have statistically significant negative coefficients, and thus higher taxes adversely affect plant and equipment investment.

Wasylenko and McGuire analyze total employment growth in 48 states between 1973 and 1980 and employment growth for six major industries: manufacturing; transportation; wholesale

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<sup>17</sup>B. L. Benson and R. N. Johnson, "The Lagged Impact of State and Local Taxes on Economic Activity and Political Behavior," *Economic Inquiry*, Vol. 24, No. 2 (July 1986): 389-401.

trade; retail trade; finance, insurance and real estate; and services.<sup>18</sup> The percentage change in employment in each of these industrial categories is regressed against variables measuring the state's wage rate, energy prices, temperature extremes, fiscal climate, and, for industries largely producing for final demand in the state, market variables. This last group of variables includes per capita income and population density.

The fiscal variables include measures of personal and corporate income tax burdens and the overall increase in the tax effort in the state. In addition, state and local primary and secondary education expenditures as a percentage of personal income and state and local welfare expenditures as a percentage of income are used to test the effects of public services on firm location.

For total employment, wages, energy prices and per capita income have important effects on employment growth. Wages are also important for employment growth in retail trade, finance and services. Per capita income is also an important determinant in these same three industries, while energy prices have important effects in all six industries and the total employment regression.

Among fiscal variables, the corporate income tax does not appear to have statistically significant negative effects on employment growth. However, total employment growth is slower in states where overall tax effort is growing relative to that in other states. Moreover, the personal income tax rate has relatively important negative effects on employment growth for three industries--wholesale trade, retail trade and finance. On the other hand, education expenditures as a percentage of income has important positive effects on employment growth for retail trade and finance and for total employment growth.

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<sup>18</sup>M. Wasylenko and T. McGuire, "Jobs and Taxes: The Effects of Business Climate on States' Employment Growth Rates," *National Tax Journal*, Vol. 38, No. 4 (December 1985): 497-512.



The effect of fiscal variables on a state's employment growth relative to other states depends on the size of the coefficient for these variables and the extent to which the fiscal variable deviates from the average in other states. For example, personal income taxes will have a larger adverse effect on employment growth in a state where the personal income tax rate is much higher than the average tax rates for all states, even though the estimated coefficient on tax rate variable may be small. Similarly it does not follow that a fiscal variable that has a large coefficient will have significant influence on a particular state's sluggish employment growth, because the fiscal variable in that state may not be out-of-line vis-a-vis other states.

Stutzer specifically addresses the importance of small-issue industrial revenue bonds (SIRB) for engendering employment growth in states.<sup>19</sup> He tests their potential effects using two alternative models. A variable defined as the average value of SIRB in each state for the years 1977 to 1979 as a proportion of total state employment is added to the list of variables in the empirical model already reported in Wasylenko and McGuire.<sup>20</sup> The results are that SIRB do not have statistically significant coefficients in any of the six industries or in the total employment regressions.

As an alternative test, Stutzer runs a time series causality test for Minnesota employment, property tax base and personal income. He forecasts each of these three variables using lags on the three variables and the issuance of SIRB. None of the results show that SIRB have a statistically significant effect on the three dependent variables.<sup>21</sup>

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<sup>19</sup>M.J. Stutzer, "The Statewide Economic Impact of Small-Issue Industrial Revenue Bonds," *Quarterly Review Federal Reserve Bank of Minneapolis* (Spring 1985): 2-13.

<sup>20</sup>Wasylenko and McGuire, "Jobs and Taxes: The Effects of Business Climate on States' Employment Growth Rates."

<sup>21</sup>Stutzer, "The Statewide Economic Impact of Small-Issue Industrial Revenue Bonds."

Using a pooled cross section-time series data set, Helms examines the growth of states' real personal income in 48 states during the 1965 to 1979 period.<sup>22</sup> He explained the growth of states' personal income using three types of variables: (1) taxes and other revenues; (2) public expenditures; and (3) demographic and labor force characteristics. Helms finds that all three types of variables are statistically significant in explaining state income growth. Of particular interest here is that he finds that taxes have a negative effect on income growth while expenditures and particularly educational expenditures have a positive effect on economic growth. In addition, a one dollar increase in education spending financed by raising property taxes one dollar has a net positive effect on states income growth during this time period.

The last study considered here by Schmenner, Huber and Cook examines the effects of a variety of factors on the location Fortune 500 plants opened in the 1970s.<sup>23</sup> Schmenner *et al.*, examine the location decision in two stages: (1) firms narrow the choice to a few states that are then given further consideration; and (2) firms then chose the final location from the few states identified in stage one. In their study, Schmenner *et al.* allow the effects of the labor force, demographic and fiscal variables to be moderated by the characteristics of the plant. These characteristics include the "sentiment for low taxes," the type of product produced at the plant, size of the market area and others.

For the first stage decision a wide variety of fiscal variables are statistically significant when the moderating characteristics of the plant are taken into account. But the same set of variables, including the fiscal variables, do not explain the choice of the location from among the

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<sup>22</sup>L. J. Helms, "The Effect of State and Local Taxes on Economic Growth: A Time Series-Cross Section Approach," *Review of Economics and Statistics*, Vol. 67, No. 4 (November 1985): 574-582.

<sup>23</sup>R. W. Schmenner, J. C. Huber and R. L. Cook, "Geographic Differences and the Location of new Manufacturing Facilities," *Journal of Urban Economics*, Vol. 21, No. 1 (January 1987): 83-104.

limited number of serious state candidates in the second stage of the decision. In this latter stage, fiscal variables appear to have only a weak influence.

### **Implications of These Findings**

The findings for the fiscal variables from these studies are perplexing and do not leave us with a clear direction. At the same time, one cannot reject that fiscal variables may influence firm location.

The studies are usefully divided along two lines: (1) those that use micro or individual firm data; and (2) those that examine aggregate trends in employment, or income growth. A few recent studies using micro or firm level data generally do not find that taxes or business climate are determinants of business location decisions. These studies include both survey research where, in the course of an interview, personnel at individual firms rank the important location factors and Carlton's econometric studies that analyze micro data on individual firms.<sup>24</sup> However, Bartik also analyzes micro data on a group of Fortune 500 branch plants and finds that corporate taxes have a negative and statistically significant effect on branch locations among states.<sup>25</sup>

Schmenner *et al.*, also find using micro data that fiscal variables influence the first stage of the plant location decision where all but a few states are eliminated from consideration.<sup>26</sup> But fiscal variables make a much weaker showing in the decision of narrowing the few final states down to a single location. This finding tends to contradict the often heard explanation that fiscal variables may become especially important in the choice between two alternative states.

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<sup>24</sup>Carlton, "Why New Firms Locate Where They Do," and "The Location and Employment Choices of New Firms."

<sup>25</sup>Bartik, "Business Location Decisions in the U.S.: Estimates of the Effect of Unionization, Taxes and Other Characteristics of States."

<sup>26</sup>Schmenner *et al.*, "Geographic Differences and the Location of New Manufacturing Facilities."

On the other hand, many of the studies that use state or regional aggregate data find business taxes or, more frequently, personal income taxes and education expenditures to be important determinants of business location decisions. These latter fiscal variables thus appear to have an indirect effect on business location through their effect on the availability of a productive labor force.

Another problem is that these studies do not, and probably cannot given limited number of observations, consider all of the complexities of the state and local tax system. Instead, the aggregate tax rate variable is often used in the regression and it may not reveal the true extent of the poor business climate.

Another weakness of this literature is that few studies examine the effect of incentive programs. In the few studies that do examine the employment effect of incentive programs (Carlton, Stutzer), they are found to have no influence on firm location.

Nonetheless, given this evidence, it is increasingly difficult to argue that business climate, broadly defined, does not influence interregional firm locations. The magnitude of the effect of fiscal variables on business locations in a particular state will depend on the extent to which a state's fiscal variables are out-of-line with those in other states. Alternatively, actions to attract jobs by reducing taxes or altering expenditures would appear to have significant payoffs only in those states with very poor business climates. States with good business climates should look to other factors to attract more jobs.

### **Nebraska's Business Climate**

Overall the business climate in Nebraska appears to be quite good. In several discussions with industry leaders in Nebraska, new companies cited moderate wage rates and high productivity per worker as reasons for their attraction to Nebraska. Nebraska is a right-to-work state and some research finds that it contributes significantly to favorable employment

growth.<sup>27</sup> Energy costs remain very low, because Nebraska is a public power state, and the water supply is abundant. According to the McManus report, Nebraska has a sound unemployment insurance fund and a sensible workers' compensation program--that is, it is relatively difficult for nondisabled people to qualify for disability benefits compared to many other states. The soundness of these programs implies that employers will not face tax increases for these programs for some time. Moreover, the workers' attitude in Nebraska would seem to shun transfer payments unless they were absolutely necessary, and, thus, worker's are unlikely to lobby for generous worker's compensation benefits.

Nebraska also offers a fairly pleasant place to live. The cities of Nebraska have low crime rates, low housing prices, good theater and other arts, and horse racing. In addition, Nebraska offers a very good primary and secondary school system throughout the state. The SAT scores for Nebraska students rank fourth highest in the nation according to the McManus report.<sup>28</sup> While many factors, such as a relatively homogeneous population and pre-selection of students disposed to take the SAT's, might explain the high scores, the educational system is undoubtedly an important factor. There is also a very good health care system with two dental and two medical schools in the state. In fact, in a recent edition of *Places Rated*, Omaha ranked as the 37th most desirable place to live of the 329 U.S. metropolitan areas that received ratings.<sup>29</sup>

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<sup>27</sup>See R. Newman, "Industry Migration and Growth in the South," *Review of Economics and Statistics*, Vol. 65 (February 1983): 76-86.

<sup>28</sup>McManus Associates, Inc., "Business Profile and Targets," City of Omaha, January 1986. Also, see U.S. House of Representatives, Committee on Education and Labor, 98th Congress, First Session, Hearing on Oversight on Teacher Preparation, November 17, 1983, pp. 21-22.

<sup>29</sup>R. Boyer and D. Sanagean, *Places Rated Almanac* (New York: Rand McNally and Co., 1986).

Table 13-4 summarizes up-to-date information on wages, education levels, overall levels of state and local per capita total expenditure, expenditure on primary and secondary education, tax rates for personal, corporate, sales and property taxes and industrial location incentive programs. Average hourly manufacturing wages in Nebraska for 1986 were \$9.26. This wage is lower than the U.S. average of \$9.56 and Nebraska's wage is lower than that in six of its eight neighboring states. Of the eight neighbors, only North Dakota (\$8.18) and South Dakota (\$7.72) had lower wage rates than Nebraska. In addition, according to 1980 figures (the latest information that is available), 73.4 percent of Nebraska's adult population completed high school compared to a U.S. average figure of 67.0 percent. Within its eight state region, only Colorado (78.6 percent) and Wyoming (77.9) have a larger percentage of their population graduating from high school. Thus, Nebraska, relative to neighboring states and the U.S. as a whole, has a moderate wage and an able labor force.

#### **Fiscal Issues: Expenditures**

By almost any measure, Nebraska has moderate to low expenditure and tax levels. From Table 13-4, Nebraska's per capita state and local total expenditure in 1986 at \$2,395 is below the U.S. average and also below that in most of its neighboring states. Of the neighboring states, Kansas at \$2,382, Missouri at \$1,915, and South Dakota at \$2,252 have lower per capita state and local expenditure than Nebraska. However, Nebraska at \$616 spends more than the U.S. average of \$598 on primary and secondary education, but, of the neighboring states, only Iowa, Missouri and South Dakota spend less on primary and secondary education than Nebraska.

#### **Revenue Structure**

The four major taxes affecting business climate are the personal income tax, the corporate income tax, the sales tax and, at the local level, the real and personal property tax. Jointly these four taxes account for 81 percent of Nebraska's state and local tax revenue and for

53 percent of Nebraska's total state and local own-source revenue.<sup>30</sup> The main features of these taxes are described below.

**Personal Income Tax.** The personal income tax has recently been reformed. Prior to 1987, individuals paid 19 percent of their federal tax liability to the State of Nebraska. This link to the federal rates put some individuals in relatively high marginal tax brackets. For example, individuals in the former 50 percent federal bracket had a marginal state income tax rate of 9.5 percent. Federal tax reform reduced the highest marginal tax rate to 33 percent for individuals with taxable incomes between \$75,000 and \$149,000 and to 28 percent for filers with higher taxable incomes. This federal change would automatically reduce the highest marginal state tax rate to 6.33 percent for persons in top federal tax bracket and to 5.3 percent for persons in the 28 percent federal bracket, if Nebraska remained coupled to the federal tax system at a 19 percent surrate.

But federal reform reduced Nebraska's revenue from the state income tax. To keep revenue constant under a coupled system the surrate would have had to increase to 21.6 percent to maintain constant revenue.<sup>31</sup> Under these circumstances the marginal rates would be 7.1 percent for persons in the 33 percent federal bracket and 6 percent for persons in the 28 percent federal tax bracket.

In 1987, Nebraska decoupled from the federal tax system. While retaining federal AGI with some modifications, but modifying taxable income, Nebraska taxable income is subject to tax rates of between 2 and 5.9 percent.<sup>32</sup> Nebraska's personal income tax is very competitive

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<sup>30</sup>See J. Miner and P. Joyce, "The Nebraska State and Local Revenue and Expenditure System: A Comparative Analysis of Structure and Levels," Chapter 1 in this volume, Table 1-1.

<sup>31</sup>See S. Wallace-Moore and B. Riddle, "Who Pays the Nebraska State Personal Income Tax Before and After Reform," Chapter 4 in this volume.

<sup>32</sup>See Wallace-Moore and Riddle, "Who Pays the Nebraska State Personal Income Tax Before and After Reform," Table 4-2.

with other states in the U.S. that levy such a personal income tax. From Table 13-4, the highest personal income tax rate in Nebraska, 5.9 percent, is lower than in any other state that levies the tax in the region. It is also competitive with the U.S. average of 5.8 percent for the top marginal income tax rates among states.

**Corporate Income Tax Rate.** The corporate income tax base is strongly coupled to the federal corporate tax income tax base. The current rates are 4.75 percent on the first \$50,000 and 6.65 percent on the income above \$50,000. In 1984/85, Nebraska ranks 45th out of 50 states in per capita corporate income tax revenue. Moreover, it ranks 44th out of 50 states in corporate revenues as a percentage of state personal income.<sup>33</sup> The maximum corporate income tax rate in Nebraska is about at the average for states of 6.58 percent. Of the neighboring states that levy the corporate tax, only Colorado at 6 percent, Kansas at 4.5 percent and Missouri at 5 percent have lower corporate income tax rates (see Table 13-4).

Nebraska is a domestic unitary tax state, which means that for Nebraska establishments corporate taxable profits (federal definition of taxable profits) earned anywhere in the U.S. are apportioned to Nebraska using a formula. In particular, corporate profits have been apportioned to Nebraska using payroll, property and sales as equally weighted factors in the apportionment formula. In 1987, Nebraska passed legislation to phase-in an apportionment formula that uses only sales to apportion corporate income to Nebraska. This latter formula is particularly beneficial to manufacturing plants that sell their output out of state. Other states, including Iowa, allow a choice between the equal weight three factor formula and an alternative apportionment formula that places all of the weight on the corporation's proportion of sales in the state.

Banks and insurance companies do not pay the corporate income tax. Instead banks are subject to a 3.75 percent tax on net financial income, and insurance companies pay a premium

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<sup>33</sup>Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism*, 1987 edition (Washington, DC: ACIR, 1987), p. 131.



TABLE 13-4

WAGES, TAXATION, EXPENDITURE AND INDUSTRY LOCATION INCENTIVES:  
SUMMARY FEATURES OF NEBRASKA, NEIGHBORING STATES  
AND U.S. AVERAGES

	<u>U.S. Mean</u>	<u>Colorado</u>	<u>Iowa</u>	<u>Kansas</u>	<u>Minnesota</u>
Average Hourly Manufacturing Wage, 1986	\$9.56	\$9.81	\$10.33	\$9.74	\$10.20
Percent Population Completing High School, 1980	67.02	78.60	71.50	73.30	73.10
Per Capita Total Expenditure, 1986	\$2,452.50	\$2,567.67	\$2,443.00	\$2,382.16	\$3,048.51
Per Capita Expenditure - Primary and Secondary Education, 1986	598.03	666.66	569.59	620.40	703.29
Personal Income Tax Rate, 1987	5.83	8.00	12.00	9.00	9.90
Corporate Income Tax Rate, 1987	6.58	6.00	12.00	4.50	12.00
Maximum Sales Tax Rate, 1987	5.10	7.10	4.00	5.00	7.00
Property Tax Rate, 1985	1.27	0.97	1.96	1.16	1.04
Number of Tax Incentive Programs, 1987	9.46	8.00	10.00	12.00	14.00
Number of Financial Assistance Programs, 1987	11.29	14.00	14.00	8.00	14.00
Number of State and Local Special Services for Industry, 1987	11.81	15.00	10.00	5.00	14.00

	<u>Missouri</u>	<u>Nebraska</u>	<u>North Dakota</u>	<u>South Dakota</u>	<u>Wyoming</u>
Average Hourly Manufacturing Wage, 1986	\$9.80	\$9.26	\$8.18	\$7.72	\$9.70
Percent Population Completing High School, 1980	63.50	73.40	66.40	67.90	77.90
Per Capita Total Expenditure, 1986	\$1,915.82	\$2,395.07	\$2,706.94	\$2,253.71	\$4,472.62
Per Capita Expenditure - Primary and Secondary Education, 1986	505.77	615.70	619.93	568.81	1,206.73
Personal Income Tax Rate, 1987	6.00	5.90	8.00	0.00	0.00
Corporate Income Tax Rate, 1987	5.00	6.65	10.50	0.00	0.00
Maximum Sales Tax Rate, 1987	5.73	5.50	6.00	6.00	4.00
Property Tax Rate, 1985	0.98	2.29	1.26	1.96	n.a.
Number of Tax Incentive Programs, 1987	10.00	7.00	9.00	8.00	5.00
Number of Financial Assistance Programs, 1987	14.00	5.00	11.00	7.00	12.00
Number of State and Local Special Services for Industry, 1987	15.00	13.00	13.00	14.00	7.00

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, State and Area Employment, Hours and Earnings (computer tape); U.S. Bureau of the Census, Statistical Abstract of the United States: 1986 (106th edition) (Washington, DC: 1985); Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism - 1987 Edition (Washington, DC: ACIR, 1988), Tables 51, 57, and 64; U.S. Bureau of the Census, Government Finances in 1985-86, Series GF-86, No. 5 (Washington, DC: U.S. Government Printing Office, 1987); Site Selection Handbook (Atlanta, GA: Conway Publications, Inc., October 1987).

tax to the state in which the policyholder lives. From an economic development perspective, there seems little to criticize in the Nebraska corporate income tax. In addition to a moderate tax rate, accelerated depreciation investment can be used. All the evidence here points to a rather sensible corporate income tax.

**Sales Tax.** The Nebraska sales tax does not apply to food and pharmaceuticals, and the sales tax base for services is very narrow.<sup>34</sup> In addition, raw materials and manufacturing inventories are not subject to sales taxation. There is, however, a sales and use tax on machinery and equipment including some building materials. Generally, sound state taxation principles indicate that intermediate goods and other inputs of the production process should not be subject to sales taxes. In this case taxing machinery and equipment is problematic, because it introduces capital production inputs into the sales tax base. As a result, there is a pyramiding effect of sales taxes on final products, and, effective sales tax rates on final commodities vary with the amount of capital that is used in the production process. Put differently, products produced using more labor intensive processes will have lower sales tax rates, as a fewer portion of its intermediate goods are subject to sales taxes.

In addition, the sales tax on machinery and equipment discourages capital investment.<sup>35</sup> To address this issue, at least partially, Nebraska recently allowed sales taxes to be rebated to new firms and to existing business that add a new product line. The asymmetric treatment of new and existing firms that invest but do not add a product line with regard to the sales tax rebate on machinery and equipment introduces a bias against the existing firms. In

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<sup>34</sup>According to Due and Mikesell, Nebraska has no taxation of additional services, while its neighboring state of Iowa has broad taxation of services. See J. Due and J. Mikesell, *Sales Taxation: State and Local Structure and Administration*, (Baltimore: Johns Hopkins University press, 1983), p. 90.

<sup>35</sup>A fuller discussion of sales taxation is contained in J. F. Due and L. Fairchild, "The Nebraska State and Local Sales and Use Taxes," Chapter 3 in this volume.

1987, Nebraska also grants a sales tax rebate for machinery and equipment purchases under Legislative Bill 775.

The maximum state and local sales tax rate of 5.5 percent in Nebraska is not much higher than the 5.1 percent average sales tax rate for all state and local governments (see Table 13-4). Within the eight neighboring states, maximum state and local sales tax rates range between 4 percent in Iowa to 7.1 percent in Colorado. In addition to Iowa, only Wyoming at 4 percent and Kansas at 5 percent have lower sales tax rates than Nebraska. While the evidence presented in the previous section of this chapter suggests that this tax is not a strong determinant of business location decisions, Nebraska's rates are nonetheless competitive with neighboring states and the U.S. average.

The sales tax base is quite narrow, and base expansion is a potential source of revenue in the event that increase tax revenue is desirable. The addition of services to the sales tax base could not realistically include such services as real estate and banking transactions or medical services, but it could include personal services, financial services to final consumers and other services to final consumers. Whatever the view of the taxation of services, the taxation of machinery and equipment should be repealed for all businesses. The revenue loss for 1986 is estimated between \$30 and \$35 million if all equipment, including computer equipment, is exempted.

**Property Tax.** Nebraska has a relatively high property tax on both real and personal property. However, farmers are exempt from the personal property tax. The effective property tax rate in Nebraska (tax divided by market value of property) is 2.29 percent in 1985 and about a percentage point higher than the 1.27 percent average figure for the U.S. Among its eight neighboring states Nebraska has the highest tax rate. Property tax rates in the neighboring states range between 0.97 percent in Colorado to 1.96 percent in Iowa and South Dakota (see Table 13-4). In fact, Nebraska has the third highest property tax rate among the 50 states; New Jersey with

a 2.47 percent effective property tax rate has the highest rate in the nation and New York with a rate of 2.38 percent has the second highest rate.<sup>36</sup>

The business climate literature cited above generally indicates that property taxes either have no effect on industry location or has a positive effect on industry location. But I do not think that this result necessarily applies in all states including Nebraska. Property tax rates range between 0.22 percent in Louisiana and 2.47 percent in New Jersey. However, only six states have a property tax rate above 2 percent. Given this data, the business climate results that property taxes do not affect industry location could obtain for most states. But the six very high property tax states may be an insufficient number relative to the large number of low tax states for the empirical work to reflect the extent to which high property taxes may hurt the business climate in these few high tax states.

On the other hand, Nebraska's high property taxes result from its having relatively low tax rates on the personal, corporate and sales taxes. The low rates on state taxes are sustained by low state grants-in-aid to local governments. Thus, the state leaves funding of local services to the local governments.<sup>37</sup> Bringing down property taxes means cutting local expenditures, raising more revenue at the state level and giving grants-in-aid to local governments, or allowing local governments to expand their tax sources to sales, which is already done, and income taxes.<sup>38</sup>

Overall expenditures are already low in Nebraska and there seems to be little to cut here. Education expenditures in Nebraska are above the national average, but the economic development literature does *not* suggest that higher educational expenditures hinder economic

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<sup>36</sup>See ACIR, *Significant Features of Fiscal Federalism*, Table 64.

<sup>37</sup>For evidence see Miner and Joyce, "The Nebraska State and Local Revenue and Expenditure System: A Comparative Analysis of Structure and Levels."

<sup>38</sup>These policies receive more attention in the fiscal health chapters. See J. Yinger, "The Fiscal Condition of County Governments in Nebraska," Chapter 8 in this volume.

development. Thus, it may be unwise to reduce property taxes by lowering the quality of education in Nebraska. A grant system from state to local governments, or, as a second alternative, local revenue diversification apparently are better methods from a business climate perspective of reducing property taxes.

### **Regulations**

Nebraska does not regulate industry beyond the federal regulations. But the legislature has recently introduced a series of regulations related to the liquidation of agricultural assets. For example, Legislative Bill 300 (LB300) prohibits the corporate ownership of agricultural land. This bill not only removes corporations as potential purchasers of land and further reduces the market for land and depresses its sale price even further, but it also hinders the transfer of agricultural land to other uses, such as ranching. In addition, LB 999 grants the owner of the land 160 acres in any foreclosure proceedings. Of course, this provision makes banks even more reluctant to hold farm mortgages. One understands the spirit in which these laws were made, but in the longer run, LB300 and LB999 may harm farmers more than they help.

### **Economic Development Incentives**

Economic development incentive programs are sometimes sold as a powerful lever for producing a favorable environment to attract more business locations and employment growth. There are three types of economic incentive programs: tax incentive programs, financial assistance programs and special services for industry.<sup>39</sup> Table 13-4 shows information on the number of incentive programs in 1987.

There are fifteen major tax incentive programs, which include accelerated depreciation allowances for equipment and buildings, exemption from corporate income and property taxes, and exemptions of equipment from sales taxes. Nebraska has seven tax incentive programs, and

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<sup>39</sup>For a listing of these programs by state, see Conway Data Inc., *Site Selection Handbook*, Vol. 32, Number 5 (October 1987): 970-995.

the range in the eight neighboring states is between five in Wyoming and fourteen in Minnesota. On average in the U.S., states have between nine and ten tax incentive programs.

There are eighteen different financial assistance programs. These programs include the existence of a state sponsored industrial development agency, direct loans at subsidized rates, loan guarantees, and state and county incentives to establish plants in high unemployment areas. As of 1987 Nebraska has five financial incentive programs. The average among states in the U.S. is about eleven, and the eight neighboring states have between seven (South Dakota) and fourteen (Colorado, Iowa, Minnesota and Missouri) financial incentive programs (see Table 13-4).

There are also eighteen special services for industry incentive programs. These include the existence of a state science or technology council, state support for training of "hardcore" unemployed, university research and development facilities available to industry, and industrial park sites under city or state ownership. Nebraska has thirteen special services incentives compared to a national average of about twelve. The eight neighboring states have between five (Kansas) and fifteen (Colorado and Missouri) special services incentives.

In 1987, Nebraska initiated three new tax incentive programs, which are counted among the seven programs above. Legislative Bill (LB) 270 applies to small businesses and under LB270 the tax credit that can be taken if a firm adds two new employees and invests \$100,000 doubled from \$500 to \$1,000 per job and investment.

LB 772 phases-in a sales only formula for determining a multi-state firm's portion of profits that are taxable under the corporate income tax in the State of Nebraska. The sales only formula will replace the three-factor apportionment formula--sales, payroll and property--for determining Nebraska corporate income.

LB 775 is by far the most generous incentive of the new bills. Firms can qualify in two ways: 1) over a seven year period the firm must create 30 new jobs and make new investment of

\$3 million, or 2) make new investment of \$20 million over a seven year period. In neither case can investment in land qualify as part of the investment amount. However, the two ways of qualifying yield different tax breaks. Under the first method, there are four tax incentives: 1) a 15 year use of the sales only apportionment formula for the determination of corporate income; 2) refund of all sales and use taxes paid of the purchases of materials and equipment for qualified investments; 3) a 5 percent employment tax credit over a seven year period applied to the firm's increase in compensation over the base year; and 4) a one time 10 percent tax credit on the new investment. If a firm qualifies under the second criterion, then it is only eligible to receive the sales only apportionment option and the refund of sales and use taxes incentive outlined above. The firm qualifying under the second criterion are not eligible for the tax credits for employment and investment. In addition, employees of qualifying firms can take an income tax exemption on the capital gains earned on employee stock options.

As noted above there is not much evidence on the effectiveness of economic development incentive programs. The little research that has been done in this area does not suggest that these programs produce employment and investment gains that would not have been realized in the absence of these programs. In the next section of this chapter, the empirical results attempt to shed some additional light on this topic. But these programs vary a great deal among states and analyzing their impact may require knowledge about the details of these programs in every state. On the other hand, such detail is probably is not amenable to econometric analysis.

But the press has recently reported that tax incentive programs are not effective in all cases.<sup>40</sup> In particular, the *New York Times* reported that Sematech, a large consortium that will manufacture semiconductors, chose Austin, Texas over Massachusetts and sites in 32 other

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<sup>40</sup>T. Hayes, "Texas Site To Get Chip Project," *New York Times*, Business Day, Thursday January 7, 1988, pp. D1.

states. The surprising aspect of the Austin choice is that Massachusetts offered a financial inducement package worth \$440 million compared to the Texas offer of only \$68 million. Persons involved in the decision noted that Texas offered the best overall site proposal across the board, even though the financial inducements were not as favorable as those in some other states.

While the impact of these programs is uncertain, the academic literature on tax incentives suggests that incentive programs are not cost-effective ways to attract industry. More specifically, the drain on the state treasury is not worth the few jobs that come into the state.<sup>41</sup> To attract industry, it is likely better to have a sensible tax system and offer limited economic development incentives than to try to patch a faulty and out-dated tax system with a series of economic development incentives. However, it is often difficult to convince policy makers of this fact.

#### **Summary on Business Climate in Nebraska**

Overall the findings here suggest a good to very good business climate in Nebraska. Wages rates are moderate and energy prices are known to be low. The education of the labor force, measured as the percent of the population over the age of 25 that graduated from high school, is above the U.S. average. Fiscally, Nebraska has low per capita state and local spending, and, at the same time the state spends an above average amount on primary and secondary education. But Nebraska's level of expenditure on education is below that of five of its eight neighboring states. Thus, to remain competitive in terms of an educated workforce, Nebraska probably should not reduce its emphasis on quality primary and secondary education.

On the tax side, the personal and corporate income taxes are competitive with those in other states. But the sales tax and the property tax may be problematic. Removing the sales tax

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<sup>41</sup>For a more detailed discussion, see B. Harrison and S. Kanter, "The Political Economy of States' Job-Creation Business Incentives," *American Institute of Planning Journal*, Vol. 44 (October 1978): 424-435.



on machinery and equipment would probably encourage more investment in Nebraska. The property tax levels in Nebraska are the third highest in the nation, and are much higher than the national average. The high property taxes are the direct result of low state level taxes and very low grant-in-aid programs from the state to local governments. In addition, local governments are generally limited to levying the property tax and, in some cases, a 1.5 percent sales tax. Reducing property taxes is probably desirable for improving the business climate, but it will require either increased taxation at the state level and the introduction of a grant-in-aid system for local governments or more local authority to diversify their revenue sources. The implication of revenue diversification is local income taxation or greater utilization of local sales taxes. Given the moderate level of per capita expenditure in the state, it does not seem feasible to reduce property taxes significantly through responsible reductions in local government expenditure.

### **Empirical Analysis of Employment Growth in States: 1980-1985**

In this section, the variation in employment growth among states is explained using an econometric model. The model uses a set of independent variables that previous studies have shown are related to employment growth and economic development. Three types of variables are used to determine employment growth; namely, cost of production, the size of the local market and fiscal variables. While cost and market conditions are known to be the most important variables driving business location and economic development, state and local governments are rightly interested in determining the extent to which fiscal variables influence economic development and how they can adjust their fiscal policy to enhance the prospects for economic development.

While this analysis can identify which variables influence employment growth, it is very difficult to capture the fiscal climate of all states using a necessarily limited number of variables.

In fact, a number of different models were initially used to determine the significance of alternative fiscal variables. Included in these models were variables representing the individual and the corporate income tax rates, the property tax rate, and the sales tax rate. These models did not reveal that these particular variable influenced state employment growth during the 1980 to 1985 time period. Thus, a scaled down model with fewer fiscal variables is presented below.

Before presenting the model, a few cautionary notes are offered. Policy makers and researchers in state and local finance and economic development are well aware that, due to the inability to measure certain tax provisions, econometric models will not capture many of the subtleties of the tax law, which may influence economic development. These subtleties extend beyond the size of the tax rates, which most models can take into account, to issues such as, the extent to which inputs and capital equipment used in the production process are subject to sales taxation. Likewise, these models are not likely to capture favorable property assessment practices on various types of property, if such practices exist. The implications of not being able to capture every nuance of the tax code in an econometric equation leads to some uncertainty about the influence of fiscal variables on employment growth, and to some speculation about how the fiscal environment could be altered to improve the business climate.

### **Empirical Model and Independent Variables**

The determinants of employment growth between 1980 and 1985 are examined for total nonagricultural employment and for eight industries. These industries include total manufacturing; durable goods manufacturing; nondurable goods manufacturing; transportation, communication and public utilities; wholesale trade; retail trade; finance, insurance and real estate; and services.<sup>42</sup>

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<sup>42</sup>The industries that are not analyzed here--agriculture, mining and construction--are not very responsive to business climate variables. Agriculture and mining generally grow in areas that are rich in the natural resources used in these industries according to national prices and national economic policy. Contract construction is a local industry that responds to the growth of other industries and residences within a state.

The cost variables included as explanatory variables are the cost of labor in the state, and energy prices. The wage rate variable is the hourly wage rate for manufacturing production workers in the state.<sup>43</sup> Energy prices are represented by two variables--the average price of industrial or commercial electricity depending on the type of industry, and the average price of a cubic foot of natural gas.

A right-to-work law and the education level of the labor force are also related to the productivity and the cost of labor in the state. Right-to-work is represented with a dummy variable equal to unity if the state is one of the 16 states to have a right-to-work law and zero otherwise. The percent of the population over the age of 25 that have completed high school is used as a measure of the educational level of the work force.

Two variables are used to measure the size of the local market--per capita income and the population size of the state. But these two variables should have more influence in industries that sell to local markets, such as finance and services, than in the more export oriented manufacturing industries that sell to regional and to national markets.

Six variables are used to capture the fiscal environment of each state. On the expenditure side, state and local expenditure as a percent of state personal income represents the relative size of state and local public services. For taxes, the variable state and local tax revenue as a percent of state personal income represents the relative tax burden in the state.<sup>44</sup> The progressivity of the state income tax is often alleged to be a deterrent to employment growth in a state. To test

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<sup>43</sup>Bureau of Labor Statistics data are not reported on wages for every industry in every state, and, therefore, it is not possible to use the average wage rate for each particular industry in the analysis. The variation in the manufacturing production wage has been shown to be a good indicator of the wage rate in other industries.

<sup>44</sup>As noted above, several other models that included a vector of tax rates for various state and local taxes and variables representing education, welfare and other state and local expenditures were estimated. These variables failed to explain employment growth during the 1980 to 1985 period, and the less complex model is estimated here as an alternative.

this hypothesis, a measure of the progressivity of the state personal income tax is included as a variable in the model.

The last set of fiscal variable measures the extent to which the state uses economic development programs. The three types of economic development programs, noted in a previous section of this chapter, are included as independent variables in this model. In particular, the number of special services incentives, the number financial incentive programs and the number of tax incentive programs are included as variables in this model.

Higher wages, energy prices, state and local taxes as a percentage of state personal income, and more tax progressivity are expected to have adverse effects on employment growth. Thus, the estimated coefficients on these variables are expected to have a negative sign. Higher values for the other variables in the model should induce employment growth, and the coefficients for these variables are expected to have a positive sign.

All of the data on the right-hand-side of the equation are for the year 1980 except for the tax progressivity variable, which is for the year 1977.<sup>45</sup> Econometric issues dictate that data at the beginning of the period is used on the right-hand-side of the equation.<sup>46</sup> The estimated equations are corrected for heteroskedasticity using Prais and Houthakker's correction.<sup>47</sup> Table 13-A1 reports the sources of the data for the variables.

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<sup>45</sup>The latest year for which the tax progressivity variable is measured is 1977. There is considerable work and data entailed in updating this variable to 1980, and the improvement in the accuracy of the measure is probably very marginal. Thus, the published 1977 data is used in this analysis.

<sup>46</sup>Econometrically, one should not use data during the 1981 to 1985 period to explain employment growth between 1980 and 1985. The basic argument is that with aggregate data, employment growth could also affect the right-hand-side variable or influence the tax rates. Such phenomena greatly complicates the econometric modelling. Thus, data outside of the 1981 to 1985 period is used to estimate the model.

<sup>47</sup>For a discussion of heteroskedasticity and the use of Prais and Houthakker correction, see J. Kmenta, *Elements of Econometrics*, second edition, (New York: Macmillan, 1986), pp. 269-298.

Table 13-5 reports the results of the estimation equations for the industries cited above. Where coefficients are statistically significant, it means that their respective variable has a nonzero effect on the amount of employment growth during the 1980 to 1985 period. According to these results, the wage rate is the most important determinant of employment growth in the first half of the 1980s. The coefficient of this variable has the expected negative sign and is statistically significant for total nonagricultural employment; manufacturing employment and especially durable goods manufacturing; as well as for the transportation; retail trade; and the finance, insurance and real estate industries. The education level of the labor force is also an influential variable in total manufacturing employment growth, including both durable and nondurable goods manufacturing.

By contrast, the right-to-work law does not seem to affect employment growth independent of the wage level, and high energy cost do not adversely affect employment growth. In fact, the results for manufacturing indicate that states with higher energy costs have more manufacturing employment growth. This result means that energy prices, being a relatively small percentage of total costs, are not an important factor in employment growth decisions.

The market variables do not exert much influence on employment growth during this period. Per capita income has a positive and statistically significant effect on overall employment growth and on employment growth in the wholesale trade and the finance, insurance and real estate industries. Population size, on the other hand has a positive and statistically significant effect on employment growth in wholesale trade.

The results for the fiscal variables are mixed and in some cases surprising. Expenditure as a percentage of total income in the state has a positive and statistically significant effect on employment growth in the nondurable goods manufacturing and in the transportation industries. In other industries the estimate of the coefficient is not statistically significant. The level of taxation as a percentage of total state income has a negative and statistically significant effect on

TABLE 13-5

RESULTS OF REGRESSION ANALYSIS EXPLAINING PERCENTAGE EMPLOYMENT  
CHANGE BY INDUSTRY BETWEEN 1980 AND 1985

Independent Variables	Dependent Variables: Percentage Employment between 1980 and 1985 for			
	Total Nonagriculture	Manufacturing	Durable Goods Manufacturing	Nondurable Goods Manufacturing
Intercept	0.174 <sup>a</sup> (1.19)	-0.249 (1.04)	0.359 (1.18)	-1.346 (-5.23)*
Wage	-0.024 (2.04)*	-0.056 (3.04)*	-0.119 (5.02)*	0.029 (1.38)
Right-to-Work Law	-0.018 (0.82)	-0.004 (0.12)	0.013 (0.30)	-0.014 (0.36)
Percent of Population Over 25 Completed High School	-0.001 (0.56)	0.012 (6.56)*	0.012 (3.71)*	0.007 (1.96)*
Electricity Price	0.001 (0.10)	0.001 (4.47)*	0.001 (2.47)*	0.001 (3.79)*
Natural Gas Price	0.012 (1.08)	0.002 (0.11)	0.002 (0.07)	0.028 (0.92)
Per Capita Personal Income (in thousands)	0.020 (2.27)*	-0.001 (1.44)	0.001 (0.23)	0.001 (1.25)
State and Local Expenditure as a Percent of Income	-0.673 (0.97)	0.26 (0.27)	-3.765 (2.29)*	5.387 (4.25)*
State and Local Tax Revenue as a Percent of Income	-0.543 (0.46)	-3.379 (1.98)*	-1.474 (0.56)*	-9.463 (4.55)*
Progressivity of State Personal Income Tax	-0.087 (2.44)*	0.016 (0.31)	0.228 (2.32)*	0.246 (2.26)*
Number of Special Incentive Programs	0.005 (1.20)	0.023 (3.83)*	0.031 (4.21)*	0.013 (2.27)*
Number of Financial Incentive Programs	-0.009 (3.50)*	-0.014 (3.81)*	-0.019 (2.81)*	-0.023 (3.63)*
Number of Tax Incentive Programs	0.004 (1.13)	-0.020 (3.96)*	-0.016 (2.42)*	-0.004 (0.64)
Population Size	0.001 (0.89)	0.001 (0.98)	0.001 (0.14)	0.001 (0.01)
R <sup>2</sup>	0.40	0.35	0.41	0.15

TABLE 13-5 (CONT.)

	Transportation	Wholesale Trade	Retail Trade	Finance Insurance Real Estate	Services
Intercept	0.450 (2.32)*	0.19 (0.91)	0.672 (4.39)*	0.37 (1.99)*	2.505 (0.78)
Wage	-0.035 (2.68)*	-0.017 (1.10)	-0.030 (2.39)*	-0.031 (2.23)*	-0.278 (1.57)
Right-to-Work Law	-0.032 (1.17)	-0.005 (0.14)	-0.044 (1.65)	0.015 (0.51)	0.127 (0.30)
Percent of Population Over 25 Completed High School	0.001 (1.24)	0.002 (0.78)	-0.001 (0.10)	-0.003 (1.96)*	-0.010 (0.19)
Electricity Price	0.001 (1.85)	0.001 (1.46)	0.001 (0.14)	-0.001 (0.12)	0.001 (0.29)
Natural Gas Price	0.026 (1.80)*	0.021 (1.03)	0.003 (0.19)	-0.009 (0.40)	0.268 (0.82)
Per Capita Personal Income (in thousands)	0.001 (1.24)	0.001 (1.94)*	-0.001 (0.68)	0.001 (2.81)*	-0.001 (0.16)
State and Local Expenditure as a Percent of Income	1.867 (2.19)*	-1.134 (1.02)	-0.885 (0.94)	-1.672 (1.65)	-0.064 (0.003)
State and Local Tax Revenue as a Percent of Income	-2.443 (1.62)	3.078 (1.69)	-0.577 (0.39)	1.840 (1.08)	-1.895 (0.06)
Progressivity of State Personal Income Tax	-0.355 (6.53)*	-0.200 (2.27)*	-0.066 (0.66)	-0.059 (1.17)	-1.336 (1.03)
Number of Special Incentive Programs	-0.003 (0.53)	-0.006 (1.20)	0.002 (0.44)	0.003 (0.72)	0.051 (0.66)
Number of Financial Incentive Programs	0.002 (0.52)	0.003 (0.85)	-0.005 (1.82)	-0.004 (1.00)	-0.003 (0.03)
Number of Tax Incentive Programs	-0.002 (0.40)	-0.003 (0.77)	0.001 (0.36)	-0.002 (0.49)	-0.002 (0.03)
Population Size	0.001 (1.25)	0.001 (3.80)*	0.001 (1.51)	-0.001 (0.32)	0.001 (0.29)
R <sup>2</sup>	0.38	0.34	0.34	0.23	0.17

<sup>a</sup> The figures in parentheses are absolute values of the t-statistics, and the "\*" indicates statistical significance at the 0.05 level or better for a two-tailed test.

SOURCE: Nebraska Comprehensive Tax Survey.

employment growth in manufacturing and in nondurable goods manufacturing, in particular. Thus, the overall spending and taxation levels in states affect employment growth in relatively few industries during the 1980 to 1985 period.

A variable that has had particular interest in Nebraska is the progressivity of the state personal income tax.<sup>48</sup> The results here indicate that progressivity in the state personal income tax slowed overall employment growth, and slowed employment growth in the transportation and wholesale trade industries. However, greater personal income tax progressivity is associated with higher employment growth in both durable and nondurable goods manufacturing. These conflicting results for progressivity are problematic and do not give clear guidelines to states that want to adopt strategies to enhance their employment growth in all industries. But the overall effect of a more progressive personal income tax is to reduce slightly the growth rate of total nonagricultural employment. In 1977--the year of our data on progressivity--Nebraska is rated among the ten states with the highest tax progressivity. Thus, the recent state personal income tax reform that reduced progressivity should improve overall employment growth slightly, but not necessarily in the manufacturing industries.

The last set of variables is the tax, financial and special services incentive variables that are of much interest to Nebraska and to other states. Individually, these findings suggest that the incentive variables have no statistically significant effect on the nonmanufacturing industries. However, they do affect the employment growth in manufacturing, and in one case overall employment growth, although in sometimes unexpected ways. In particular, states that offer a greater number of financial incentive programs have *lower* overall employment growth and

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<sup>48</sup>The progressivity of the overall tax system, not only the personal income tax, in states was also entered in some of the regressions. There is remarkable similarity in the overall progressivity of state tax systems and thus this variable can not be expected to have, and did not have, any influence on employment growth among states. However, the measure of the progressivity of the personal income tax has significantly more variation than the overall progressivity measure.



*lower* growth rates in total manufacturing and in durable and nondurable goods manufacturing, in particular. Similarly states that offer a greater number of tax incentive programs have *lower* employment growth in manufacturing and in durable goods manufacturing. But states offering more special services to industries have *greater* employment growth in total manufacturing, and in both durable and nondurable goods manufacturing.

The finding about the significance of special services leads one to wonder which of these services are most important. This research can not answer this question definitively. Nebraska has 13 of the 18 special services programs. The services that Nebraska does *not* offer include state financed speculative building, state provision of free land for industry, cities or counties provision of free land for industry, state-owned industrial park sites and state funds for private recreational projects. Most of these services seem most productive in states where there is inadequate land for industrial use or where land is very expensive. This situation does not seem to apply in Nebraska.

If Nebraska wanted to amplify its efforts in the special services area, it might be useful to enhance the funds available for industries to train their workforce. In the two categories of training programs under special services, "state supported training of "hard-core" unemployed" and "state incentive to industry to train "hardcore" unemployed," 46 states offer the former type of program and 36 states offer the latter. Nebraska offers both types of services. But the important point here is that other results from the regression analysis indicate that an educated workforce also enhances manufacturing employment growth. Putting these two results together, one approach may be to increase the amount of state funds available for training the workforce and to allow industry to offer training programs which industry can tailor to their specific labor requirements and needs.

## Conclusions and Recommendations

This study of Nebraska's business climate leads to two basic conclusions. There is not much wrong with the business climate in Nebraska. But in the one area where Nebraska is out-of-line with other states, property taxation, this problem is not easily fixed.

In the first half of the 1980s, Nebraska's overall employment growth has been much slower than that in the United States, and it has at best experienced only moderate growth relative to the employment growth rates of other states in its nine state region. Given the results of recent research on the determinants of economic development and employment growth and the results presented in this study, one can not attribute much of the relatively sluggish performance of the state economy to the business climate, as measured using a standard set of business climate variables.

Nebraska has a moderate wage rate and a well-educated labor force population relative to the United States as a whole and relative to the nine state Nebraska region. The econometric analysis in this chapter shows these two factors as the most important variables in determining employment growth during the 1980 to 1985 period. The personal, corporate and sales state tax variables, although they do not show up as very important indicators of employment growth, now appear to be very close to or below averages in the United States. In addition, Nebraska has lower state and local expenditure per capita than the United states average and moderate expenditure levels compared to other states within the Nebraska region. At the same time, Nebraska's per capita state and local expenditure on primary and secondary education is about 3 percent above the national average, but Nebraska's per capita state and local expenditure on primary and secondary education is about in the middle of the per capita education expenditure range for the other eight states in the Nebraska region.

On the other hand, Nebraska's effective property tax rate is the third highest in the United States, and 80 percent higher than the United States average. But advocating a drastic reduction

in the rate of property taxation is fraught with complexity. Some will undoubtedly argue that local expenditures should be reduced and then property taxes will be lowered. However, given that state and local expenditure is moderate relative to other states, it appears that responsible expenditure cutting would not yield significant reductions in the property tax rate. Moreover, drastic reductions in expenditure on education will reduce the quality of the workforce in the next five to ten years.

Indeed, Nebraska's high property tax rates are directly related to its low state tax rates. The state performs relatively few services and also does not have a significant program of grants-in-aid to Nebraska local governments. Thus, local governments are left to fund local expenditure out of property taxes. The alternative to a grants-in-aid program to local governments funded through states income or sales tax revenues is local government revenue diversification. What seems clear is that a more balanced property tax system requires significant fiscal restructuring in Nebraska.

Among the other significant findings of this study is that more state financial incentives and tax incentives offered to industries appear to be associated with slower rather than faster employment growth. This finding seems to support the view that an inadequate fiscal environment can not be patched with a set of financial and tax incentives. At the same time the state special services offered to industry seem to enhance manufacturing employment growth. The implication is that services, such as state supported training programs run by private firms where they train their own employees may enhance employment growth. Moreover, such a training program is consistent with the finding that a better educated workforce increases employment growth in a state.

Finally, it appears that the sales tax levied on machinery and equipment represents a disincentive to invest in capital goods in Nebraska. Although this hypothesis has not been tested in this research due to the practical consideration of measuring the extent of sales taxation of

machinery and equipment in each state, taxing investment activity can not increase economic development prospects. Thus, the recommendation is to eliminate sales and use taxes on machinery and equipment to replace the revenue with taxes on consumer services or other sources of revenue.

TABLE 13-A1

## DATA SOURCES FOR VARIABLES

Wage	U.S. Department of Labor, Bureau of Labor Statistics, <u>State and Area Employment, Hours and Earnings</u> (computer tape).
Right-to-Work Law	<u>Site Selection Handbook</u> , Atlanta, GA: Conway Publications, Inc., March/April 1981, October 1985.
Percent of Population Over 25 Completed High School	U.S. Bureau of the Census, <u>Statistical Abstract of the United States: 1986</u> (106th edition), Washington, DC, 1985.
Electricity Prices	U.S. Department of Energy, Energy Information Administration, Federal Power Commission, <u>Typical Electric Bills</u> , 1980, 1985.
Natural Gas Prices	U.S. Department of Energy, Energy Information Administration, <u>Natural Gas Annual</u> , 1980, 1985.
Per Capita Personal Income	Personal Income U.S. Department of Commerce, Bureau of Economic Analysis, Local Area Personal Income: Personal Income for State and Regions, 1986, Tables SA1-3 (computer tape). Population-U.S. Department of Commerce, Bureau of the Census, <u>Current Population Reports: Population Estimates and Projections</u> , P-25, No. 998, 1986.
State and Local Expenditures as a Percent of Personal Income	Direct General Expenditures-U.S. Department of Commerce, Bureau of the Census, <u>Governmental Finances in 1985-86</u> . Personal Income-U.S. Department of Commerce, Bureau of Economic Analysis, Local Area Personal Income: Personal Income for State and Regions, 1986, Tables SA1-3 (computer tape).
State and Local Tax Revenues as a Percent of Personal Income	Total Tax Revenues-U.S. Department of Commerce, Bureau of the Census, <u>Governmental Finances in 1985-86</u> . Personal Income-U.S. Department of Commerce, Bureau of Economic Analysis, Local Area Personal Income: Personal Income for State and Regions, 1986, Tables SA1-3 (computer tape).
Progressivity of State Personal Income Tax	Donald Phares, "State and Local Tax Burdens across the Fifty States," <u>Growth and Change</u> , Vol. 16, No. 2 (April 1985).
Number of Special Incentive Programs	<u>Site Selection Handbook</u> , Atlanta, GA.: Conway Publications, Inc., March/April 1981, October 1985.
Number of Financial Incentive Programs	<u>Site Selection Handbook</u> , Atlanta, GA.: Conway Publications, Inc., March/April 1981, October 1985.
Number of Tax Incentive Programs	<u>Site Selection Handbook</u> , Atlanta, GA.: Conway Publications, Inc., March/April 1981, October 1985.
Population Size	U.S. Department of Commerce, Bureau of the Census, <u>Current Population Reports: Population Estimates and Projections</u> , P-25, No. 998, 1986.



## CHAPTER 14

### THE OPERATION OF THE NEBRASKA STATE AND LOCAL SALES AND USE TAXES<sup>1</sup>

by Loretta Fairchild and John F. Due

The structure of the Nebraska state and local sales and use tax has been described in Chapter 3 of this volume.<sup>2</sup> In brief, the state sales tax was introduced in 1967 and applies, at a rate of 4 percent, to all sales of tangible personal property for use or consumption and not for resale, except those sales specifically exempted. In addition, a small group of specified services is also subject to the tax. The use tax applies to purchases from outside the state. The principal sales tax exemptions include food, medicines and prosthetic devices, a few miscellaneous items, motor fuel (subject to motor fuel taxes), farm seed, seed, fertilizer and related items, and industrial machinery and equipment purchased by firms entitled to exemption under the 1987 incentives legislation. Other industrial equipment is taxed, as is farm machinery and equipment. Sales to government and various charitable and other organizations are exempt. The food exemption, enacted in 1983, replaced a system of credits against income tax representing tax paid on food purchases. Finally, the tax typically yields about one-third of state tax revenues.

In addition, cities were given the power to impose local sales taxes by 1969 legislation, and the major cities and a number of smaller ones (but not including a substantial group of

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<sup>1</sup>The authors would like to thank the Department of Revenue in Nebraska and staff members of the Revenue Committee of the Nebraska State Legislature. In particular, State Commissioner Donald S. Leuenberger generously gave his time and made his staff available for consultation. Deborah Thomas and Eric Will also were very generous with their help. This chapter is based on Loretta Fairchild and John F. Due, "The Operation of the Nebraska State and Local Sales and Use Taxes," Nebraska Comprehensive Tax Study Staff Paper No. 3, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, October 1987).

<sup>2</sup>The structure of the tax is analyzed in the chapter by J. F. Due and L. Fairchild, "The Nebraska State and Local Sales and Use Taxes," Chapter 3 in this volume.

medium sized cities) have done so. The typical rate is 1 percent, but Omaha, Lincoln and Bellevue use a rate of 1.5 percent. The local taxes are collected by the state, and the base is the same as that of the state levy. Liability for tax is based upon the place of delivery, not location of the vendor.

### **Administrative Organization**

The sales and use tax is administered by the Nebraska Department of Revenue, headed by a Tax Commissioner appointed by the Governor. The organizational structure is functional; there is no separate sales tax division, as in some states. Thus field service personnel and auditors handle all taxes.

There are ten divisions in the Department:

Administration	Including the Tax commissioner, Deputy Commissioners, Controller, and Personnel.
Tax Policy	Eight attorneys and accountants for preparing regulations and legislation, four attorneys for docket resolution.
Legal	Seven attorneys for docket resolution and reviewing legislation.
Audit	40 auditors for all tax programs and three office audit specialists. Of approximately 55,000 annual audit hours, 69 percent were devoted to sales and use tax audits in 1986.
Field Services	38 field service agents for enforcement, collections, and taxpayer assistance.
Research	
Administrative Services	Including data processing, with nine systems analysts.
Revenue Operations	
Property Tax	
Charitable Gaming	



## Personnel

All personnel in the Department have been covered by the State Classified Personnel System since 1983, except for the Tax Commissioner. However, in practice, the personal assistant to the Commissioner does change with administrations. Effective September 1987, the Commissioner is authorized to create up to three "discretionary, non-classified" positions, subject to funding availability. A second Deputy Commissioner was added with the change of administration in early 1987.

General tests are not administered to applicants except for information processing skills. Applicants' qualifications and experience are reviewed individually. The Department of Revenue negotiates with the State personnel office on the classification and job description to be assigned any position. Compensation is determined by the Personnel Rules and Regulations, effective July 1, 1986. In perhaps 10 percent of such negotiations, the Department of Revenue receives its "second choice" and in less than 1 percent of cases it is entirely displeased with the classification assigned.

While most employees are Nebraska residents, there is no residence requirement and upper level positions are often advertised in the *Wall Street Journal*. On-campus recruiting for auditors takes place at all Nebraska colleges and universities offering a degree in accounting. State affirmative action targets are used in hiring decisions. In particular, one goal is to raise female participation at the manager/professional/para-professional level from the current 36 percent to the goal of 40 percent. Minority hiring, especially of blacks, is also targeted. The Department hopes to hire two blacks in 1987 to return the Department to a 6 percent minority representation. However, no special pay incentives are offered to targeted groups. Turnover among auditors is about 30 percent per year, since three years experience allows them to qualify for a CPA certificate. The overall turnover rate is about 7 percent per year.

Qualifications for auditor include a bachelor's degree in business administration with 24 hours in accounting, including auditing, tax accounting, and advanced accounting. Approximately 50 percent of current audit staff have qualified for the CPA certificate.<sup>3</sup> Qualifications for field service revenue agents include a college degree in business, or three years of training and/or experience in general business. Experience may substitute for training on a year-for-year basis. Previous customer service experience is also considered. These requirements are higher than those in many states.

Salary levels are fairly competitive (see Table 14-1) and the Department has little difficulty in getting qualified persons. A nationwide survey of starting salaries for college graduates indicates that the average offer in accounting was \$21,384 as of January 1987 and \$21,120 as of January 1986. The Career Placement Office at University of Nebraska-Omaha indicates that for 1986 graduates the average offer from regional accounting firms was \$20,600, while local companies offered starting salaries from \$16,000 to \$18,000. A proposed salary upgrade for field service revenue agents will probably take effect in the 1987-88 fiscal year, when an attempt will be made to further upgrade the educational level of revenue agents.

There are five regional offices (see Table 14-2), each with field service agents, but auditors are permanently based only in Lincoln, Omaha, Norfolk and Scottsbluff. None are based out of state but in total make 25 to 30 out of state trips a year. Only the Omaha office has two managerial positions. Two of the other four regional offices are coordinated by audit supervisors, the other two by a Special Agent (Revenue Agent IV). Revenue agents are assigned directly to a regional office when hired. Agents work in specific counties but these assignments are deliberately rotated.

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<sup>3</sup>Three years experience qualifies auditors with a CPA certificate to apply for an active permit to practice. The CPA certificate is obtained upon passing all parts of the CPA examination and as well as an ethics test.

TABLE 14-1

## AUDIT DIVISION

Title		Hiring Salary (annual)	
Revenue Auditor I	junior level	\$18,084	(rate after 6 months: \$18,988)
Revenue Auditor II		20,412	
Revenue Auditor III	senior level	21,943	
Revenue Auditor IV		23,588	
Revenue Auditor Supervisor		25,961	must be eligible for CPA certificate to practice
Revenue Audit Manager		30,000	
Revenue Audit Administrator		34,670	

\$1,000 bonus is given for passing the CPA exams.

Auditors I and II do not move horizontally within their salary grade, but are expected to advance to senior level. Thus classified maximum rates for each level are irrelevant.

## FIELD SERVICES DIVISION

Current		Proposed	
Title	Salary (annual)	Title	Salary (annual)
Revenue Agent I	\$14,556	Revenue Agent Trainee	\$16,822
Revenue Agent II	16,822	Revenue Agent	19,440
Revenue Agent III	18,084	Senior Agent	22,465
Revenue Agent IV (special agent)	20,898	Special Agent, Supervisor	25,961
Manager	24,150	Manager	30,001
Administrator	27,908	Administrator	34,670

Incumbents are expected to advance vertically, rather than horizontally, within their salary grade.

SOURCE: Nebraska Department of Revenue.

TABLE 14-2

## LOCATION OF PERSONNEL

	Regional Offices					
	<u>Lincoln</u>	<u>Omaha</u>	<u>Norfolk</u>	<u>Scottsbluff</u>	<u>Grand Island</u>	<u>North Platte</u>
A. Audit Division						
Managers	5	1	-	-	-	-
Supervisors	3	2	1	1	-	-
Auditors	17	15	4	4	-	-
B. Field Service Division						
Managers	2	1	-	-	-	-
Supervisors (Agent IV)	4	3	1	1	1	1
Agents	17	10	3	2	3	3

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SOURCE: Nebraska Department of Revenue.

All Department of Revenue employees are hired on an original six months probation basis. Subsequent dismissal can occur only for cause. Training for new auditors includes a three-day orientation to the tax laws and regulations. Training is then handled one-to-one in the field, with the senior auditor on the case acting as mentor. Since field service personnel are not hired in groups, classroom training is not feasible.

### **CDP Equipment**

Data processing for the Department of Revenue is provided by Central Data Processing within the Department of Administrative Services. (The Department of Revenue operates its own PRIME computer for property tax, with Marshall and Swift software for land valuation, but all other information processing, including that for sales tax, is centralized.) The mainframe is an IBM 3091. The last major upgrade, from an IBM 3081, occurred in late 1985. Maintenance is handled by Central Data Processing. Even though CDP makes all hardware decisions, the Department of Revenue feels that the equipment and storage capacity available are more than adequate for their needs and that shared jurisdiction creates no significant problems for them, as it does in many states.

The Department of Revenue is charged for computer usage at the same rates as all other departments. These rates are designed to cover all of CDP's direct costs and overhead. Since 1985, the systems analysts in CDP assigned to the Department of Revenue also do work for the Departments of Education and Health but this has not created any significant problems.

The Department of Revenue has ten systems analysts on staff and exerts considerable influence over information functions, establishing specifications for software, testing procedures, training users and controlling the information and security. Approximately 40 percent of one analyst's time is devoted to sales tax work. Security is the overriding priority for the system, so there are no outside lines for terminal access. Field offices have had direct access with CRTs for

more than ten years but they allow inquiry only, and no updates can be made from outside. Relatively few printouts are made for sales tax purposes, except for the monthly listing of non-filers.

Data entry is on-line, directly to magnetic tape. Only limited editing takes place during data entry. Once the data are on tape, calculations are made to identify errors, which are corrected on-line by personnel in Revenue Operations. No sales tax data are received in machine-readable form, though some W-2 and IRS data are entered this way.

The last major redesign of the master file took place in 1975 for the sales tax, in 1973 for withholding, in 1979 for personal income tax, and in 1986 for motor fuels. Minor, patchwork changes are made regularly. A redesign of the business master file for all taxes is in process. This will allow more flexibility on audits requested, for example, and is a high priority with the audit division. However, progress on this project has been limited by staffing availability and the higher priority given to making changes as directed by the Legislature.

### **The Operation of the Tax**

The details of the registration of vendors and processing of returns can be summarized briefly.

#### **Registration**

Each new vendor must file an application for a permit under each tax program; it is illegal to sell at retail without a permit. There are two types of vendor permits: sales tax, and retailer's use tax (for out-of-state vendors collecting use tax). A single application form (Form 20, see Appendix 14-A), is used for withholding, sales, retailer's use, lodging, motor fuel and cigarette taxes. A separate application for each location is required for the sales tax permit, with a fee of \$10 for each location. There is no fee for retailer's use tax registration, since these firms are essentially voluntarily registering. Firms not required to register as vendors must register for

consumer use tax if they accrue any use tax liability.

As the applications are received, they are edited for computer entry; there is no screening as to whether the applicant requires a sales tax permit, except to see if the firm has previously held a sales tax permit so as to ensure that no firm receives more than one number, and to see that no back taxes are due. The permit is entered into the business master file, which is a computer record. A single number for all state taxes is issued. The numbers are simply issued sequentially; the permit forms have the numbers printed on them. The applicants are asked for their federal employer or social security number; these are entered into the file but not used for the state number. The firms are coded by industry (using a simplified two- and three-digit business classification number) and by location (county and city). When a firm quits business it is supposed to so indicate by checking a box on the form on the final return; if it does not, it is discovered in a delinquency check. New registrants are provided with an Information Guide (Information Guide 84-6, see Appendix 14-A).

The total number of registered sales tax vendors, 63,418 as of May 1986, has changed little in recent decades; the number in 1969-70 was 52,036, in 1979-80, 61,049. The number per 100,000 population, about 400, is higher than the nationwide figure of 350, but comparable to that in adjacent states. During 1985-86, 8,239 permits had been issued and 8,159 cancelled, for a turnover rate of 13 percent. This is somewhat lower than the national average of 16 percent, but these figures vary widely, from 3 percent in Mississippi to figures over 25 percent in Washington, Texas, Ohio, Arizona and Nevada. These figures on new permits include changes in ownership and form of organization, but not address or name changes. The number of firms filing in recent years is shown in Table 14-3.

Organizations or businesses seeking exemption on the basis of the nature of their activity must file application for exemption, on Form 4 (charitable, etc.) or Form 5 (common carrier). Copies of these forms are found in Appendix 14-A.

TABLE 14-3

NUMBER OF FILERS, SALES AND USE TAX, NEBRASKA,  
1982-1986, DECEMBER OF RESPECTIVE YEAR

Consumers Use Tax Tax Category		Total Sales Tax Filers		Out-of-State Sales Tax Filers	
<u>Period</u>	<u>Filers</u>	<u>Period</u>	<u>Filers</u>	<u>Period</u>	<u>Filers</u>
1982	523	1982	65,863	1982	5,258
1983	506	1983	61,103 <sup>a</sup>	1983	5,133
1984	507	1984	61,264	1984	5,311
1985	677	1985	61,272	1985	5,424
1986	569	1986	61,452	1986	5,597

<sup>a</sup>Decline probably due to food exemption.

SOURCE: Nebraska Department of Revenue.



## Returns

The return forms (Form 10, see Appendix 14-A) are addressed (including the permit number) by the computer and mailed out on the 10th of the month. A nonmachine-readable paper return form is used which basically calls only for gross sales, net taxable sales, and sales and use tax due, and includes separate spaces for city sales and use taxes. No detail is required on nontaxable sales, but a worksheet (see Appendix 14-A) is provided on which the firm is expected to list this information and have it available. For firms operating at more than one location, combined reporting is allowed upon application, and a separate form is provided. Separate return forms are provided for business consumer use tax reporting (Form 2, see Appendix 14-A) and individual consumer use tax filing (Form 3, see Appendix 14-A).

Currently, three reporting intervals are used for sales tax: monthly for the larger firms, quarterly for most of the remainder, annual for firms with very small total taxable sales. As of December 1986, there were 30,276 firms reporting on a monthly basis, 24,608 on a quarterly basis, 5,859 filing annually. Currently firms with sales/use tax liability over \$1,200 annually must file monthly; those with tax liability between \$1,200 and \$900 annually must file quarterly; and those with tax liability under \$900 a year, annually. These dividing lines are changed from time to time. The computer system indicates the return interval for each firm. This system has great advantage, in ensuring continuous flow of tax revenue from the larger firms, yet minimizing the paperwork for the smaller firms and the Revenue Department. Most states now use a system of this type. Table 14-4 shows the number of filers by amount of tax due.

## Processing

All processing is done in Lincoln. Returns are due by the 25th of the month following the tax period; the information is entered into the computer system by the 4th or 5th of the next month. The standard operating procedures, as described below, are followed. The mail is opened and sorted by tax period, batched into groups of 50 or so, and the returns validated by on-

TABLE 14-4

**NEBRASKA AND CITY TAX BREAKDOWN BY AMOUNT OF  
TAX DUE FOR TAX YEAR 1984**

<u>Nebraska and City Tax Due</u>	<u>Total Filers</u>	<u>Net Taxable Sales</u>	<u>Total City Sale/Use Tax</u>	<u>State and City Sale/Use Tax</u>
\$ 0.00	13,167	\$ 0	\$ .00	\$ .00
000.01 - 300.00	23,028	44,227,258	120,946.69	1,752,168.92
300.01 - 600.00	4,537	50,510,129	130,886.66	1,964,158.60
600.01 - 900.00	2,801	53,796,290	137,231.93	2,084,958.93
900.01 - 1,200.00	2,070	55,435,418	148,548.22	2,160,015.81
1,200.01 - 1,500.00	1,602	55,263,306	166,776.50	2,155,858.86
1,500.01 - 2,000.00	2,114	95,366,081	278,453.96	3,686,037.53
2,000.01 - 2,500.00	1,784	102,720,890	300,110.52	3,994,465.06
2,500.01 - 3,500.00	2,723	209,261,401	605,557.00	8,095,537.21
3,500.01 - 5,000.00	2,699	290,960,088	885,291.76	11,297,937.77
Greater than 5,000.00	<u>10,147</u>	7,810,473,010	54,955,227.60	344,207,987.53
	66,672			

SOURCE: Nebraska Department of Revenue.

line computer, noting the return, date of return, and amount of money. The checks are separated, coded with the basic information, microfilmed, and sent to the banks. The returns are edited by video units in preparation for entry of the information into the computer, and the computer checks the arithmetic. The returns are then microfilmed and go into dead storage for four years; in general it is rarely necessary to go back to the original return. If copies are required, they are reproduced from microfilm. One peculiarity of the system is that only two months of information is kept in the master file: earlier information must be obtained from microfilm.

The existence of an entry into the computer for the appropriate period is the basis for the computer determining whether or not the firm is delinquent.

The general system is comparable to that of other states, and appears to operate efficiently. The primary question to be raised for consideration is whether, facilities permitting, information for a substantially longer period should be kept on the computer master file so that it can more easily be made available. This longer period will, of course, add to the Department's total cost of operations.

### **Delinquency**

The tax is due by the 25th of the month following the taxing period. Non-filer notices are generated by the computer following posting on the 2nd to the 5th of the following month. Delinquent firms in the monthly filing status which filed and owe tax are shown the balance due on the next month's return when it is mailed. Quarterly and annual filers who owe tax receive a computer generated form letter indicating the balance due, by the 10th or 12th of the month (see flow chart, Figure 14-1).

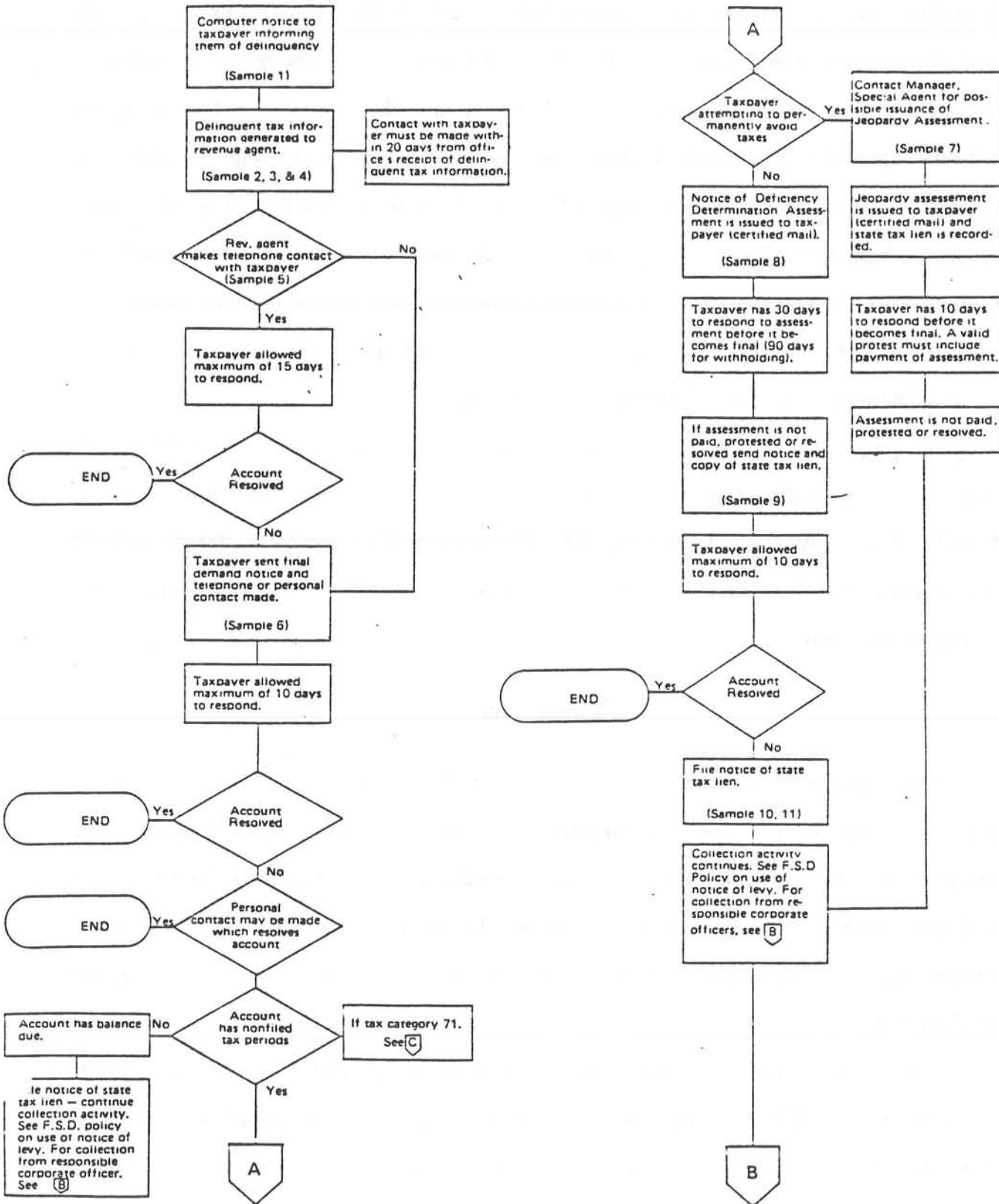
The Field Services Division receives a computer-generated list of all current delinquencies by the 15th of each month, plus a list of any past delinquencies, broken down by region and county. Copies go to each regional office. The revenue agent will recheck each

FIGURE 14-1

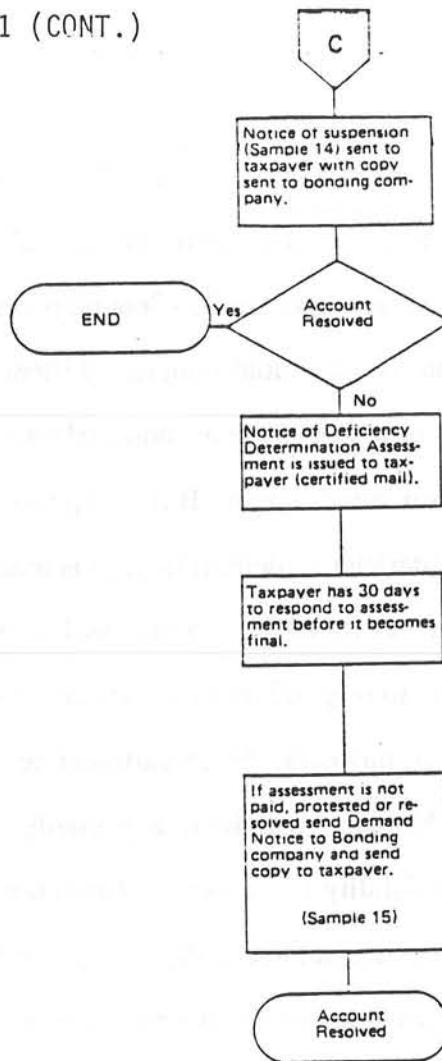
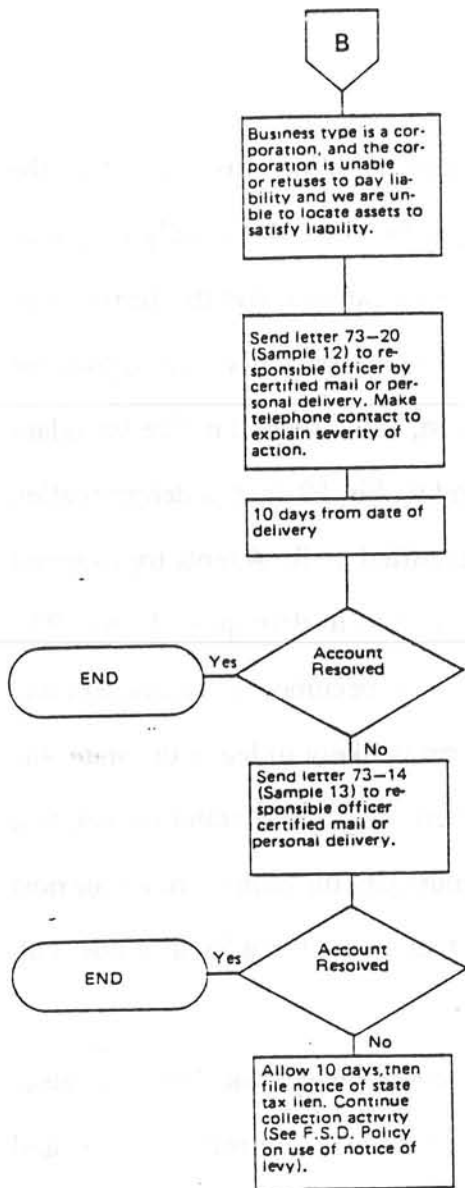


# Field Services Division Generalized Collection Process

For Business Tax Programs



14-15  
FIGURE 14-1 (CONT.)



firm's status by direct entry to the Lincoln file using the remote terminals to verify that the delinquency still exists. The agent then has 20 days to make the first contact, usually by phone (in 1974 Field Service switched to "phone power" from automobile power), and the firm has 10 days to respond to this initial contact. Fifteen days after the initial contact, which allows for posting, the agent rechecks the account, telephones the firm again, and a second notice (standard delinquency form letter) is sent. If the taxpayer does not respond within 10 days, a determination of the liability (deficiency determination) is made and sent by certified mail. Agents try to spend at least one day per month out in the field, and make a personal visit to delinquent firms. The firm has 30 days to respond to the deficiency determination before it becomes an assessment and statutory lien. If, however, the Department believes that the firm is likely to leave the state, the Special Agent/Manager will issue a jeopardy notice by certified mail and a statutory tax lien arises when the liability is assessed. Within ten days the firm must pay the entire amount or post bond. Bad checks are automatically sent to the bank twice and then treated as a balance due with the same penalties assessed as for nonpayment.

If action is to be taken on the lien, it must be filed in the county where the firm is located, regardless of where any assets might be located, with the registrar of deeds for real property, and with the county clerk for personal property. A levy source is usually located before a lien is placed, often employment or bank accounts. The Department also deals with tax delinquencies by the seizure and sale of both real and personal property if sufficient equity is available to satisfy the liability.

Before a firm's sales tax permit is revoked through a formal administrative hearing to close the business, an informal conference is held with the taxpayer to seek to resolve any noncompliance. If noncompliance still continues, criminal prosecution is considered, and a formal revocation hearing is held in Lincoln. (Operation by a retailer without a sales tax permit is a misdemeanor, but "non-remittance" is a felony.) If the firm wishes to continue in business, it

can reapply for a permit, pay a \$25.00 license fee and post a security bond of 3 to 5 times the monthly tax liability. A bond is not normally required unless there has been a history of payment problems.

An average of 10.3 percent of the firms in the total sales tax file is initially delinquent; each will receive a computer-generated notice. However, this figure includes returns with calculation errors which result in a balance due; approximately 25 percent of the figure is a duplication of the balance due and non-filer notices. Without this duplication, 7.7 percent would be the average delinquency rate. This compares with a national average of approximately 10 percent, with figures as high as 20 percent in a few states. Only 12 states have figures under 8 percent, the lowest being 5 percent.

Of the 7.7 percent figure of delinquents in a typical period:

- 21 percent respond to the initial computer-generated notice,
- 44 percent respond to the first revenue agent contact,
- 20 percent respond to the second revenue agent contact,
- 11 percent respond to a personal contact, tax lien filing or assessment, and
- 4 percent move to the tax lien, levy or revocation phase.

Thus, nearly two-thirds of the delinquencies are cleared by the first two steps and only 4 percent (.28 percent of the registered firms) reach the lien, levy, or revocation stage. The delinquency rate has changed little in the last decade.

In the past the highest delinquencies occurred among small grocery stores. Now that the chains dominate this field, the worst offenders are restaurants, bars and lounges. Any small business that is under-capitalized is likely to become delinquent if cash-flow problems motivate the firm to use sales tax funds as working capital. While the delinquency rate among businesses in rural Nebraska has increased since fiscal 1983-1984, the largest dollar amounts still are in Lincoln and Omaha.

Prompt follow-up is emphasized to prevent losses from growing. For example, if December sales tax is delinquent, by the time contact is first made, two and one-half months sales tax has become outstanding so the revenue agent requests the January payment as well to prevent delinquencies from continuing. For major itinerant sales (e.g., State Fair, entertainers) a revenue agent goes to collect the tax each night.

### **Penalties and Interest**

Failure to file is subject to penalty of 10 percent or \$25, whichever is greater. If fraud is discovered, the penalty is 25 percent of the amount due or \$50.00, whichever is greater. Non-filers forfeit the 3 percent collection fee or are assessed \$5.00, whichever is greater. If a firm files but fails to pay, the penalty is 10 percent of the tax owed or \$25.00, whichever is greater. Interest is charged at 14 percent per annum on the unpaid tax due but not on the penalty.

There are no extensions or "grace periods" granted for payment or the assessment of interest and penalties, but the Tax Commissioner has the power to waive all penalties, and negotiation of waiver can be used as a settlement tool. It is quite common that 50 percent of the penalty will be waived on the first offense, but generally no waiver is granted on subsequent violations. If the situation is somewhat ambiguous, some effort is made by the Revenue Department to "settle" without litigation. It should be noted that prosecutions must be handled by the county attorney or attorney general, who may not be interested in pursuing such cases. Field Services attempts to arrange installment payments of deficiencies if this can facilitate collection.

The civil penalty for misuse of resale certificates is \$100 or 10 times the tax owed, whichever is greater. Criminal penalties can also be imposed since sales tax evasion and presentation of a false document are felonies. However, it is often not cost-effective to pursue



these minor abuses and Field Services had assessments of penalties pending on only 12 resale certificate cases as of March 1987.

The last step prior to revocation of the sales tax permit is for the firm to enter a voluntary corrective action plan worked out with Field Services. Approximately 60 cases per year of permit revocation are formally initiated, usually for continued non-payment or for failure to file over a period of several months. Generally half are resolved without revocation. After revocation, if the firm wishes to go into business again, there is a reinstatement fee of \$25 (\$50 for subsequent reinstatements). Operating a business without a sales tax permit (or continuing in business after it has been revoked) is a Class IV misdemeanor, subject to a penalty up to \$500 per day. The principle of derived liability is used so that individuals occupying positions of authority within the corporate structure, and who have responsibility for financial decisions, may be held personally liable for sales tax due by the corporation. This helps prevent individuals from re-entering business under a new permit when they have been involved in previous cases of failure to pay or file.

### **Audit**

The Audit Division is truly integrated, with auditors responsible for all taxes (withholding, corporate, personal income, sales, motor fuels) except charitable gaming. There is very little specialization among individual auditors and assignments are rotated. The state audits for both state and city sales taxes.

#### **Selection of Accounts for Audits**

Selection of firms for audit is largely based on expected dollar return, concentrating on the largest filers, industries with a past history of problems, and the most profitable firms. Much of the revenue recovered at audit comes from manufacturers who did not pay use tax on machinery, equipment, and supplies. Efforts have been underway for some time to make audit

selection more scientific by establishing a set of characteristics which could be used to identify productive audit cases. Efforts to date have been hampered by the data base itself since the classifications by business code are not entirely accurate. Firms frequently list Federal SIC code instead of the Nebraska code, make errors in listing, and change their product lines without correcting this listing. Only two months of data are available on-line. Out-of-state firms registering voluntarily have thus far not been subject to an audit selection program that targeted them.

Various states have experimented for decades with improved approaches to audit selection, with pioneer work being in California and Michigan. In recent years regression and factor analysis have been utilized, especially in Texas and Tennessee. But the results to date have not been outstanding.

#### **Audit Coverage**

The relatively small number of auditors allows coverage of only one-half of 1 percent of firms collecting sales tax to be audited annually, though the Revenue Department has a goal of auditing 1 to 2 percent per year. All audits are basic, not superficial. Tax dollars recovered per administrative dollar spent on auditing run \$10 to \$1. More than \$10 million in sales and use tax were recovered in the 1985-1986 fiscal year, or about 28 percent of revenue, a relatively good figure by comparison with other states.

Given the data of allocation of audit time between sales and other taxes, Nebraska effectively has the time of 28 sales tax auditors. Thus there is one auditor per 2,250 accounts, compared with a national average of 1,066 (1981). Studies in various states suggest that one auditor per 1,000 accounts is roughly the optimum. Thus the audit staff in Nebraska is less than half the optimal figure: doubling the staff should increase income by several times the cost. The present audit coverage, one-half of 1 percent of the accounts per year, compares to a 2.3 percent national average and 4 percent or more in 11 states. The Nebraska figure has typically been at

the low end of the coverage side; only eight states (1981) were auditing less than 1 percent of the accounts annually. Currently many firms in the state will not see an auditor once in 50 years, if at all.

### **Audit Operation**

Assignments for audit can be made either by the head of the regional offices or in Lincoln. An audit team, under the direction of a senior auditor, consists of two to six auditors, depending on the size of the firm, with two or three being average. The team takes with them an audit packet (made up in Lincoln) which contains microfilm copies of three years of the firm's history on all tax programs, and some tax returns, usually the corporate income tax. These histories indicate most transactions, including returns filed, late payments, penalties, interest, and amended returns. As of April 1987, refund claims processed after October 1, 1985, are included in the audit packet.

Since 1985, the Audit Division uses four portable Compaq computers in the field in addition to calculators. The computers are "stand-alones" and are not connected by modem to the main computers, in an effort to prevent "hackers" from entering the system. This means that a firm's data must be entered manually. However, this use of spreadsheets still allows a great increase in speed and accuracy in calculating and accumulating invoice information monthly, and calculating taxes due, interest and penalties. It is hoped that the audit might eventually become paperless, using direct computer transfers of histories instead of the current awkward microfilm/re-entry process.

The audit team also takes copies of the audit manual and the revised procedure statements. The well-done audit manual is a large, easily updated, two-volume compendium in three-ring binders. The first volume contains policies and procedures, including personnel policies, reference materials, including classification codes, technical directives from the Commissioner, and statutes for each tax. The second volume contains detailed descriptions of

audit procedures for each tax. A major revision of the audit manual is underway, with completion expected in 1987.

Auditors keep detailed records of time invested, by type of tax and by procedural steps within each tax. This data is then entered in the computer by office staff. Auditors are provided detailed programs of procedures specific to each tax. Preliminary steps include the review of the firm's past records, verification of statutes of limitations for each program, and a documented telephone conference with the firm to make preliminary arrangements. The statute of limitations is generally three years for sales tax if the returns are filed, and five years if no returns have been filed.

At the beginning of the audit, an initial conference with the firm is necessary to present the auditors' identification, obtain necessary documents and work papers, coordinate work schedules, and allow the auditors to become well acquainted with the firm's operations. The auditors will then submit a time budget to the regional audit supervisor for approval before work is begun on a specific tax.

Following detailed review of the records and sales and use tax returns filed, the audit findings are discussed with the firm at the post-audit conference, during which an attempt is made to settle all questions of fact, and payment and protest procedures are explained. Each program step requires written comments from, and the initials of, the auditor involved.

The auditor's notices of deficiency and the final audit report are approved by the senior auditor on the case and the supervisor, and these reports are sent to the regional offices. However, the notices of deficiency must be signed by a manager, so those from the Norfolk and Scottsbluff offices must be sent to Lincoln for this approval. All audit reports are reviewed with the Tax Policy Division before the notices are issued, and the Lincoln office does all follow-up review to ensure consistency among regions. Interest and penalties are charged whenever additional tax is due.

The appeal procedure allows the firm 30 days after receiving the notice of deficiency to file a written protest. An independent hearing officer from within the Department of Revenue will then conduct a formal hearing. If agreement cannot be reached the case will go to district court and eventually to the Nebraska Supreme Court. For sales tax, perhaps 6 to 12 cases per year require formal hearings, of which half will go to court. The Department's estimate of average time to resolve an audit protest is about six months.

### **Principal Errors Found in Audit**

Some of the principal errors revealed by the audits include the following:

1. Most companies are not reporting out-of-state purchases for use tax and there is no systematic way to ensure that they do so.
2. There is abuse of resale certificates, a copy of which is shown in Appendix 14-A. In the late 1970s a major auditing thrust sought to force firms without resale certificates on file to contact major customers to obtain copies of the certificates. Now, however, if the firm has a resale certificate on file, an assumption of "good faith use" is made and there is no further check on the legitimacy of the certificate itself, since the certificate places the liability for misuse on the customer. The degree of fraud as distinguished from negligence involved in the use of exemption and resale certificates is difficult to assess precisely. Retailers are not held liable for misuse if they accept exemption or resale certificates in good faith.
3. Questions arise in the interpretation of other exemptions including manufacturing and processing equipment, rolling stock of common carriers, farm insecticides, particularly when applied in grain elevators, the treatment of the printing industry, contract work, and with regard to local sales tax, on the place of delivery.

### **Other Aspects of Operation**

The Revenue Department issues the bulk of research as Summer Interim Studies, which address issues of particular interest to the Tax Commissioner, Governor and Legislature. These studies are very thorough.

Monthly and annual reports of returns for sales tax by county and city are prepared, but

they contain only the statistics without analysis and are not widely circulated (see Appendix 14-A). Annual Revenue Department reports contain detailed breakdowns of revenues by source but little analysis is provided and these reports are generally delayed for up to two years before reaching the public, given the low priority of this project under rather severe budget and personnel constraints.

### **Costs of Collection**

A 1986 Department of Revenue estimate of the cost of administration of the sales tax is \$3.5 million, calculated as a residual. This is equal to about 1 percent of total sales tax revenues, slightly higher than the national average of .73 (1981). But many states show low cost because of inadequate control.

Vendors are compensated by an amount equal to 3 percent of the first \$5,000 of sales and use tax collected plus 1 percent on the excess over \$5,000, in addition to by being allowed to keep breakage, the difference between the amounts collected under the bracket system and the amount due the states. The state charges cities 3 percent of the revenue collected for administering the city sales taxes.

### **Business Perceptions Regarding the Sales Tax**

Businesses in general indicate no major complaints about the structure and administration of the sales tax. Firms which operate in a variety of states consider Nebraska a relatively low tax state with tax administration systems that are relatively easy to deal with. (They also find Nebraska labor unusually dependable and productive.) Firms appreciate centralized filing for the city sales taxes.

Administratively, however, they find the frequency of changes in the sales tax burdensome. They would prefer "point of sale" to "point of delivery" in assessing city sales tax,

because even zip codes do not provide a completely accurate guide as to which deliveries should be assessed municipal sales taxes. As the number of Nebraska cities levying a sales tax increases, problems escalate because the total surpasses the number of categories available on most packaged computer software and is especially cumbersome for firms which still use manual processing.

Firms also believe that the response time of the Revenue Department in resolution of audits and appeals is much too long. Some firms maintain that such cases typically average one to one and a half years in resolution although the Department of Revenue's estimate is six months. (This also underscores the need for more personnel within the Revenue Department.)

Specific areas of concern over sales tax for certain industries include the following:

- a. *Is the industry classified as service or manufacturing, and is this treatment consistent across all kinds of taxes and development incentives?*

One example is the production of videos, still a controversial area. This has been considered a "service" business, with firms charging customers sales tax only on the component parts of the product, e.g., the video tape, but not on the labor involved in production. But there is extreme complexity involved in distinguishing among parts of the process. Thus there is some belief that tax should be assessed on the entire amount of the invoice, classifying the operation as "manufacturing" (\$25,000 for the video versus \$12.00 for the video tape). The issue is further complicated in that some customers sell the final video product to their dealers while others distribute it free of charge. If the industry is to be considered "manufacturing" then it need not pay sales tax on some of its equipment, which it did under the "service" classification. Parallel cases exist for blueprints for architects and negatives for photographers, both of which are still considered to belong to the business rather than the client and therefore not subject to tax.

This problem also exists for advertising firms. Those that have established agency status with their clients have been paying sales tax on items purchased, and not charging the client sales tax. The State argues that if they have not established an agency relationship they should have been purchasing under a resale certificate, and assessing the client sales tax for the entire product. These advertising companies object to acting as the collecting agent, since they see this as a significant administrative expense. The issue is ambiguous and not well understood by the firms in the industry.

*b. Interpretation of what constitutes a component part of a product.*

This affects a wide variety of industries, including video production (cited above). A video production firm which owns the equipment to produce the tapes and keeps all master copies claims to be at a tax disadvantage vis-a-vis a competitor which directs the creation of a video but contracts with another firm for the actual production, although the equipment is taxed in either case.

This problem is particularly difficult for the printing industry, with regard to pre-press plates and the labor intensive processes that go into their construction. These items are retained by the printing company and not sent to the client, who is frequently located out-of-state. The whole issue of sales tax for the printing industry is the subject of a 1987 Summer Interim Study and at least one court case is pending on the subject. Further audits of printers have been suspended by the Revenue Department pending clarification.

One related technical correction was passed in the Spring 1987 legislative session. Previously if a customer provided raw materials for processing, the fabrication labor performed in Nebraska and constituting a substantial portion of the sale price was subject to sales tax even if the finished items were shipped to customers out-of-state. Now, regardless of whether the



processing firm or the customer supplies the raw material, the interstate commerce exemption applies and no sales tax is due on the fabrication labor on all sales sent out-of-state.

*c. Packaging.*

For a firm shipping perishable items, mostly out-of-state, is the dry ice an integral part of the product and thus exempt, or is it an item not sold to the customer, consumed in the process of shipping, and thus taxable?

*d. Areas of potential concern.*

1. *Mail order sales.* Firms facing significant competition want out-of-state mail order firms to be required to register and collect use tax. However, Nebraska companies which are engaged in mail order shipments fear reprisals by other states which will add significantly to their administrative costs in attempting to collect and remit multiple state and city sales taxes.
2. *Possible sales tax on services which are mobile, and could move out of Nebraska.* A variety of industries are concerned including telecommunications, broadcasting, advertising, aviation repair, and laboratories.

### **Conclusions on Operation of the Sales and Use Taxes**

The general impression of sales tax administration in Nebraska is that it is highly professional, with well-trained staff, modern procedures, and minimum political interference.

More specifically:

1. The data processing system in general is adequate, with a minimum of problems.
2. The general procedures of registration, handling of returns, processing and the like are satisfactory, apart from the information retrieval system.
3. The delinquency experience is typical of that found in comparable states, and the procedures for dealing with delinquents and the penalties are satisfactory.

4. While the operation of the audit system is satisfactory, the number of auditors and thus the annual audit coverage is grossly inadequate. The state has well-trained and supervised auditors; it simply lacks an adequate number.
5. Information provided the taxpayers appears to be adequate.
6. While no great dissatisfaction with the operation of the tax is expressed, some industries, for example printing, broadcasting, and advertising, complain of ambiguities. There is considerable feeling that completion of audit cases is too slow, and that too often assessments will be retroactive even in instances where there was uncertainty about how the tax should apply.

### **Recommendations**

1. The number of auditors (audit time available for sales tax) should at least be doubled to bring the coverage in line with that regarded as more or less optimal. The result will be a substantial increase in net revenue.
2. Continued attention should be given to selection of accounts for priority in audit.
3. A strong effort should be made to clear up ambiguities in the industries in which there is greatest uncertainty, particularly printing, broadcasting, and advertising.
4. Consideration should be given to having a greater number of months of data on-line, for quick retrieval of information. The present microfilm system appears cumbersome.

**Appendix 14-A**

**Sample Forms of the Nebraska Department of Revenue**







# Information Guide 84-6

This information guide supersedes  
Information Guide 83-6.

## Nebraska Sales and Use Tax



14-32

**PURPOSE.** This information guide explains the Nebraska sales and use tax laws. It is not designed to answer all questions which may arise but is intended to enable persons to become familiar with their Nebraska sales and use tax obligations.

**NEBRASKA SALES AND USE TAX.** The Nebraska sales and use tax is imposed upon the gross receipts of retail sales, leases, or rentals of tangible personal property, utility services, admissions, lodging accommodations, and producing, processing, fabricating, or printing for consumers. Retail sales include transactions constituting a sale or delivery, whether conditional, installment, credit, or otherwise, within this state, of tangible personal property for use by the purchaser for a purpose other than retention, demonstration, or display while holding it for resale in the normal course of business. Tangible personal property is personal property which may be seen, weighed, measured, felt, or touched.

The sales tax is not imposed upon the article sold, but upon the transaction called the sale. A sale occurs when there is a transfer of title or possession, exchange, trade, lease, or rental of tangible personal property for a consideration. The complimentary consumer's use tax is imposed upon a taxable use, storage, or consumption of tangible personal property purchased at retail when the sales tax has not been paid.

The applicable rate of sales tax to be imposed is that rate in effect at the time the gross receipts are realized under the accounting basis used by the retailer. The applicable rate of the consumer's use tax to be imposed is the rate in effect at the time of use.

Retailers must obtain a permit to collect sales and use tax. A retailer is a person engaged in the business of:

1. Making sales, leases, or rentals of tangible personal property for storage, use, or other consumption,
2. Furnishing rooms, lodging, or accommodations in a hotel, motel, inn, tourist camp, etc., for a period less than 30 days,
3. Furnishing telephone, telegraph, gas, electricity, sewer, or water service and community antenna television service,
4. Selling admissions, or
5. Producing, fabricating, processing, or printing for consumers.

Retailers collect the tax from customers by adding the tax to the sales price of an item. The sales tax is determined by using the current tax bracket schedule of the Nebraska Department of Revenue or multiplying the sales price by the applicable rate in effect. Sales tax must be separately stated on all invoices and receipts. If two or more items are purchased, the total is the amount taxed. The retailer may not absorb the tax or advertise that no tax will be charged.

**CONSUMER'S USE TAX.** Consumer's use tax is paid directly to the Nebraska Department of Revenue by the purchaser. Purchases delivered into Nebraska from out-of-state, on which no tax has been paid, comprise the majority of transactions upon which consumer's use tax is due. Purchasers with Nebraska sales and use tax permits report consumer's use tax on the Nebraska and City Sales and Use Tax Return, Form 10. There is no consumer's use tax permit. Business consumers not licensed for Nebraska sales and use tax report use tax on the Nebraska and City Consumer's Use Tax Return, Form 2. When a business requests a return, preidentified returns will be mailed until canceled. A consumer's use tax return, in contrast to Form 10, is filed only for periods when taxable purchases occur.

**CITY SALES AND USE TAX.** Any city may authorize and impose a local sales and use tax to be collected and administered by the

Nebraska Department of Revenue and remitted to the adopting municipality. The tax must be either one-half percent or one percent on retail sales where delivery or possession of the property occurs within the municipality. By special legislation, the City of Omaha imposes a one and one-half percent city sales and use tax.

The city imposing a city sales and use tax must adopt an ordinance in accordance with its municipal and statutory authority. The implementation of the city sales and use tax will not begin until the first day of the next calendar quarter following receipt by the Nebraska Department of Revenue of a certified copy of the adopting ordinance.

Retailers do not apply for a separate city sales and use tax permit. City sales and use tax is reported on the same form as the state sales and use tax. Sales and use tax permit-holders will be notified by the Nebraska Department of Revenue when a city imposes a city sales and use tax.

**PERMIT.** Any person engaging in business as a retailer in Nebraska must obtain a sales tax permit by submitting a Nebraska Tax Application, Form 20, accompanied by the \$10 license fee.

Engaging in business in this state means and includes any of the following:

1. Maintaining, occupying, or using permanently or temporarily, directly or indirectly, or through an agent, by whatever name called, an office, place of distribution, sales or sample room or place, warehouse, or storage place or other place of business in this state,
2. Having any representatives, agents, salesmen, canvassers, or solicitors operating in this state under the authority of the retailer or subsidiary of the retailer for the purposes of selling, delivering, or taking of orders for any tangible personal property, or
3. Deriving receipts from the rental or lease of tangible personal property in this state.

Each retail business location selling tangible personal property within the state must have a separate sales tax permit.

Out-of-state retailers who do not have sufficient contact with Nebraska to be engaged in business as specified above, are not required by law to obtain a permit. However, as a service to their Nebraska customers, those retailers are encouraged to obtain a Nebraska Retailer's Use Tax Permit which allows them to collect and remit the tax in the same manner as a retailer who is engaged in business in this state. This will preclude the purchasers' having to accrue and remit his consumer's use tax liability directly to the Department. There is no license fee for a Retailer's Use Tax Permit.

A Nebraska sales or retailer's use tax permit is valid until terminated by the applicant or suspended or revoked by the Nebraska Department of Revenue. A permit may be terminated or reinstated by the permit holder at no cost by filing a Nebraska Change Request, Form 22.

**FILING REQUIREMENTS.** Every retailer must file a properly completed preidentified Nebraska and City Sales and Use Tax Return, Form 10, with the Nebraska Department of Revenue, with payment, on or before the

twenty-fifth day of the month following the close of the reporting period. The return must be filed for every period or fraction of a period the permit is in effect, whether or not sales have been made.

**COMBINED RETURNS.** When a retailer makes sales of tangible personal property subject to sales tax at more than one location, the retailer may make application to the Nebraska Department of Revenue for permission to file a combined sales and use tax return covering the business operations of two or more locations provided, the books, records, and accounts of such business are kept at a central location. A retailer may obtain permission to file a combined sales and use tax return by filing a Nebraska Application for Permission to File a Combined Sales and Use Tax Return, Form 11.

**FILING FREQUENCIES.** Preidentified Nebraska and City Sales and Use Tax Returns, Form 10, are mailed to every permit holder on or about the sixth day of the month following the reporting period.

Permit holders remitting less than \$60 tax per quarter or \$240 tax annually, may request to be placed on quarterly or annual filing status. Changes from monthly to quarterly or annual filing status are made only at the beginning of calendar quarters. To change filing frequency, a Nebraska Change Request, Form 22, must be submitted.

**TAX WORKSHEET.** A Form 10 Worksheet accompanies each preidentified Nebraska and City Sales and Use Tax Return, Form 10. The worksheet should be used to compute the amounts entered on Form 10, and is to be retained with the retailer's records.

**RECORDS.** Retailers are required to keep records for a period of not less than three years after the return is filed. These records should include the normal books of account and supporting documentation, Form 10 Worksheets, resale certificates, and exempt sale certificates. The State Tax Commissioner, or any authorized person, may examine the records and equipment of any person to verify the accuracy of any return filed or to ascertain the amount required to be paid if no return has been filed.

**FINES, PENALTIES, AND INTEREST.** A retailer required to have a sales and use tax permit, but operating without one, may be fined up to \$500 for each day of illegal operation.

Failure to file the sales and use tax return, filing after the required filing date, failure to remit the net amount of tax due, or remitting the net amount of tax due after the required filing date will subject the permit holder to a penalty of \$5.00 or forfeiture of the collection fee, whichever is the greater amount. Interest is due on the unpaid tax at the rate of 14 percent per year from the due date to the date payment is received.

**MOTOR VEHICLES, TRAILERS, AND SEMITRAILERS.** The retailer of a motor vehicle, trailer, and semitrailer, as defined by the Department of Motor Vehicles for operation on roads and highways, issues the purchaser a Nebraska Sales and Use Tax Statement for Motor Vehicle and Trailer Sales, Form 6, but does not collect any tax. Within 20 days of the purchase date, the Form 6 is to be filed and the use tax paid to the Nebraska county treasurer in the county



where the vehicle is to be registered. See the current information guide entitled Sales and Use Tax Collection by County Treasurers, for more complete information on this subject.

A person leasing motor vehicles will ordinarily collect Nebraska sales and use tax on lease receipts and may register the vehicles without paying sales or use tax. The lessor's sales and use tax permit number must be recorded in the appropriate space on the Form 6. An option is available to lessors of motor vehicles, trailers, and semitrailers under a long-term lease to pay tax on the vehicle cost after completing a Nebraska Application for Election of Lessors to Pay Sales and Use Tax on Cost of Motor Vehicles, Form 15, and obtaining prior approval from the Nebraska Department of Revenue. Under this option, sales and use tax is not collected on the lease receipts.

**AIRCRAFT.** An option is available to retailers to report Nebraska use tax on the gross receipts realized from the use of aircraft purchased tax free under a resale certificate rather than reporting use tax upon the value of such aircraft at the time a taxable use is made. This option is explained in Sales and Use Tax Regulation 1-067, and requires approval from the Nebraska Department of Revenue prior to its use.

**EXEMPTIONS.** Exemptions are provided to organizations created exclusively for religious purposes; nonprofit organizations providing services exclusively to the blind; educational institutions established under the provisions of chapter 79 of the Nebraska statutes; hospitals, skilled nursing facilities, or intermediate care facilities (level 1) which are licensed by the state of Nebraska and organized not for profit; nonprofit organizations providing services primarily for home health care purposes; health clinics, when owned or controlled by two or more hospitals or the parent corporations of the hospitals and operated for the purpose of reducing the cost of health services, or who receive funds under either the Urban or Rural Health Initiative Program of the United States Public Health Service; child caring agencies licensed for 24 hour care of more than 12 children; licensed child placement agencies; or agricultural societies which have filed articles of incorporation or a constitution and by-laws with the Secretary of State and qualify for state support under Section 2-2801 through 2-2813, R.R.S. 1943.

A Nebraska Sales and Use Tax Exemption Application, Form 4, must be approved by the Nebraska Department of Revenue before purchases of tangible personal property may be made free from the payment of sales and use tax by the above-mentioned organizations.

Purchases by the state of Nebraska, including state owned and operated colleges or universities, or by any Nebraska county, township, city, village, or rural or suburban fire protection district, for use in a governmental capacity, or by any Nebraska irrigation or reclamation district or the irrigation division of any public power and irrigation district are exempt from the sales and use tax. The federal government is exempt from sales and use tax. Governmental units are not assigned exemption numbers and do not need to file a Form 4, to be afforded an exemption; however, their tax-free purchases must be supported by a properly completed Form 13. See the current information guide entitled Ne-

braska Sales and Use Tax Obligations of Governmental Units, for more complete information on this subject.

**Common or contract carriers** may qualify for an exemption from sales and use tax by filing a Nebraska Exemption Application for Common or Contract Carrier's Sales and Use Tax, Form 5, with the Nebraska Department of Revenue. A person holding an exemption certificate is authorized to make exempt purchases under said certificate only as hereinafter set out:

1. The purchase or lease of motor vehicles, trailers and semitrailers, watercraft, or aircraft engaged predominantly as, or to be used predominantly as, common or contract carriers of persons or property and all accessories included in the purchase price of such vehicles.
2. The purchase of repair and maintenance parts which become a physical part of such motor vehicles, trailers and semitrailers, watercraft, or aircraft engaged predominantly as common or contract carriers of persons or property.
3. Accessories purchased for use with the common or contract carrier vehicle which could have been included in the list price of the vehicle at the time of purchase.
4. Equipment required by a federal or state regulatory agency to be included on a common or contract carrier vehicle operating in or through the state of Nebraska for the health or safety of passengers or cargo.

The purchase or lease of barges and railroad rolling stock by any person, whether a common or contract carrier or otherwise, is exempt from sales and use tax.

**Manufacturing and processing equipment.** Most manufacturing and processing equipment is subject to tax whenever it is purchased. An exemption from the sales and use tax exists in three limited situations for manufacturing and processing equipment purchased on or after September 1, 1981. The equipment that may be exempt must be used directly in the manufacturing or processing operations. The equipment that may qualify for exemption does not include equipment which does not fabricate the product such as repair or maintenance equipment and normal business or office equipment, equipment used in the preparation of food for immediate consumption, consumable supplies, or real property. Also excluded from this exemption are replacement equipment and portable equipment, including hand tools.

Manufacturing and processing equipment purchased on or after September 1, 1981, may be exempt if it is initially installed (i) in a separate new manufacturing or processing facility where construction was begun on or after July 1, 1981, (ii) in an existing manufacturing or processing facility, if construction was begun on or after July 1, 1981, to enlarge or physically expand the facility enough to contain the manufacturing or processing equipment, or (iii) if such manufacturing or processing equipment is used to diversify the existing product line by manufacturing or processing a product or products which differ in kind or type from the product or products presently being manufactured or processed. Product diversification does not include improve-

ment or alterations to a product presently manufactured, such as a model or design change. For additional information, refer to Sales and Use Tax Regulation 1-86.

Exemption numbers are not issued by the Nebraska Department of Revenue to companies purchasing manufacturing and processing equipment after September 1, 1981. The purchaser is to provide a completed Form 13, indicating in section B that the intended use of the item purchased renders it exempt under Sales and Use Tax Regulation 1-86. The purchaser is not required to provide an exemption number on Form 13. The completed Form 13 for each transaction exempt under Sales and Use Tax Regulation 1-86 is to be retained with the seller's records.

**SALE FOR RESALE.** A sale for resale is the purchase of tangible personal property to be resold in the purchaser's normal course of business, either in the form or condition purchased, or as an ingredient or component part of other tangible personal property. A sale for resale includes a sale of tangible personal property to a purchaser for the sole purpose of renting or leasing to another person, but not if incidental to the renting of real estate.

**EXEMPT SALE AND RESALE CERTIFICATE.** Organizations or persons holding numbered certificates of exemption issued by the Nebraska Department of Revenue, governmental units, and persons making purchases for resale must file a Nebraska Resale or Exempt Sale Certificate, Form 13, with the seller at the time of purchase of the tangible personal property instead of paying the sales and use tax. It must be retained with the seller's records for audit purposes. Retailers may wish to maintain blank copies of Form 13 for their customer's use at the time of purchase of items exempt from the sales tax.

Exempt organizations or persons and governmental units are to file a Form 13 with the retailer when making purchases for their own use. A governmental unit may purchase the tangible personal property exempt from sales and use tax only when the property is to be used in the unit's governmental capacity. The Nebraska Department of Revenue has issued an information guide entitled Nebraska

Sales and Use Tax Obligations of Governmental Units, which provides examples of purchases used in a governmental capacity.

Form 13 is to be filed by persons making purchases of tangible personal property in the normal course of their business for the purpose of resale either in the form or condition in which it was purchased, or as an ingredient or component part of other tangible personal property to be resold. Form 13 is also to be filed by persons making purchases of exempt manufacturing and processing equipment.

**CONSTRUCTION PROJECTS FOR EXEMPT ORGANIZATIONS AND GOVERNMENTAL UNITS.** For construction projects entered into after June 30, 1980, exempt organizations and governmental units are required to appoint their contractors as purchasing agents if materials to be incorporated into a particular project are to be purchased by such contractors without payment of sales or use tax. In order to make such appointment, the exempt organization or governmental unit, must complete a Purchasing Agent Appointment and Delegation of Authority for Sales and Use Tax, Form 17, and forward it to the contractor before the contractor's portion of the project begins. Contractors may not purchase qualified materials tax free prior to their receiving the purchasing agent appointment. After the appointment, the contractor is able to provide a Nebraska Resale or Exempt Sale Certificate, Form 13, along with a copy of the Form 17 to each supplier from whom materials are purchased for incorporation into the project.

**REGULATIONS.** The Nebraska Sales and Use Tax Regulations are provided to sales and use tax permit holders. These regulations are to be retained and referred to when questions arise concerning the Nebraska and city sales and use tax.

For additional information, please contact the Nebraska Department of Revenue, Box 94818, Lincoln, Nebraska 68509, or any of the regional offices located in Omaha, Grand Island, Norfolk, North Platte, and Scottsbluff.





# Nebraska Exemption Application

## for Common or Contract Carrier's Sales and Use Tax

• Read information guide and instructions on reverse sides

FORM

5

1 Do you hold or have you previously held a Nebraska Identification Number? <input type="checkbox"/> YES <input type="checkbox"/> NO If Yes give number		2 Federal Employer Identification or Social Security Number	
3 County of Business Location in Nebraska		4 Business Classification Code	

NAME AND LOCATION ADDRESS			NAME AND MAILING ADDRESS		
Name			Name		
Street Address			Street or Other Mailing Address		
City	State	Zip Code	City	State	Zip Code

5 Application is Made for:  
 Common Carrier Certificate of Exemption  Contract Carrier Certificate of Exemption

6 Type of Ownership

(1) <input type="checkbox"/> Sole Proprietorship	(4) <input type="checkbox"/> Domestic Corporation	(7) <input type="checkbox"/> Governmental	(10) <input type="checkbox"/> Cooperative
(2) <input type="checkbox"/> Partnership	(5) <input type="checkbox"/> Foreign Corporation	(8) <input type="checkbox"/> Fiduciary (Estate or Trust)	
(3) <input type="checkbox"/> Nonprofit Corporation	(6) <input type="checkbox"/> Domesticated Corporation	(9) <input type="checkbox"/> Nonprofit Organization	

7 Accounting Period (Type of Year)		8 Accounting Basis		9 Location of Records	
(1) <input type="checkbox"/> Calendar — January 1 to December 31	(2) <input type="checkbox"/> Fiscal — 12 Month Ending	(3) <input type="checkbox"/> Fiscal — 52 or 53 Week Ending	(1) <input type="checkbox"/> Cash	(2) <input type="checkbox"/> Accrual	(3) <input type="checkbox"/> Other
				(1) <input type="checkbox"/> Same as Location Address	(2) <input type="checkbox"/> Same as Mailing Address
				(3) <input type="checkbox"/> Other Address	
				Address	City State Zip Code

10 Identify owner, partners, or corporation officers (One of the listed individuals must sign as applicant).

Social Security Number	Name, Address, City, State, Zip Code

11 Are you required to hold a Certificate of Public Convenience and Necessity or a permit issued by the Nebraska Public Service Commission to haul the property as listed in question 19? <input type="checkbox"/> YES <input type="checkbox"/> NO If Yes, enter N.P.S.C. Number	12 Are you required to hold a Certificate of Public Convenience and Necessity or a permit issued by the Interstate Commerce Commission? <input type="checkbox"/> YES <input type="checkbox"/> NO If Yes, enter I.C.C. Number
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13 Do you lease or trip lease your vehicles to anyone? <input type="checkbox"/> YES <input type="checkbox"/> NO If Yes, enter the percentage of your hauling that is issued by lease or trip lease and attach copy of lease	14 Do you lease or trip lease your vehicles from anyone? <input type="checkbox"/> YES <input type="checkbox"/> NO If Yes, attach copy of lease.	15 Are you an independent contractor hauling for another carrier? <input type="checkbox"/> YES <input type="checkbox"/> NO If Yes, attach copy of contract.
Fronthaul % Backhaul %	16 Do you haul passengers for hire? <input type="checkbox"/> YES <input type="checkbox"/> NO	17 Do you haul property for hire? <input type="checkbox"/> YES <input type="checkbox"/> NO

18 Provide a general description of your business operations.

19 Separately list the different types of property hauled. Attach additional sheet if necessary.

Type of property	Percent of property fronthauled that is owned by you	Percent of property backhauled that is owned by you

Under penalties of perjury, I declare that I have examined this application, and to the best of my knowledge and belief, it is correct and complete.

**sign here** \_\_\_\_\_ ( )  
 Signature of Owner, Partner, Corporate Officer, or Person Authorized by Attached Power of Attorney Title Date Area Code & Telephone Number

**FOR DEPARTMENT OF REVENUE USE ONLY**

APPROVED  DISAPPROVED  
 Exemption Code \_\_\_\_\_ COMMENTS: \_\_\_\_\_

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Mail this application to: NEBRASKA DEPARTMENT OF REVENUE, P.O. BOX 94818, LINCOLN, NE 68509-4818  
 NEBRASKA DEPARTMENT OF REVENUE — White Copy TAXPAYER — Yellow Copy  
 6-154-71 Rev. 6-86 Supersedes 6-154-71 Rev. 1-86



# Nebraska and City Sales and Use Tax Return

FORM 10

- Returns must be filed every tax period even though there have been no sales
- Read instructions on reverse side and complete enclosed worksheet

Nebraska Identification Number      City Code      Tax Period

Check this box if you are discontinuing your business and this is your final return

NAME AND LOCATION ADDRESS

NAME AND MAILING ADDRESS

This form is for informational purposes only. Do not reproduce and file. Taxpayers required to file this form will be provided preidentified returns upon obtaining the appropriate license, permit, or certificate.

1	Gross sales and services (line 1 of worksheet)		\$	00
2	Net taxable sales (line 14 of worksheet)			00
3	Nebraska sales tax (line 2 multiplied by )			
4	Nebraska consumer's use tax (line 20 of worksheet)	4		
• Complete Nebraska Schedule I if city sales and/or consumer's use tax is being reported				
5	City consumer's use tax. (Line 31, Nebraska Schedule I)	5		
6	City sales tax. (Line 32, Nebraska Schedule I)	6		
7	Total Nebraska and city sales tax (line 3 plus line 6)	7		
8	Sales tax collection fee (line 7 multiplied by 3% of first \$5,000 plus 1% on excess over \$5,000)	8		
9	Sales tax due (line 7 minus line 8)	9		
10	Total Nebraska and city consumer's use tax (line 4 plus line 5)	10		
11	Total Nebraska and city sales and use tax due (line 9 plus line 10)	11		
12	Previous balance with applicable interest at % per year and payments received through	12		

13 BALANCE DUE (line 11 plus line 12). Pay in full with return. 13 \$

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is correct and complete.

sign here

Authorized Signature

Signature of Preparer Other Than Taxpayer

Title

Date

Address

Date

### NEBRASKA SCHEDULE I - City Sales and Use Tax

CITY	Name	Code	Column A City Consumer's Use Tax	Column B City Sales Tax	CITY		Column A City Consumer's Use Tax	Column B City Sales Tax
					Name	Code		
1	Omaha	365			16	Nebraska City	339	
2	Lincoln	285			17			
3	Bellevue	046			18			
4	North Platte	355			19			
5	Lewellen	281			20			
6	Ogallala	363			21			
7	Sidney	441			22			
8	Gordon	206			23			
9	Kimball	273			24			
10	Oshkosh	372			25			
11	Rushville	425			26			
12	Chappell	099			27			
13	Chadron	096			28			
14	LaVista	274			29			
15	Norfolk	351			30			

31 City consumer's use tax (total of lines 1 through 30, column A). Enter amount here and on line 5, Form 10. 31 \$

32 City sales tax (total of lines 1 through 30, column B). Enter amount here and on line 6, Form 10. 32 \$

THIS RETURN IS DUE ON OR BEFORE THE TWENTY-FIFTH DAY OF THE MONTH FOLLOWING THE TAX PERIOD INDICATED ABOVE  
Mail this return and payment to: NEBRASKA DEPARTMENT OF REVENUE, P.O. BOX 94818, LINCOLN, NE 68509-4818



# Nebraska and City Sales and Use Tax Worksheet

FORM  
10

149

Worksheet

- Read instructions on reverse side
- Keep this form with your business records

Name as Shown on Form 10	Nebraska I.D. Number	Tax Period
--------------------------	----------------------	------------

**COMPUTATION OF NET TAXABLE SALES**

1 Gross sales and services (enter on line 1 of Form 10) . . . . .	1	00
2 Nontaxable services . . . . .	2	
3 Sales to licensed dealers for resale . . . . .	3	
4 Deliveries or shipments to purchasers outside Nebraska . . . . .	4	
5 Sales to qualified exempt organizations . . . . .	5	
6 Sales to exempt common or contract carriers . . . . .	6	
7 Sales to exempt governmental agencies . . . . .	7	
8 Sales of prescription medicine and prosthetic devices for human use . . . . .	8	
9 Sales of exempt agricultural feed, seed, chemicals, and fertilizer . . . . .	9	
10 Sales of motor vehicles and trailers . . . . .	10	
11 Sales of exempt food or food products . . . . .	11	
12 Other allowable deductions (explain) . . . . .	12	
13 Total allowable deductions (total of lines 2 through 12) . . . . .	13	
14 Net taxable sales (line 1 minus line 13). Enter on line 2 of Form 10 . . . . .	14	00

**COMPUTATION OF NEBRASKA CONSUMER'S USE TAX**

15 Cost of items purchased for use on which Nebraska sales and use tax has not been paid . . . . .	15	00
16 Cost of items withdrawn from inventory for personal or business use . . . . .	16	
17 Total amount subject to Nebraska consumer's use tax (line 15 plus line 16) . . . . .	17	
18 Nebraska consumer's use tax (line 17 multiplied by the rate identified on line 3 of Form 10) . . . . .	18	
19 Credit for tax paid to other states on items in line 17 (see instructions) . . . . .	19	
20 Nebraska consumer's use tax due (line 18 minus line 19). Enter on line 4 of Form 10 . . . . .	20	

**COMPUTATION OF CITY SALES AND USE TAX**

- Compute City Use Tax by multiplying city rate by amount subject to City Use Tax
- Compute City Sales Tax by multiplying city rate by city taxable sales

City Name	City Rate	COLUMN A		COLUMN B	
		Amount Subject To City Use Tax	City Use Tax (Enter on Nebraska Schedule I Column A of Form 10)	City Taxable Sales	City Sales Tax (Enter on Nebraska Schedule I Column B of Form 10)
21 Omaha	.015				
22 Lincoln	.015				
23 Bellevue	.01				
24 North Platte	.01				
25 Lewellen	.01				
26 Ogallala	.01				
27 Sidney	.01				
28 Gordon	.01				
29 Kimball	.01				
30 Oshkosh	.01				
31 Rushville	.01				
32 Chappell	.01				
33 Chadron	.01				
34 LaVista	.01				
35 Norfolk	.01				
36 Nebraska City	.01				
37					
38					
39					



# Nebraska and City Consumer's Use Tax Return

FORM 2

• Read instructions on reverse side

Nebraska Identification Number      City Code      Tax Period

Check this box if this is your final return

NAME AND LOCATION ADDRESS

NAME AND MAILING ADDRESS

This form is for informational purposes only. Do not reproduce and file. Taxpayers required to file this form will be provided preidentified returns upon obtaining the appropriate license, permit, or certificate.

1	Cost of items purchased for business use on which Nebraska sales or use tax has not been paid. . . . .	S
2	Cost of items withdrawn from inventory for personal or business use . . . . .	
3	Total amount subject to Nebraska consumer's use tax (line 1 plus line 2) . . . . .	
4	Nebraska consumer's use tax (line 3 multiplied by _____) . . . . .	
5	Credit for tax paid to other states on items included on line 3 . . . . .	
6	Nebraska consumer's use tax due (line 4 minus line 5) . . . . .	

• Complete Nebraska Schedule if city consumer's use tax is being reported

7	Total city consumer's use tax (line 31, Nebraska Schedule) . . . . .	
8	Total Nebraska and city consumer's use tax due (line 6 plus line 7) . . . . .	
9	Previous balance with applicable interest at _____ % per year and payments received through _____	

10 BALANCE DUE (line 8 plus line 9). Pay in full with return. . . . . S

Under penalties of perjury, I declare that I have examined this return, and to the best of my knowledge and belief, it is correct and complete.

sign here

Authorized Signature

Signature of Preparer Other Than Taxpayer

Title

Date

Address

Date

### NEBRASKA SCHEDULE – City Consumer's Use Tax

	CITY		Rate of Tax	Column A Amount of Line 3 Subject to City Consumer's Use Tax	Column B City Consumer's Use Tax (Rate X Column A)	CITY		Rate of Tax	Column A Amount of Line 3 Subject to City Consumer's Use Tax	Column B City Consumer's Use Tax (Rate X Column A)
	Name	Code				Name	Code			
1	Omaha	365	.015			16	Nebraska City	339	.01	
2	Lincoln	285	.015			17				
3	Bellevue	046	.01			18				
4	North Platte	355	.01			19				
5	Lewellen	281	.01			20				
6	Ogallala	363	.01			21				
7	Sidney	441	.01			22				
8	Gordon	206	.01			23				
9	Kimball	273	.01			24				
10	Oshkosh	372	.01			25				
11	Rushville	425	.01			26				
12	Chappell	099	.01			27				
13	Chadron	096	.01			28				
14	LaVista	274	.01			29				
15	Norfolk	351	.01			30				

31 City consumer's use tax (total of lines 1 through 30). Enter amount here and on line 7, Form 2. . . . . S

THIS RETURN IS DUE ON OR BEFORE THE TWENTY-FIFTH DAY OF THE MONTH FOLLOWING THE TAX PERIOD INDICATED ABOVE. DUPLICATE—RETAIN THIS COPY FOR YOUR FILES



# Nebraska and City Individual Consumer's Use Tax Return

FORM 3  
1986

Please Type or Print

First Name(s) and Initial(s) \_\_\_\_\_ Last Name \_\_\_\_\_

Home Address (Number and Street or Rural Route) \_\_\_\_\_

City, Town, or Post Office \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Period Covered by this Return \_\_\_\_\_ Social Security Number \_\_\_\_\_ Nebraska Identification Number \_\_\_\_\_

Beginning \_\_\_\_\_, 1986 and Ending \_\_\_\_\_, 1986

1 Cost of items purchased for personal use on which Nebraska sales and use tax has not been paid ..... 1 \$

2 Nebraska consumer's use tax (line 1 multiplied by .035) ..... 2

3 Credit for tax paid to other states on items included on line 1 ..... 3

4 Total Nebraska individual consumer's use tax (line 2 minus line 3) ..... 4 \$

5 City consumer's use tax

	City Name	City Code	Rate of Tax	Amount of Line 1 Subject to City Consumer's Use Tax	City Consumer's Use Tax (Rate Multiplied by Amount)
1	Omaha	365	.015		
2	Lincoln	285	.015		
3	Bellevue	046	.01		
4	North Platte	355	.01		
5	Lewellen	281	.01		
6	Ogallala	363	.01		
7	Sidney	441	.01		
8	Gordon	206	.01		
9	Kimball	273	.01		
10	Oshkosh	372	.01		
11	Rushville	425	.01		
12	Chappell	099	.01		
13	Chadron	096	.01		
14	La Vista	274	.01		
15	Norfolk	351	.01		
16	Nebraska City (Oct 1 - Dec 31, 1986)	339	.01		

6 Total city individual consumer's use tax (total of lines 5 [1] through 5 [16]) ..... 6

7 Total Nebraska and city consumer's use tax BALANCE DUE (line 4 plus line 6). Pay in full with return ..... 7 \$

Under penalties of perjury, I declare that I have examined this return and to the best of my knowledge and belief, it is correct and complete.

**sign here** \_\_\_\_\_ Signature of Taxpayer

\_\_\_\_\_ Signature of Preparer Other than Taxpayer

\_\_\_\_\_ Telephone Number \_\_\_\_\_ Date \_\_\_\_\_ Address \_\_\_\_\_ Date \_\_\_\_\_

### INSTRUCTIONS

**WHO MUST FILE.** Every individual incurring a consumer's use tax liability during calendar year 1986 must file Nebraska and City Individual Consumer's Use Tax Return, Form 3. The individual consumer's use tax applies to all purchases of tangible personal property from out-of-state retailers which are delivered to the purchaser within Nebraska. If the tangible personal property is delivered outside Nebraska but is subsequently brought into Nebraska for purposes of storage, use, or consumption, the individual consumer's use

tax still applies where the purchaser has not paid sales tax to the other state at a rate equal to or greater than the Nebraska rate. The individual consumer's use tax also applies to purchases made in Nebraska where sales tax has not been paid or for tangible personal property purchased tax exempt and subsequently consumed in a taxable status.

**WHEN AND WHERE TO FILE.** If the consumer's use tax liability is \$900 or less in calendar year 1986, this return,

Mail this return and payment to: **NEBRASKA DEPARTMENT OF REVENUE, P.O. BOX 94818, LINCOLN, NE 68509-4818**  
 NEBRASKA DEPARTMENT OF REVENUE - White Copy      TAXPAYER - Canary Copy





# Nebraska Resale or Exempt Sale Certificate

For Sales Tax Exemption  
• Read instructions on reverse side

FORM  
**13**

NAME AND MAILING ADDRESS OF PURCHASER			NAME AND MAILING ADDRESS OF SELLER		
Name			Name		
Street			Street		
City	State	Zip Code	City	State	Zip Code

Check Type of Certificate  Single  Blanket If blanket is checked, this certificate continues in force for no longer than three years from date of issuance.

I hereby certify that the purchase, lease, or rental by the above purchaser is exempt from the Nebraska sales tax for the following reason:

- Check One**  Purchase for Resale (Complete Section A)  
 Exempt Purchase (Complete Section B)

## SECTION A – Nebraska Resale Certificate

Description of Item(s) Purchased

Our purchase of \_\_\_\_\_ is a purchase for resale, rental, or lease in the normal course of our business, either in the form or condition in which purchased, or as an ingredient or component part of other tangible personal property to be resold.

I further certify that we are engaged in business as a:  Wholesaler  Retailer  Manufacturer  Lessor

Description of Product Sold, Leased, or Rented

of \_\_\_\_\_

Nebraska Sales Tax Permit Number 01--

If none, state reason

and hold \_\_\_\_\_

Foreign State Sales Tax Permit Number

## SECTION B – Nebraska Exempt Sale Certificate

The nature of the purchaser or the intended use of the product purchased renders this transaction exempt from the sales tax. The basis for this exemption corresponds to exemption category \_\_\_\_\_. (Insert appropriate category of exemption as described on reverse side of this form.)

If exemption category 2 is claimed, enter the following information:

Description of Item(s) Purchased	Intended Use of Item(s) Purchased
----------------------------------	-----------------------------------

If exemption category 3 through 5 is claimed, enter the Nebraska Exemption Certificate number. 05--

Any purchaser, or the agent thereof, who completes this certificate for any purchase which is other than for resale, lease, or rental in the regular course of the purchaser's business, or is not otherwise exempted from the sales and use tax under Sections 77-2701 through 77-27,135 of the Nebraska Revenue Act, as amended, shall in addition to any tax, interest, or penalty otherwise imposed, be subject to a penalty of \$100.00 or ten times the tax, whichever amount is larger, for each instance of presentation and misuse. With regard to a blanket certificate, said penalty shall apply to each purchase made during the period the blanket certificate is in effect. Under penalties of perjury, I declare that I am authorized to sign this certificate, and to the best of my knowledge and belief, it is correct and complete.

**sign here**

\_\_\_\_\_  
Authorized Signature of Purchaser                      Title                      Date

NOTE: Sellers must keep this certificate as part of their records. Incomplete certificates cannot be accepted in good faith.

## INSTRUCTIONS

**WHO MAY FILE A RESALE CERTIFICATE.** A Nebraska Resale Certificate, Form 13, Section A, is to be filed by persons or organizations making purchases of tangible personal property in the normal course of their business for the purpose of resale either in the form or condition in which it was purchased, or as an ingredient or component part of other tangible personal property.

**WHO MAY FILE AN EXEMPT SALE CERTIFICATE.** A Nebraska Exempt Sale Certificate, Form 13, Section B, is to be filed by persons or organizations exempt from payment of the Nebraska sales tax by virtue of their qualifying for one of the five enumerated Categories of Exemption. Organizations claiming a sales tax exemption may do so only on items purchased for their own use. Items purchased by an exempt organization to be resold must be supported by a properly completed Nebraska Resale Certificate, Form 13, Section A.

**WHERE TO FILE.** The Nebraska Resale or Exempt Sale Certificate, Form 13, is to be given to the seller at the time of purchase of the tangible personal property or sales tax is to be paid. The certificate, if issued, must be retained with the seller's records for audit purposes.

**CONTRACTORS.** Contractors may only purchase materials without payment of tax when they provide an exempt sale certificate, supported by an attached Purchasing Agent Appointment, Form 17, to the seller and are purchasing materials to be incorporated into the project as agent of an exempt organization or exempt unit of government. Form 17 must be signed by either an organization issued a numbered certificate of exemption by the Nebraska Department of Revenue or an exempt unit of government.

**PENALTIES.** Any purchaser, or the agent thereof, who gives a Nebraska Resale or Exempt Sales Certificate, Form 13, to a retailer (seller) for any purchase which is other than for resale, lease, or rental in the regular course of the purchaser's business, or is not otherwise exempted from the sales and use tax under sections 77-2701 through 77-27.135 of the Nebraska Revenue Act, as amended, shall be subject to a penalty of \$100.00 or ten times the tax, whichever amount is larger, for each instance of presentation and misuse. With regard to a blanket certificate, said penalty shall apply to each purchase made during the period the blanket certificate is in effect.

Any purchaser, or the agent thereof who fraudulently signs a Form 13 with the intention to avoid payment of the tax may, in addition to the aforementioned penalty, be found guilty of a Class IV misdemeanor.

**CATEGORIES OF EXEMPTION.** Indicate the category which properly reflects the basis for your exemption. Place the corresponding number in the space provided in section B on the face of this form. If category 2 through 5 is the basis for exemption, you must complete the information requested in section B.

**CATEGORIES OF EXEMPTION.**

1. Purchase by the United States Government, its agencies and wholly owned subsidiary corporations; the state, county, township, city, or village for use in a governmental capacity; a state owned and operated college or university; an irrigation or reclamation district or the irrigation division of a public power and irrigation district; or a rural or suburban fire protection district for use in a governmental capacity.
2. Purchase when the intended use renders it exempt as set out in paragraph 012.02D of Nebraska Sales and Use Tax Regulation 1-012, Exemptions. Complete description of item purchased and intended use as required on the front of Form 13.
3. Purchase by an organization created exclusively for religious purposes; a non-profit organization providing services exclusively to the blind; a public or private primary or secondary educational institution licensed under Nebraska statutes; a private college or university licensed under Nebraska statutes; a hospital, skilled nursing facility, or intermediate care facility one, two, or three, which are licensed under sections 71-2017 to 71-2029 of the Nebraska statutes and organized not for profit; a nonprofit organization providing services primarily for home health care purposes; health clinics, when owned or controlled by two or more hospitals and operated for the purpose of reducing the cost of health services, or who receive funds under either the Urban or Rural Health Initiative Program of the United States Public Health Service; a child caring agency licensed for 24-hour care of more than 12 children; or a licensed child placement agency.
4. Purchase of common or contract carrier vehicle and/or repair and replacement parts for such vehicle.
5. Purchase of materials to be incorporated into a construction project pursuant to the attached purchasing agent appointment.



NEBRASKA DEPARTMENT OF REVENUE  
RESEARCH DIVISION  
COMPARISON OF FEBRUARY 1987 AND FEBRUARY 1986 NET TAXABLE SALES  
FOR NEBRASKA COUNTIES AND SELECTED CITIES

County	1987	1986	Percent	1987	1986
	Net Taxable Sales	Net Taxable Sales		Sales Tax 4%	Sales Tax 3%
Adams	\$ 11,836,699	\$ 10,595,768	11.7%	\$ 473,467.90	\$ 370,853.17
Antelope	1,354,730	1,452,677	(6.7)	54,189.20	50,844.11
Arthur	29,166	31,420	(7.2)	1,166.64	1,099.71
Banner	2,788	4,771	(41.6)	111.52	166.99
Blaine	76,641	64,058	18.9	3,065.54	2,567.76
Boone	1,664,980	1,490,084	11.7	66,599.20	52,153.26
Box Butte	1,598,349	1,280,136	(15.0)	143,934.01	149,812.29
Alliance	3,403,001	4,098,559	(17.0)	136,120.09	143,450.02
Boyd	371,054	1,330,319	(11.0)	14,840.44	15,061.34
Brown	1,060,130	1,065,853	(0.5)	42,405.20	37,305.06
Buffalo	14,277,375	13,763,460	3.7	572,681.04	481,722.62
Kearney	12,074,868	11,569,477	4.4	484,580.74	404,932.84
Butler	1,417,858	1,299,495	9.1	56,714.05	52,226.99
Cass	2,954,951	2,754,671	7.3	118,306.93	96,414.12
Plattsmouth	1,409,101	1,390,654	1.3	56,364.04	48,673.11
Cedar	1,915,189	1,943,026	(1.4)	76,607.57	68,005.43
Chase	1,354,729	1,149,829	17.8	54,189.43	40,231.32
Cherry	1,501,967	1,726,095	(13.0)	60,078.63	60,413.71
Valentine	1,389,430	1,593,958	(12.8)	55,577.15	55,788.85
Cheyenne	2,829,484	3,133,962	(11.0)	112,995.56	110,000.79
Sidney	2,584,094	2,453,050	(12.5)	103,363.77	103,357.17
Clay	1,762,902	1,493,693	18.0	70,516.08	52,279.64
Colfax	2,014,276	1,846,496	9.1	80,571.03	64,627.80
Schuyler	1,188,389	1,206,460	(1.5)	47,541.56	45,847.49
Cuming	2,528,417	2,436,542	3.8	101,136.67	85,279.48
West Point	1,701,345	1,750,890	(2.8)	68,053.78	61,281.41
Custer	2,942,700	3,040,320	(3.2)	117,708.00	106,411.83
Broken Bow	2,218,969	2,229,972	(0.5)	88,758.76	78,049.30
Dakota	212,399,639	249,632,939	(13.1)	122,849,573	122,779,722
South Sioux City	2,522,865	2,873,894	(11.2)	103,114.61	100,646.72
Dawes	2,328,441	2,290,686	1.6	93,137.64	80,174.47
Chadron	2,081,710	2,071,254	0.5	83,268.40	72,494.26
Dawson	6,820,333	6,828,389	(0.1)	272,813.47	272,813.47
Cozad	1,880,043	1,690,142	11.2	75,201.69	59,155.20
Gothenburg	1,184,075	1,038,631	14.0	47,362.99	36,352.30
Lexington	1,609,296	1,947,826	(8.6)	144,371.81	138,774.49
Deuel	497,257	519,257	(4.2)	19,890.28	21,756.12
Dixon	798,904	805,250	(0.8)	31,956.12	28,183.99
Dodge	11,999,821	13,051,973	(8.1)	485,116.88	456,820.52
Fremont	10,725,190	11,695,875	(8.3)	429,007.61	409,356.62
Douglas	221,004,169	220,776,219	0.1	8,879,210.57	7,781,211.11
Omaha	216,952,611	216,454,411	0.2	8,707,136.28	7,608,044.32
Ralston	1,565,270	1,285,463	21.8	62,610.79	44,991.39
Dundy	412,596	413,769	(0.3)	16,503.84	14,482.08
Fillmore	1,879,474	1,779,433	5.8	75,179.15	62,175.50
Franklin	629,446	537,034	15.2	25,177.84	18,966.39
Frontier	430,518	613,335	(29.8)	17,220.72	21,466.89
Furnas	1,336,194	1,270,176	5.2	53,447.80	44,466.68
Gage	6,486,954	6,133,359	5.8	259,474.17	214,668.57
Beatrice	9,796,658	9,341,076	4.5	391,826.32	366,364.00
Garden	420,239	436,179	(3.7)	16,809.56	15,266.45
Garfield	503,789	456,133	10.4	20,151.56	15,964.82
Gosper	264,460	236,243	11.9	10,578.39	8,268.57
Grant	116,684	125,806	(7.3)	4,667.32	4,667.32
Greeley	502,712	439,255	14.4	20,108.49	15,374.06
Hall	22,532,973	22,298,893	1.0	902,834.87	780,463.18
Grand Island	21,926,928	21,522,229	1.9	878,559.74	753,279.74
Hamilton	2,163,991	2,776,219	(21.8)	86,559.64	111,771.52
Aurora	1,830,528	1,513,512	20.9	73,221.12	52,973.17
Harrison	701,487	654,936	7.1	28,069.60	22,922.97
Hayes	43,525	37,091	17.3	1,741.00	1,298.20
Hitchcock	456,597	439,427	4.8	18,013.88	15,384.92
Holt	3,306,356	3,410,599	(3.1)	132,554.22	119,371.67
O'Neill	2,459,914	2,623,725	(6.2)	98,696.55	91,830.75
Hooker	147,171	174,013	(15.4)	5,886.84	6,090.52
Howard	1,158,296	1,131,894	2.3	46,844.64	44,844.64
Jefferson	2,538,271	2,619,833	(3.1)	101,530.84	91,694.60
Fairbury	2,052,663	2,246,742	(8.6)	82,106.52	78,636.28
Johnson	846,088	959,536	(11.8)	33,843.51	33,779.03
Kearney	1,164,433	1,088,372	7.5	46,577.32	37,900.82
Minden	1,040,250	934,156	11.4	41,610.00	32,695.65
Keith	1,766,490	1,100,051	21.5	150,663.60	108,503.40
Osage	3,549,531	2,866,370	23.8	141,981.25	100,323.44
Keya Paha	72,822	82,321	(12.7)	2,891.88	2,891.88
Kimball	1,281,849	1,711,495	(25.1)	51,273.96	59,902.61
Kimball	1,249,959	1,699,493	(26.5)	49,998.36	59,482.52
Knox	1,143,001	2,356,467	(9.1)	45,720.04	82,476.96
Lincoln	84,883,151	83,346,808	1.8	3,426,580.72	2,812,926.36
Lincoln	10,298,080	10,317,224	(0.2)	411,923.18	361,104.24
North Platte	9,879,837	9,881,373	(0.0)	395,193.47	345,849.26
Loup	64,610	89,325	(27.7)	2,584.40	3,126.42
Loup	24,547	26,314	(6.7)	981.88	921.00
Madison	14,161,137	13,113,401	8.0	566,445.44	458,970.42
Northfork	22,185,192	11,016,842	10.6	487,407.66	385,590.47
McPherson	1,152,111	1,049,427	9.4	46,484.84	38,169.55
Merrick	1,397,877	1,406,617	(0.6)	55,915.08	49,232.04
Central City	1,055,068	1,084,389	(2.7)	42,202.72	37,953.87
Morrill	1,333,161	1,807,239	(26.2)	53,326.44	63,253.60
Nance	1,100,000	1,100,000	0.0	44,529.84	44,529.84
Nemaha	1,809,255	1,665,423	8.6	72,370.18	68,290.25
Auburn	1,558,010	1,497,488	4.0	62,320.37	52,412.42
Nuckolls	1,730,089	1,467,329	17.9	69,203.55	51,356.93
Superior	1,327,109	1,086,566	22.1	53,084.35	38,030.08
Otoe	4,252,997	3,533,989	20.3	173,119.88	123,629.88
Nebraska City	2,959,370	2,721,181	8.7	118,374.80	95,311.76
Pawnee	565,555	446,562	26.6	22,622.24	15,629.83
Perkins	1,343,688	882,030	50.4	53,747.54	30,871.26
Phelps	3,208,877	3,196,185	0.3	128,354.91	118,884.53
Holdrege	3,034,334	3,001,849	1.1	121,373.35	105,065.13
Pierce	1,361,013	1,446,735	(5.9)	54,440.52	50,636.06
Platte	15,593,873	16,441,339	(6.2)	600,074.94	368,008.43
Columbus	9,877,163	9,243,475	6.2	395,086.54	324,110.51
Polk	1,430,092	1,365,304	4.7	57,203.67	47,785.92
Red Willow	5,052,060	5,481,405	(7.8)	202,322.41	191,849.93
McCook	4,835,468	5,246,719	(7.8)	193,658.73	183,635.82
Richardson	2,326,114	2,111,412	9.7	93,862.57	77,702.67
Fillis City	1,686,601	1,663,290	1.3	60,292.05	54,793.04
Rock	298,863	298,281	0.2	11,954.52	10,439.95
Saline	3,777,826	3,322,099	13.7	151,207.00	116,274.12
Crete	2,500,411	2,508,877	(0.3)	100,016.68	79,016.68
Sarpy	14,098,924	13,633,742	3.4	563,956.93	477,182.11
Bellevue	9,922,895	9,440,321	5.1	396,915.75	330,411.91
LaVista	1,809,684	1,785,342	1.4	72,382.36	62,444.04
Millard	8,804,239	8,769,343	0.4	352,169.58	311,219.58
Saunders	2,815,831	2,630,774	7.0	112,633.26	92,077.64
Wahoo	1,146,773	1,144,839	0.2	45,870.90	40,069.57
Scotts Bluff	13,548,829	13,300,126	1.9	541,953.35	427,061.05
Gering	2,165,738	2,115,338	2.4	86,629.58	80,794.53
Scottsbluff	10,280,878	9,876,411	4.1	411,235.33	307,120.04
Seward	3,890,888	3,239,801	20.1	155,635.54	113,393.53
Seward	2,931,486	2,347,728	24.9	117,259.41	82,170.74
Sheridan	1,894,121	2,029,606	(6.7)	75,764.82	71,036.62
Sherman	540,213	552,385	(2.2)	21,608.53	19,333.64
Sioux	74,615	77,453	(3.7)	2,984.60	2,710.89
Stanton	454,958	427,687	6.4	18,498.36	14,969.14
Hayes	1,861,770	1,839,473	1.2	74,470.82	64,381.97
Thomas	148,414	169,570	(12.5)	5,936.56	5,935.01
Thurston	518,416	525,889	(1.4)	20,736.64	18,406.27
Valley	1,708,945	1,397,534	22.3	68,357.79	48,914.01
Washington	2,525,521	2,110,200	19.2	100,016.68	79,016.68
Blair	3,158,058	3,012,832	4.8	126,322.32	105,144.71
Wayne	1,919,923	2,170,588	(11.5)	76,796.90	75,969.09
Wayne	1,825,780	2,069,361	(11.8)	73,031.18	72,426.09
Webster	824,597	765,060	7.8	32,983.88	26,768.90
Wheeler	34,218	35,660	(4.0)	1,368.72	1,288.14
York	5,432,402	5,209,565	4.3	217,291.15	182,335.60
York	4,955,408	4,658,528	6.4	198,211.35	161,049.04
UNALLOCATED & NONRESIDENT	67,219,504	42,868,135	56.8	2,688,164.80	1,502,537.05
STATE TOTAL	\$632,811,332	\$598,336,263	5.8%	\$25,391,914.27	\$20,937,266.14

NEBRASKA DEPARTMENT OF REVENUE  
RESEARCH DIVISION  
COMPARISON OF 1986 AND 1985 NET TAXABLE SALES  
FOR NEBRASKA COUNTIES AND SELECTED CITIES



County	1986 Net Taxable Sales	1985 Net Taxable Sales	Percent	1986 Sales Tax 3%	1985 Sales Tax 3%
Adams	\$ 160,250.161	\$ 149,700,723	7.0%	\$ 5,608,233.82	\$ 5,249,147.96
Hastings	153,076,229	143,817,324	5.4	5,357,164.4	5,032,374.78
Antelope	21,635,888	19,631,898	10.2	755,300.37	687,122.51
Arthur	455,323	576,479	(21.0)	15,936.58	20,177.12
Banner	127,158	145,343	(12.5)	4,450.77	5,087.23
Blaine	985,299	1,003,723	(1.8)	35,260.98	35,130.70
Boone	23,178,881	22,631,191	2.3	811,458.82	792,804.01
Box Butte	61,724,124	61,392,541	0.5	2,160,942.99	2,142,622.33
Alliance	58,997,256	58,685,992	0.5	2,063,362.70	2,050,642.71
Boyd	5,994,780	5,871,297	5.7	209,820.48	198,498.27
Brown	15,824,485	15,814,483	0.1	553,860.37	548,664.23
Buffalo	198,319,299	188,442,108	5.2	6,940,701.91	6,598,464.11
Kearney	170,649,563	163,445,868	4.4	5,973,211.31	5,723,589.70
Burt	24,555,981	22,371,434	9.8	859,474.90	785,006.12
Butler	21,062,063	19,636,081	7.3	751,177.84	687,268.53
Cass	41,532,747	39,158,283	6.1	1,457,023.39	1,377,633.43
Plattsmouth	19,175,867	17,622,347	8.8	671,482.81	616,875.20
Cedar	27,450,190	25,365,598	8.2	967,402.66	888,097.08
Chase	1,582,606	22,134,793	(11.5)	687,671.61	774,774.80
Cherry	28,519,946	25,325,694	5.5	935,453.06	886,404.93
Valentine	24,717,841	23,227,274	6.4	865,377.92	812,959.03
Cheyenne	44,004,685	44,073,685	(0.2)	1,537,459.87	1,541,291.53
Sidney	49,525,762	49,437,684	0.1	1,715,695.74	1,715,287.83
Clay	22,910,527	20,858,055	9.8	801,874.75	730,700.59
Colfax	27,442,052	25,019,427	9.7	960,476.19	875,687.05
Schuyler	16,858,883	15,957,927	5.6	590,062.06	558,531.12
Cuming	36,819,176	34,139,975	7.4	1,287,923.59	1,200,237.84
West Point	25,416,007	24,119,120	5.4	889,361.21	844,390.65
Custer	43,921,317	43,460,940	1.1	1,540,684.70	1,522,627.00
Broken Bow	32,134,261	31,854,950	0.9	1,128,132.45	1,115,381.68
Dakota	51,884,997	49,506,400	4.2	1,815,983.17	1,662,132.68
South Sioux City	41,455,588	39,098,788	6.0	1,450,951.54	1,368,463.86
Dawes	38,650,316	37,212,786	3.9	1,352,879.70	1,304,102.59
Chadron	34,672,844	32,622,140	6.3	1,213,666.57	1,143,428.34
Dawson	98,303,458	95,901,133	3.3	3,440,804.19	3,404,642.20
Cozad	21,899,830	21,558,377	1.3	836,497.43	754,546.60
Gothenburg	17,202,523	17,646,381	(2.5)	602,085.97	618,053.16
Lexington	54,326,200	53,826,349	0.9	1,901,606.72	1,885,594.50
Deuel	7,400,780	7,287,452	1.6	259,029.21	255,063.06
Dixon	10,129,357	8,907,029	13.7	354,530.71	311,749.16
Dodge	179,569,699	169,220,826	6.1	6,282,442.52	5,968,538.13
Fremont	160,299,234	150,181,126	6.7	5,607,920.34	5,402,182.83
Douglas	3,163,570,956	2,928,100,858	8.0	10,540,968.64	10,342,968.84
Omaha	3,103,560,527	2,867,024,894	8.2	108,456,091.88	101,413,245.47
Ralston	20,886,376	19,940,549	4.7	731,752.40	696,273.94
Dundy	6,862,132	6,767,074	1.4	239,778.71	236,849.86
Fillmore	26,873,221	24,990,562	7.5	940,006.28	874,592.42
Franklin	8,993,511	9,017,405	(0.3)	314,778.16	315,609.73
Frontier	6,168,608	5,873,305	5.0	215,903.86	205,568.02
Furnas	17,834,384	17,807,203	0.2	624,209.05	623,012.38
Gage	91,110,766	85,815,885	5.7	3,191,287.63	3,001,671.72
Beatrice	80,390,055	76,165,797	4.5	2,818,083.84	2,662,166.51
Garden	6,887,328	7,162,634	(3.8)	241,058.96	250,196.58
Garfield	8,118,635	7,968,175	1.9	283,606.80	278,888.76
Gosper	5,709,862	4,195,441	36.1	199,846.02	146,841.60
Grant	2,168,991	2,202,881	(1.1)	79,815.66	76,929.17
Greely	7,120,311	6,201,524	14.8	249,213.29	217,055.79
Hall	331,631,386	319,865,773	3.7	11,614,360.99	11,196,309.32
Grand Island	320,274,327	298,441,357	7.3	11,216,861.18	10,448,451.83
Hamilton	26,143,276	25,917,405	0.9	915,873.08	875,934.18
Aurora	21,447,057	19,918,468	7.7	751,203.82	697,150.67
Harlan	11,038,584	11,003,238	0.3	386,597.91	385,117.07
Hayes	520,257	531,238	(2.1)	18,929.22	19,291.72
Hitchcock	7,291,167	7,113,434	2.5	255,212.85	248,972.77
Holt	53,341,064	49,102,809	8.6	1,867,295.75	1,715,186.78
O'Neill	39,807,327	36,048,039	10.4	1,393,456.85	1,261,686.51
Hooker	2,207,251	2,423,057	(8.9)	77,254.78	84,808.61
Howard	15,110,003	14,345,916	4.2	527,580.11	502,110.68
Jefferson	38,079,435	36,554,296	4.2	1,387,730.19	1,279,782.31
Fairbury	30,493,638	29,625,729	2.9	1,121,633.18	1,037,280.21
Johnson	13,498,892	12,557,703	7.3	473,748.27	441,449.29
Kearney	19,434,629	18,515,726	5.3	682,233.29	648,054.84
Minden	16,775,446	15,852,710	5.8	587,143.53	554,847.84
Keith	53,769,404	50,622,505	6.2	1,884,052.60	1,771,090.18
Ogallala	49,728,364	46,665,954	6.6	1,742,614.39	1,632,569.30
Keya Paha	4,137,866	4,283,507	(7.2)	148,159.94	144,923.57
Kimball	19,887,866	25,897,978	(23.2)	705,372.15	910,539.15
Kimball	19,880,929	25,507,127	(22.8)	698,150.14	896,858.98
Knox	30,313,679	26,744,656	13.3	1,060,986.83	936,071.26
Lancaster	1,182,446,773	1,106,544,054	6.9	41,294,161.60	37,707,147.44
Lincoln	1,167,727,227	1,092,307,549	6.9	40,778,348.17	37,206,464.80
Lincoln	161,939,162	155,065,659	4.4	5,668,470.28	5,431,688.79
North Platte	154,310,051	147,366,148	4.7	5,401,066.38	5,161,075.13
Logan	1,022,633	1,074,942	(4.9)	35,792.68	37,823.66
Loup	508,571	508,632	(0.0)	17,800.20	17,804.50
Madison	200,049,661	182,261,664	9.8	6,999,418.40	6,364,384.25
Norfolk	174,051,497	159,001,194	9.5	6,089,323.73	5,550,262.98
McPherson	224,754	193,722	16.0	7,866.61	6,780.46
Merrick	22,225,007	20,416,257	8.9	777,880.65	714,744.66
Central City	15,794,523	14,429,452	9.5	552,811.41	505,204.13
Morrill	19,554,666	18,441,084	6.0	684,424.59	645,014.53
Nance	11,415,921	9,443,170	20.9	399,079.88	330,513.37
Nemaha	24,117,093	22,194,512	8.1	817,919.53	786,976.93
Albion	21,375,362	19,974,886	7.0	748,456.95	701,379.90
Nuckolls	22,037,557	22,371,651	(1.5)	771,319.94	783,013.17
Superior	16,314,593	15,515,218	5.2	571,014.07	543,035.77
Otoe	56,725,593	53,681,261	5.7	1,989,721.06	1,878,368.15
Nebraska City	42,147,021	39,804,996	5.9	1,476,709.67	1,394,950.62
Pawnee	7,333,865	6,573,584	11.6	255,818.16	231,752.37
Perkins	13,255,282	12,911,987	2.7	463,934.87	457,378.78
Phelps	48,702,876	47,946,202	1.6	1,704,607.79	1,676,040.12
Holdrege	44,401,299	44,213,361	0.4	1,554,051.13	1,547,494.55
Pierce	22,044,646	17,473,630	26.2	771,954.63	611,582.29
Platte	154,191,891	145,677,056	5.8	5,408,629.41	5,024,454.20
Columbus	137,414,298	132,025,969	4.1	4,821,410.12	4,444,520.40
Polk	20,357,706	17,568,860	15.9	712,523.60	614,607.15
Red Willow	79,510,482	77,962,310	2.0	2,781,943.74	2,747,558.47
McCook	78,777,866	74,969,868	4.4	2,684,489.86	2,607,821.68
Richardson	34,866,100	32,230,232	4.9	1,239,300.99	1,164,707.77
Falls City	25,780,205	24,500,097	3.8	901,245.36	869,480.20
Rock	5,698,511	5,101,693	11.7	199,449.66	178,962.05
Saline	48,276,736	44,279,234	9.0	1,688,356.07	1,550,592.41
Crete	32,507,656	29,627,823	9.7	1,136,168.71	1,038,872.92
Sarpy	24,038,430	17,101,578	27.7	7,156,037.55	6,723,075.36
Bellevue	143,236,894	137,702,400	4.0	5,025,813.94	4,817,948.64
LaVista	27,001,235	23,732,070	13.8	950,652.66	830,665.36
Papillion	26,435,907	24,990,136	6.2	921,779.79	890,512.74
Saunders	41,423,784	38,929,523	6.4	1,451,932.24	1,362,729.06
Wahoo	17,004,017	16,378,137	3.8	596,118.16	573,424.38
Scotts Bluff	192,334,966	184,128,055	4.5	6,746,485.01	6,482,247.68
Gering	31,877,576	29,563,400	8.1	1,115,635.02	1,041,393.37
Scottsbluff	55,902,123	135,168,858	(8.0)	5,071,211.08	4,762,814.47
Seward	53,697,667	46,142,564	16.4	1,879,467.11	1,615,011.54
Seward	39,653,573	33,040,850	(20.2)	1,387,919.83	1,156,434.51
Sheridan	29,181,766	29,251,752	(0.3)	1,022,782.14	1,024,864.49
Sherman	7,577,572	7,425,920	2.2	271,517.45	259,909.77
Sioux	1,435,514	1,460,497	(8.6)	46,743.59	51,118.03
Stanton	6,391,649	6,351,953	0.6	223,709.50	222,320.05
Thayer	24,346,123	23,278,459	4.6	852,172.59	815,317.57
Thomas	2,525,442	2,518,803	0.3	88,183.84	88,656.02
Thurston	8,824,570	7,597,090	16.2	308,961.34	265,900.80
Valley	21,788,981	21,087,934	3.3	762,618.75	738,082.43
Washington	49,526,954	46,589,971	6.3	1,733,424.00	1,626,452.57
Blair	43,523,691	40,950,313	6.5	1,549,807.47	1,434,117.81
Wayne	30,474,089	27,551,731	10.6	1,065	

CHAPTER 15  
TAX EXEMPTION OF MUNICIPAL DEBT INTEREST<sup>1</sup>

by Bernard Jump, Jr.

**Introduction**

Nebraska exempts from taxation the interest income received by its residents on their holdings of state and local government debt issued by Nebraska jurisdictions. By foregoing any claim on residents' municipal debt<sup>2</sup> interest income, Nebraska is providing an indirect subsidy to state agencies and political subdivisions that borrow. The subsidy to municipal borrowers is the result of their ability to issue tax-exempt debt. All other things the same, interest costs on tax-exempt debt are lower than those on taxable debt.

While the merits of a state policy aimed at assisting local governments to bear the cost of borrowing are clear, tax exemption of municipal debt interest is not necessarily the method that best serves the interests of either the state or its political subdivisions. As public finance specialists have long known, tax exemption of municipal debt interest can involve hidden costs; the tax revenues foregone may exceed the interest savings realized by issuers of tax-exempt debt and investors in municipal debt who are in high income tax brackets may experience windfall gains. When these circumstances exist, the public interest might be better served if the state

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<sup>1</sup>The author is grateful to Deborah Thomas and Eric Will from the Office of Nebraska Senator Vard Johnson, for their careful review of an earlier draft of this chapter. This chapter is based on Bernard Jump, Jr., "Tax Exemption of Municipal Debt Interest," Nebraska Comprehensive Tax Study Staff Paper No. 8, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, February 1988).

<sup>2</sup>By custom all state and local government debt is referred to as municipal debt. That practice is followed here, too.

were to tax municipal debt interest and use the proceeds of the tax to finance a direct subsidy to municipal borrowers.<sup>3</sup>

Unfortunately, legislators are not equipped with the cost and benefit information that would enable them to assess the merits of tax exemption of interest income. As an indirect subsidy from the state to its political subdivisions, exemption of municipal debt interest is not easily recognized as a public policy that has an impact on the state's treasury. In the absence of an explicit price tag such as those attached to expenditures that are formally approved by the legislature, tax exemption of municipal debt interest can hardly be expected to receive the legislative scrutiny that is given to direct state expenditures. Because the state has not made a practice of estimating the revenue loss associated with tax exemption of municipal debt interest, it has lacked a factual basis for evaluating whether interest exemption is the least costly mechanism available to reduce the borrowing costs that its jurisdictions must pay. In all likelihood, tax exemption of municipal debt interest is regarded by many of the state's decision-makers as a cost-free way to help political subdivisions save money. Nevertheless, it is possible that interest exemption involves costs in the form of lost state income tax revenue that are not fully offset by the interest savings realized by the state's municipal debt issuers.

It is precisely because of the relationship between the costs and the benefits produced by interest exemption that most public finance specialists view its use as a dubious public policy.<sup>4</sup>

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<sup>3</sup>As is explained later in this chapter, Nebraska is contractually prohibited from imposing taxes on any debt already issued by its agencies and political subdivisions. Therefore, legislation to tax interest income could apply only on a prospective basis to future debt issues that are not encumbered by the State's contractual guarantee against taxation.

<sup>4</sup>Public finance specialists have mainly directed their criticism at exemption of municipal debt interest from the federal income tax. However, their reasons for questioning the merits of interest exemption apply equally well to exemption of interest income from state or local income taxes. A good review of the literature is contained in Larry E. Huckins, "Tax Exemption of Municipal Bond Interest: Revenue and Resource Allocation Effects," *Federal-State-Local Fiscal Relations: Technical Papers*, Vol. I (Washington, DC: Office of State and Local Finance, Department of the Treasury, 1986).

For more than two decades, researchers have been estimating the dollar values of the costs and benefits attributable to municipal interest exemption from federal taxation.<sup>5</sup> With few exceptions,<sup>6</sup> these empirical efforts have confirmed the theoretically-based consensus view that tax exemption of interest income is *inefficient* because its costs (i.e., the taxes foregone) typically exceed the benefits (i.e., lower interest costs) it provides to public borrowers.<sup>7</sup>

Empirical evidence also suggests that interest exemption produces *inequities* in the operation of the tax system.<sup>8</sup> Inequity in this context means that some taxpayers are able to avoid paying tax on their income at the legally-enacted marginal tax rate that otherwise applies to persons who reach the same income level.<sup>9</sup> The reasons why tax exemption can produce inefficiencies and inequities are explained in more detail later in this chapter.

We do three things in this chapter. First, we summarize briefly both Federal policy toward exemption of interest on municipal debt and the treatment of municipal debt interest by Nebraska and the other states. Second, we describe the process that a rational investor would

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<sup>5</sup>See Huckins, "Tax Exemption of Municipal Bond Interest: Revenue and Resource Allocation Effects."

<sup>6</sup>Even those specialists who do not favor abolition of interest exemption do not reject the inefficiency criticism although they may consider the size of the inefficiency to be too small to justify curtailment of tax exemption. See Michael L. Mussa and Roger C. Kormendi, *The Taxation of Municipal Bonds: An Economic Appraisal* (Washington, DC: American Enterprise Institute, 1979).

<sup>7</sup>One recent article claims that a 70 percent efficiency level (i.e., the ratio of interest costs saved to federal income taxes lost) is the generally accepted one. See David S. Kidwell, Timothy W. Koch and Duane R. Stock, "The Impact of State Income Taxes on Municipal Borrowing Costs," *National Tax Journal*, Vol. 37, No. 4 (December 1984): 561. Joseph A. Pechman, *Federal Tax Policy*, 5th edition (Washington, DC: The Brookings Institution, 1987), p. 125, reports estimates of less than 50 percent efficiency.

<sup>8</sup>David C. Beek, "Rethinking Tax-Exempt Financing for State and Local Governments," *Federal Reserve Bank of New York Quarterly Review*, Vol. 7 (Autumn 1982): 30-40.

<sup>9</sup>A graphical explanation of inequity and its relationship to inefficiency is contained in the background paper by Ronald W. Forbes and John E. Petersen in *Building a Broader Market*, Report of the Twentieth Century Fund Task Force on the Municipal Bond Market (New York, NY: McGraw-Hill, 1976), pp. 147-158.

follow in choosing between a tax-exempt and a taxable security, and we explain the circumstances in which tax exemption will produce results that are inefficient and inequitable. Finally, we present a general model for estimating the costs and benefits associated with tax-exempt borrowing. This model is then used to simulate the costs and benefits to Nebraska and its political subdivisions that accompany a specified level of borrowing by the state's municipalities. The purpose of the simulation exercise is twofold. One purpose is to demonstrate how Nebraska decisionmakers can use the model to estimate the net cost of tax exemption. Second, the simulation results provide a basis for a tentative assessment of the merits of replacing tax exemption with a policy that consists of taxation of interest earned on future Nebraska municipal debt issues and payment of the tax proceeds directly to municipal borrowers.

### **Federal and State Limitations on Tax-Exempt Borrowing**

Although interest on most municipal debt has been exempt from the federal income tax since ratification of the Sixteenth Amendment in 1913, the Congress has become increasingly aggressive in attempting to limit the tax losses associated with state and local government borrowing. Some of this concern is of a general kind and derives from the pressure on Congress to find ways to reduce the budget deficit. At an estimated cost in lost tax revenue of \$20 billion or more yearly,<sup>10</sup> interest exemption is an attractive target for budget balancers.

In recent years there has been a rush by states and local governments to authorize uses of tax-exempt borrowing for activities that seem to benefit private interests far more than public

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<sup>10</sup>Estimates of these costs are reported yearly in Executive Office of the President, Office of Management and Budget, *Special Analyses, Budget of the United States Government*, "Special Analysis G: Tax Expenditures (Washington, DC: U.S. Government Printing Office).



ones. The phenomenon has even caught the attention of some local and state officials who recognize that such nontraditional forms of public borrowing add to the cost of all public borrowing, thereby raising the cost of general government operation. The proliferation of private purpose tax-exempt borrowing has also mobilized Congress into steadily tightening the rules that define appropriate uses of tax-exempt borrowing.<sup>11</sup>

Each time Congress makes a move that limits state and local government issuance of debt whose interest is free of federal taxation, the event is sure to produce heated debates about the federal government's right even to promulgate rules that define the terms and conditions that must be met if state and local debt issues are to qualify for federal tax exemption. Most opponents of any curtailment of the rights of states and local government to issue debt whose interest is exempt from federal taxation contend that exemption is constitutionally guaranteed to the states and their political subdivisions. On the other side are those who see exemption as only a statutory privilege contained in the Internal Revenue Code and, therefore, something that can be withdrawn at the will of the Congress.<sup>12</sup>

Whatever the answer to the constitutional issues, the matter of federal policy regarding the tax treatment of municipal debt interest income is a double-edged sword from the perspective of the states. On the one hand, state and local governments realize substantial interest cost savings by being able to issue debt whose interest income is generally exempt from federal

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<sup>11</sup>A good summary of the revisions in tax-exempt borrowing rules contained in the Tax Reform Act of 1986 is John E. Petersen, *Tax-Exempts and Tax Reform: Assessing the Consequences of the Tax Reform Act of 1986 for the Municipal Securities Market* (Washington, DC: Academy for State and Local Government, 1987).

<sup>12</sup>The legal basis for exemption of municipal debt interest from the federal income tax is discussed in *Federal-State-Local Fiscal Relations* (Washington, DC: Office of State and Local Finance, Department of the Treasury, 1985), pp. IX.55 - IX.57.

income taxation.<sup>13</sup> On the other hand, because Nebraska and most other states that levy an income tax customarily embrace the federal government's definition of debt qualifying for tax-exempt status,<sup>14</sup> they may derive benefits in the form of increased revenues and lowered borrowing costs on conventional, general purpose debt issues when Congress further restricts the definition of borrowing that qualifies for federal tax exemption.

Unlike the federal government, Nebraska has never been inhibited from taxing municipal debt interest received by resident individuals and corporations because of risk that such action would be unconstitutional. Nevertheless, until 1987, Nebraska exempted all municipal debt interest earned by residents, both interest earned on debt issued by Nebraska jurisdictions and interest earned on other states' municipal debt. Beginning in 1987 Nebraska began taxing interest earned by resident individuals and corporations on their holdings of municipal debt issued by other states.<sup>15</sup> But the state continues to refrain from taxing interest earned on municipal debt issued by Nebraska agencies and political subdivisions.

As noted above, Nebraska does not have any choice regarding the exemption of interest earned by residents on Nebraska municipal debt that is currently outstanding. This is because the state has bestowed, by statutory enactment, a formal guarantee of tax exemption throughout the term to maturity of all municipal debt that has been issued in the state. Yet there is nothing to prevent the state from passing legislation that would make interest earned on future issues of municipal debt subject to the state income tax.

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<sup>13</sup>Treasury Department estimates of the annual savings between 1959 and 1984 are reported in *Federal-State-Local Fiscal Relations*, p. IX.102.

<sup>14</sup>Although most states with an income tax do not exempt interest earned by their residents on debt issued by other states. See Table 15-1, below.

<sup>15</sup>LB 773, May 1987.

As Table 15-1 shows, exempting all municipal interest earnings from state income tax, regardless of the state of origin of the debt or the type of recipient (i.e., individual or corporation) as Nebraska did until 1987 is an unusual practice. Although treatment of municipal debt interest varies widely among the states, most states with an income tax include at least receipts of municipal debt interest on other-state debt in their definition of taxable income. Several states make no distinctions between in-state and other-state issuers and tax corporate receipts of all municipal debt interest. Five states (Illinois, Iowa, Kansas, Oklahoma and Wisconsin) tax individuals' interest earnings on in-state as well as other-state bonds. Of the ten states that do not tax interest earned by resident individuals from holdings of debt issued by other states, seven levy no state tax on any income received by individuals.

Obviously, Nebraska's decision in 1987 to tax residents' interest earnings on other-state municipal debt will be responsible for the realization of additional income tax revenues. Interestingly, this action may also lead to some interest cost savings on future debt issued by Nebraska political subdivisions. According to a recent study of several states' treatment of such income, states that tax interest income earned on other-state debt at a higher rate than they tax interest income earned on their own municipal debt realize lower borrowing costs.<sup>16</sup> Interest reductions on in-state debt issues sold after a tax is imposed on other-state debt interest come about because resident taxpayers who invest in municipal bonds then have a tax incentive that leads them to prefer own-state debt.<sup>17</sup> The increase in the demand for own-state debt means a

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<sup>16</sup>Kidwell, Koch and Stock, "The Impact of State Income Taxes on Municipal Borrowing Costs," pp. 551-561.

<sup>17</sup>In the case of states with low marginal tax rates, the resulting differentials between in-state and other-state bond yields are probably barely perceptible to any except the closest watchers of the municipal debt market. But it is well-known in the market that the bonds of high tax-rate states such as New York and California trade at significantly lower yields than those that are carried by bonds from other states. See Steven J. Hueglin, "State and Local Tax Treatment of Municipal Bonds," Chapter 4 in *The Municipal Bond Handbook*, Vol. I, edited by Frank J. Fabozzi, *et al.*, (Homewood, Ill.: Dow Jones-Irwin, 1983), pp. 60-63.

TABLE 15-1

STATE TAXATION OF INTEREST EARNINGS  
ON MUNICIPAL BONDS<sup>a</sup>

State	Individuals		Corporations	
	State's Own Bonds	Other States' Bonds	State's Own Bonds	Other States' Bonds
Alabama		X		X
Alaska				
Arizona		X		X
Arkansas		X		X
California (Franchise)		X	X	X
California (Income)				X
Colorado		X		X
Connecticut		X	X	X
Delaware		X <sup>b</sup>		X
District of Columbia		X		X
Florida			X	X
Georgia		X		X
Hawaii		X		X
Idaho		X		X
Illinois	X	X	X	X <sup>c</sup>
Indiana				X
Iowa	X	X	X	X
Kansas	X	X	X	X
Kentucky		X		X
Louisiana		X		X
Maine		X		
Maryland		X		X
Massachusetts		X	X	X
Michigan		X		X
Minnesota		X	X	X
Mississippi		X		X
Missouri		X		X
Montana		X	X	X
Nebraska		X		X
Nevada				
New Hampshire		X		
New Jersey		X	X	X
New Mexico				
New York		X	X	X
North Carolina		X <sup>d</sup>		X
North Dakota		X		X

TABLE 15-1 (CONT.)

State	Individuals		Corporations	
	State's Own Bonds	Other States' Bonds	State's Own Bonds	Other States' Bonds
Ohio		X		
Oklahoma	X	X	X	X
Oregon		X	X	X
Pennsylvania		X		
Rhode Island		X		X
South Carolina		X		X
South Dakota				
Tennessee		X	X	X
Texas				
Utah			X	X
Vermont				
Virginia		X		X
Washington				
West Virginia		X	X <sup>e</sup>	X
Wisconsin	X	X	X	X
Wyoming				

<sup>a</sup> Bonds are designated "X" if taxable. All others are exempt or excluded from tax, or no income taxes are levied by those states. In certain cases, these designations pertain only to general obligations bonds, or to bonds in general. For example, a state may not generally exempt bonds, but some bonds may be specifically exempted by the laws authorizing their issuance.

<sup>b</sup> Taxable if purchased after 1991.

<sup>c</sup> Taxable only for gross income tax purposes.

<sup>d</sup> Taxable only if long form is used.

<sup>e</sup> Pro-rata adjustment is allowed.

SOURCE: Data for states other than Nebraska are from Public Securities Association, An Investor's Guide to Tax-Exempt Securities (1987), pp. 16-17.

given amount of bonds can be marketed at lower interest rates.

### **Costs and Benefits of Tax-Exempt Borrowing**

We have already identified two problems that are thought to result from tax exemption of municipal debt interest income: costs that exceed benefits and diminution of the tax system's formal progressivity. Still, to suggest that exemption of municipal debt interest could produce such problems is not to imply that it fails to produce interest cost savings to state and local government borrowers.

If municipal interest earnings are exempt from taxation, a rational investor would be willing to lend funds to a municipal borrower at a lower interest rate than he would require from a corporate borrower who offered debt with otherwise comparable features. From the vantage point of the municipal borrower this means that the jurisdiction will realize savings on its borrowing costs because of the state (and federal) policy of exempting municipal debt interest from taxation.

The data in Table 15-2 confirm that yields on bonds whose interest is exempt from federal taxation are consistently lower than the yields on comparable debt issued by corporations. These yield differentials are sometimes quite large. So, in general, it is evident that state and local government borrowers, benefiting as they do from the privilege of issuing debt whose interest is exempt from federal and, sometimes, state and local income taxes, are able to obtain their funds at a lower cost than their private counterparts pay.<sup>18</sup>

#### **The Investor's Choice between Taxable and Tax-Exempt Securities**

Interest cost savings notwithstanding, some of the benefits produced by exempting

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<sup>18</sup>The Treasury Department estimates that federal tax exemption of municipal debt interest saves states and local governments more than \$8 billion annually. See note 12 above and the reference cited there.

**TABLE 15-2**  
**YIELDS ON MUNICIPAL AND CORPORATE BONDS,**  
**SELECTED YEARS, 1960-1987**

<u>Year</u>	<u>Moody's Aaa Municipal Bonds</u>	<u>Moody's Aaa Corporate Bonds</u>	<u>Yield Ratio (in percent)</u>
1960	3.26	4.41	73.9
1965	3.16	4.49	70.4
1970	6.12	8.04	76.1
1975	6.42	8.83	72.7
1980	7.85	11.94	65.7
1981	10.43	14.17	73.6
1982	10.86	13.79	78.8
1983	8.80	12.04	73.1
1984	9.61	12.71	75.6
1985	8.60	11.37	75.6
1986	6.95	9.02	77.1
1987	7.20*	9.70*	74.2

\*August 1987 yields.

SOURCE: 1960-81 yields are from Larry E. Huckins, "Tax Exemption of Municipal Bond Interest: Revenue and Resource Allocation Effects," Federal-State-Local Fiscal Relations: Technical Papers, Vol. I (Washington, DC: Office of State and Local Finance, Department of the Treasury, 1986), p. 317; 1982-87 data are from Federal Reserve Bulletin, January 1986 and November 1987, Table 1.35.

municipal debt interest from taxation are thought to accrue to municipal bondholders, not to the jurisdictions doing the borrowing. To clarify why this is true, in this section we trace through the process a potential investor would follow in choosing between a tax-exempt security and a taxable one. If the choice is between bonds that are comparable in all material respects except their yields (and their tax status), the rational investor will opt for the one that produces the higher annual income net of taxes. To be competitive, the taxable security will have to carry the higher market yield because a portion of interest earned on a taxable bond will end up in the hands of the tax collector. But *how much* higher must the taxable yield be to leave the investor at least as well-off as she would have been with the tax-exempt alternative? The answer to that question depends on the relationship between the investor's marginal tax bracket and taxable and tax-exempt bond yields.

In general, the lower an investor's marginal tax rate, the greater the tax-exempt/taxable yield ratio required to leave her indifferent with respect to which type of security she should choose. This can be easily demonstrated by reference to a simple equation. If  $r^e$  is the tax-exempt bond yield,  $r^t$  is the taxable bond yield, and  $t^m$  is the investor's marginal tax rate, then when  $r^e = (1-t^m)r^t$  an investor will be as well-off holding one security as she will holding the other.

Suppose that taxable bond yields ( $r^t$ ) are 10 percent and the investor's marginal tax rate ( $t^m$ ) is 30 percent. Then tax-exempt bond yields will have to be at least 7 percent in order for an investor to justify her purchase. For example, assume the investor has \$1,000 to invest. If she acquires a \$1,000 taxable bond, her annual interest earnings are \$100 and she pays a \$30 tax on those earnings. If she acquires a \$1,000 tax-exempt bond instead, her annual interest earnings are \$70 and she pays no tax. She is equally well-off with either bond.

Notice the effects of the tax-exempt bond transaction on the two government units involved. The revenue "lost" by the taxing government when the investor chooses the tax-



exempt bond over the taxable one is \$30. Thirty dollars is also the precise amount of interest expense "saved" by the borrowing government because it was able to sell its bond at 7 percent instead of the 10 percent rate prevailing for taxable debt. In other words, the direct public costs and benefits from tax exemption are equal; the transaction is 100 percent efficient.

The transaction also maintains the tax system's inherent equity. If the investor chooses the taxable bond, she pays an *explicit* tax rate of 30 percent. Alternatively, if she invests in the tax-exempt bond, the fact that her interest earnings will be \$30 less than she would have received from a taxable bond means that she pays an *implicit* tax rate of 30 percent.<sup>19</sup>

Now, let us compare the situation where the investor is indifferent between a taxable and a tax-exempt bond with one where purchase of a tax-exempt bond produces a clear after-tax advantage for the investor. For example, assume that when the current tax-exempt/taxable yield relationship ( $r^e/r^t$ ) produces tax-exempt yields of 7 percent the demand from municipal borrowers for funds is greater than lenders in the 30 percent marginal tax bracket can meet. In this circumstance ( $r^e/r^t$ ) will have to increase sufficiently to attract lenders from the next highest bracket (assumed for purposes of illustration to be 25 percent). This means that tax-exempt yields will have to increase to at least 7 1/2 percent so that investors in the 25 percent bracket will be as well-off with a tax-exempt bond as with a taxable one.

Consider the effects that a 7 1/2 percent tax-exempt yield will have on investors who are in the 30 percent tax bracket. Since the percentage differential between tax-exempt and taxable bonds has narrowed sufficiently to draw in lower tax bracket investors, those who are in higher brackets are now better off investing in tax exempt bonds than in taxables. That is, their *implicit* tax rate on their tax-exempt investment is reduced to 25 percent; hence, they realize a windfall gain and the equity of the tax system is diminished accordingly.

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<sup>19</sup>An investor's implicit tax rate ( $t^{mi}$ ) equals  $(r^t - r^e)/r^t$ .

This is also an instance where tax exemption produces fiscal inefficiency. The taxing government still loses \$30 in tax receipts because the 30 percent bracket investor preferred a tax-exempt over a taxable bond. But now the borrowing unit saves only \$25 in annual interest costs on each \$1,000 it borrows relative to the amount it would have paid if it issued taxable bonds. Necessarily, the gap between the \$30 of revenues lost by the taxing unit and the \$25 of interest saved by the borrowing unit is equivalent to the \$5 windfall enjoyed by the 30 percent bracket investor.

Under the circumstances that describe the second of the above two examples the municipal borrower would have been better off financially if the state taxed interest earned on municipal debt and then rebated the tax proceeds to the municipal borrower as a direct subsidy. Assume, for purposes of illustration, that municipal bonds are now taxable and that interest yields on taxable municipal bonds are 10 percent, which is also the yield on corporate bonds. Now the inframarginal investor (i.e., the 30 percent tax bracket investor) in the second example above would receive \$100 annual interest on a \$1000 investment in a taxable municipal bond and pay \$30 tax--which is exactly the circumstance she would face had she purchased a taxable corporate bond yielding 10 percent. In turn, the taxing government could use the \$30 in tax proceeds to finance a \$30 subsidy to the borrowing government. Thus, the borrowing unit would "save" \$30 annually on the \$1000 it borrowed from the 30 percent bracket investor instead of only \$25 as it would if its interest payments were exempt from taxation. By taxing municipal debt interest, the state would eliminate both the fiscal inefficiency and the tax inequity caused by tax exemption of municipal debt interest.

While the logic of a tax and subsidy policy is impeccable, imposition of any tax carries with it political costs that lawmakers would hardly welcome unless the fiscal gains expected to be realized were sufficiently large. Whether taxation of interest earned by residents on their holdings of Nebraska municipal debt would be sound policy depends, in the first instance, on

how much better off (if at all) a tax-financed subsidy would leave municipal borrowers relative to the situation they experience when they can issue tax-exempt bonds. Therefore, we need a methodology that produces quantitative estimates of the costs and benefits associated with tax exemption. A description of such a methodology is the subject of the next section.

### **Estimating the Costs and Benefits of Tax-Exempt Borrowing**

#### **The General Model**

Conceptually, estimation of the revenue losses and interest savings produced during a year because a state exempts municipal interest from its taxable income base is comparatively straightforward. In general, the revenue loss can be expressed as:<sup>20</sup>

$$R = D^t \cdot r^{ts} \cdot t^{ms} \quad (1)$$

where

$D^t$  = Principal amount of tax-exempt Nebraska municipal debt acquired by individuals and institutions that are subject to the state's income tax;

$r^{ts}$  = Yield on comparable debt subject to the state's income tax (but exempt from federal income tax);

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<sup>20</sup>A description of the Treasury Department's method of estimating federal income tax revenues lost because of interest exemption is contained in Huckins, "Tax Exemption of Municipal Bond Interest: Revenue and Resource Allocation Effects." A demonstration of the model's use in estimating federal revenue losses from tax-exempt student loan bonds appears in Congressional Budget office, *The Tax-Exempt Financing of Student Loans* (Washington, DC: Congressional Budget Office, 1986), Appendix A.

The Treasury's revenue loss estimating model is designed to make allowances for taxpayers' likely responses if tax-exempt bonds were no longer available. Although similar allowances are theoretically appropriate in an estimating model for Nebraska's revenue loss from tax exemption, the impossibility of securing appropriate data make it unrealistic at this time to expect to produce such refined estimates.

$t^{ms}$  = Weighted average effective marginal state income tax rates of debt holders.

Similarly, the interest savings can be expressed as:

$$S = D^i \cdot (r^{ts} - r^{es}) \quad (2)$$

where

$D^i$  = Principal amount of tax-exempt debt issued by Nebraska jurisdictions

$r^{es}$  = Yield on tax-exempt state and local debt.

To illustrate how this cost-benefit estimating model works, the following hypothetical values are inserted as appropriate in equations (1) and (2):

$$D^t = \$400 \text{ million}$$

$$r^{ts} = 9 \text{ percent}$$

$$t^{ms} = 4 \text{ percent}$$

$$D^o = \$400 \text{ million}$$

$$r^{es} = 8.64 \text{ percent}$$

Solving for revenues lost,

$$\begin{aligned} R &= D^t \cdot r^{ts} \cdot t^{ms} \\ &= (\$400,000,000)(.09)(.04) \\ &= \$1,440,000 \end{aligned}$$

and solving for interest savings,

$$\begin{aligned} S &= D^i \cdot (r^{ts} - r^{es}) \\ &= (\$400,000,000)(.09 - .0864) \\ &= \$1,440,000 \end{aligned}$$

Thus, in this example the costs of tax exemption are matched by the interest savings realized by municipal borrowers.

Now suppose a different situation, one where an 8.64 percent tax-exempt yield is too low to attract all of the funds demanded by tax-exempt issuers. Investors from the next highest tax bracket (we assume this to be 3.4 percent) are needed to fill the gap between demand and supply. To justify their entry, the value of  $r^{es}$  will have to increase to 8.694 percent. Assume that when the entire \$400 million of bonds have been sold, 25 percent of them have been acquired by investors in the 3.4 percent tax bracket and the remaining \$300 million have gone to persons in the 4 percent bracket. With  $r^{es} = 8.694$  percent, interest savings ( $S$ ) have fallen by \$176,000 to \$1,224,000 while the revenue loss has declined only by \$61,000 to \$1,379,000. In other words, the efficiency ratio ( $S/R$ ) declined from 100 percent when tax-exempt yields were 8.64 percent and demand was fully accommodated by investors in the 4 percent bracket to only about 89 percent when a portion of demand required some participation from investors in the next highest tax bracket.

With these simple examples of the operation of the estimating model as background, we now will demonstrate how the model can be used to estimate the costs and benefits attributable to exemption of municipal interest from Nebraska's income tax.

### **Estimating the Costs and Benefits of Tax-Exempt Borrowing in Nebraska**

In constructing the examples of revenue losses and interest savings described above, we had the luxury of being able to assume away a nettlesome problem that now must be reckoned

with.

Neither Nebraska nor any other individual state is a closed market for its own municipal debt. Some of the debt issued by Nebraska municipalities is likely to be acquired by investors from other states. Therefore, a portion of the annual interest payments made by Nebraska jurisdictions on their outstanding debt will go to out-of-state investors and be out of the reach of Nebraska's income tax collector. As a consequence, it is possible that the revenues lost by Nebraska because it does not tax the interest earned by residents on their holdings of Nebraska municipal debt are smaller than the interest savings realized by municipalities because they may issue tax-exempt debt.

Unfortunately, since there is no reliable information about the distribution of Nebraska's tax-exempt debt between resident and nonresidents, we have no way to know what proportion of the interest payments made by the state's tax-exempt borrowers will go to Nebraska residents.

#### **Simulations of Cost and Benefit Estimates for Tax-Exempt Borrowing**

This lack of reliable information about ownership of tax-exempt debt and receipt of interest from tax-exempt Nebraska municipal debt by Nebraska investors makes it impossible to produce a single set of estimated revenue losses and interest savings that would be associated with any specified level of debt issued by Nebraska municipal borrowers. Instead, the approach followed here is to use the general estimating model to simulate alternative estimates of revenue losses and interest savings associated with a specified level of borrowing, with each set of revenue loss-interest savings estimates predicated on a particular assumption about the proportion of the debt issue that is acquired by Nebraska investors.

Revenue loss-interest savings estimate resulting from four simulations of our model are shown in Table 15-3. Each set of estimates is based on \$500 million of debt issued by Nebraska municipalities, a weighted average effective marginal tax rate ( $t^{ms}$ ) of 4.5 percent, and tax-

TABLE 15-3

**SIMULATED ANNUAL INCOME TAX REVENUE LOSSES AND INTEREST  
COST SAVINGS IN NEBRASKA DUE TO ISSUING  
\$500 MILLION OF TAX-EXEMPT DEBT**

(1)	(2)	(3)	(4)
Nebraska Municipal Debt Acquired During the Year	State Income Tax Revenues Foregone Due to Tax Exemption <sup>a</sup>	Interest Savings to Municipal Borrower Due <sup>b</sup> to Exemption	Column (2) Less Column (3)
<u>Case 1</u>			
\$500,000,000	\$1,874,250	\$1,650,000	\$224,250
<u>Case 2</u>			
450,000,000	1,686,825	1,650,000	36,825
<u>Case 3</u>			
400,000,000	1,499,400	1,650,000	(150,600)
<u>Case 4</u>			
440,176,070	1,650,000	1,650,000	0

<sup>a</sup> Equals  $D^t \cdot r^{ts} \cdot t^{ms}$  where  $D^t$  = column (1) plus column (2);  $r^{ts}$  = 8.33 percent;  $t^{ms}$  = 4.5 percent.

<sup>b</sup> Equals  $D^i \cdot (r^{ts} - r^{es})$  where  $D^i$  = \$500 million;  $r^{ts}$  = 8.33 percent;  $r^{es}$  = 8 percent.

SOURCE: Author's computations.

exempt and taxable interest rates ( $r^{es}$ ) and ( $r^{ts}$ ) of 8 percent and 8.33 percent, respectively.<sup>21</sup> The first revenue loss-interest savings estimate in Table 15-3 (Case 1) assumes that the entire \$500 million of debt was acquired by Nebraskans. For Case 2 we assumed that only \$450 million was acquired by Nebraska taxpayers, and for Case 3 we assumed that only \$400 million remained within the state. Case 4 is the "break even" situation in which revenue losses exactly equal interest savings.

In general, the results of our simulations do not provide compelling evidence that taxation of interest earned on Nebraska municipal debt would be sound public policy. Under the most optimistic of circumstances (i.e., Case 1), the estimated efficiency gains are quite modest. Even in Case 1, where the entire \$500 million is assumed to be owned by Nebraska investors, the net annual cost of exempting interest from taxation (i.e., the net amount that would be gained by municipal borrowers if the state taxed interest income) would be only about \$224,000.

Equally noteworthy are the Case 3 results. Here although only 20 percent of the debt issue is assumed to be acquired by nonresidents, the estimated interest savings attributable to tax exemption exceed the potential income tax revenue lost because of tax exemption by \$150,000. In other words, were Nebraska to substitute a tax and subsidy policy for its current tax-exemption approach to assisting municipal borrowers its tax revenues would fall some \$150,000 short of the amount of subsidy that municipalities would need to leave them as well off issuing taxable bonds as they would be if they issued tax-exempt bonds. Finally, Case 4 shows that if

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<sup>21</sup>We assume that the marginal state income tax rate of the marginal purchaser of Nebraska's tax-exempt debt is 4 percent. Given an assumed tax-exempt bond interest rate ( $r^{es}$ ) of 8 percent, the taxable bond interest rate that would leave the marginal investor indifferent between a tax-exempt bond and one whose interest was taxable by the state would be  $r^{es}/(1-t^m) = .08/(1-.04) = 8.33$  percent. Our use of 4 1/2 percent for the weighted average effective marginal tax rate ( $t^{ms}$ ) was arbitrary. Depending on the actual distribution of bond holdings between corporations and individuals and among income classes, it could be either closer in size to the marginal tax rate of the marginal buyer of bonds or even larger than the value used here.



less than about 88 percent (i.e., 440,176,070/500,000,000) of bonds issued by Nebraska municipalities go to Nebraska investors, interest savings will exceed income tax revenues foregone. Under these circumstances it would be impossible from a fiscal standpoint to recommend resort to a taxation and subsidy policy.

We hasten to point out that the simulation results contained in Table 15-3 are based on hypothetical data regarding the volume of annual borrowing, the level of interest rates, and the marginal tax rates of Nebraska investors. Were other values substituted for the model's variables, different estimates of revenue losses and interest savings would result. But as a practical matter, as long as Nebraska maintains the current structure of marginal tax rates in its income tax the only variables that could produce dramatically different estimated revenue losses and interest savings are the volume of borrowing and the proportion of debt issued that is acquired by Nebraska investors. And only if annual borrowing volume were to be substantially larger than the \$500 million used for the Table 15-3 simulations would there be any reason to expect the net cost of tax exemption (or, what amounts to the same thing, the net benefit of taxing municipal debt interest and paying the tax proceeds to municipal borrowers) to be substantially larger than our estimates.

### **Conclusions and Recommendations**

We conclude that the case for taxing Nebraska residents on their interest earnings on Nebraska municipal debt is a weak one. Given the state's now comparatively low top bracket tax rates, its probable modest volume of municipal borrowing, and the likelihood that a portion of any debt issued will be acquired by other states' investors (who cannot be taxed by Nebraska), the net results of a taxation and subsidy scheme could be to the disadvantage of municipal borrowers.

Our skepticism about the financial viability of taxing the interest earnings on future issues of Nebraska municipal debt is even greater if we are to assume that municipal debt interest earned by the state's commercial banks is not to be taxed as well. This is because commercial banks typically are an important source of funds to the municipal debt market, and we have already suggested that if any more than a minor proportion of municipal debt interest were not to be taxable the state's incremental revenues would fall short of the subsidy that municipalities would require to leave them no worse off than if they continued to issue tax-exempt debt.

According to Nebraska's Financial Institutions Tax Task Force, Nebraska's commercial banks play a key role as investors in the state's municipal debt. In its 1985 report, the Task Force estimated that Nebraska banks acquired about one-third of municipal debt issued in the state between 1980 and 1984.<sup>22</sup> Since our earlier simulations suggested that a tax and subsidy policy would fail to improve the financial position of municipal borrowers if less than about 88 percent of debt issued went to investors who would be reached by an income tax on interest earnings,<sup>23</sup> it seems clear that taxation of banks' municipal debt interest earnings would have to be a component of a policy that was intended to improve the fiscal efficiency of municipal borrowing. Otherwise, municipal borrowers will be better off financially simply continuing to issue debt that is fully exempt from Nebraska's income tax.

Despite our strong misgivings about the economic merits of taxing Nebraska residents' interest earnings on their holdings of the state's municipal debt, we applaud the state's recent decision to tax residents' interest earnings on other-state municipal debt. Most states have long levied such a tax, and we see no obvious public policy that is served when such income is permitted to escape taxation. Indeed, as we noted above, there is evidence that taxation of

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<sup>22</sup>*Report of the [Nebraska] Financial Institutions Tax Task Force*, p. 17.

<sup>23</sup>See Table 15-3, above, and the accompanying text.

interest earnings on other-state debt provides an incentive to resident investors to invest more in their own state's municipal debt. The resulting increase in demand for the taxing state's debt may produce downward pressure on the interest rates paid by in-state municipal borrowers.



## CHAPTER 16

### WHO BENEFITS FROM PUBLIC SPENDING? OBSTACLES TO ACCURATE MEASUREMENT<sup>1</sup>

by Julie L. Eberhardy and Kerri L. Ratcliffe

#### Introduction

One question, in innumerable forms, is asked daily by government officials, academic researchers, and the public: What are the consequences and effects of taxation and expenditure? This question is at the root of fiscal policy analysis and is the subject of countless volumes of scholarly research. The study of this question, called fiscal incidence analysis, is a vast and complex undertaking. Ultimately, we seek to gain some clear understanding of who pays taxes and who benefits from public expenditures and how are the tax burdens and benefits distributed by income class.

The question of who pays taxes and how, in general, the burden of financial support for government and its services is spread among business firms and households is difficult enough. Yet, because taxes are levied in pecuniary terms upon specifically determined bases such as income, the inherent methodological problems are surmountable. Strong theoretical and empirical research has been accomplished in this field. Essentially, tax incidence theory rests upon the notion that burdens can be assessed in dollars and that all individuals will place the same value on a dollar paid in taxes. We are able to observe those individuals or entities which are legally bound to pay the taxes and make estimations of the degree to which these tax payments are shifted onto other entities in various ways (for example, when landlords shift property taxes onto tenants).

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<sup>1</sup>Based on Julie L. Eberhardy and Kerri L. Ratcliffe, "Who Benefits from Public Spending? Obstacles to Accurate Measurement," Nebraska Comprehensive Tax Study Staff Paper No. 11, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, March 1988).

To properly address the incidence of public expenditure, or who benefits, is a more demanding undertaking. The two primary concepts employed in tax incidence are in large part, not applicable to this work. For example, other than direct transfer payments, benefits usually are not received in the form of dollar payments, but rather in some form of service level, such as the provision of education, fire protection, or access to a public highway. Units of service are hard to quantify and service levels cannot simply be equated to the dollars expended. Localities face different costs in providing similar services and these differentials must be accounted for. Furthermore, every individual does not value services received in the same manner. Individual preferences, economic endowments, and personal characteristics affect how one values a given public service. Thus, there are two fundamental problems: how do we quantify and allocate public goods or services among households and how do we measure the valuation of the goods by these households.

The following framework for approaching benefits analysis reveals in greater detail the depth of the conceptual and methodological problems highlighted above. First, analysts must observe the actual spending on a particular public service. This spending is quantified in dollar terms and is often used as a proxy for the service level. Yet costs vary dramatically across localities. No two states and no two communities within a state face the same input or environmental cost factors in providing a given service. Most analysts grant that input costs differ among locations. Wages and capital prices are often higher in industrialized areas than they are in rural or slower growth areas. However, the variation in environmental costs are equally as important.

Environmental factors are the characteristics of the client population or geographic areas being served. To provide the same level of police protection in two different communities where one community is affluent and sparsely populated and the other disadvantaged and densely populated the expenditure levels must vary. The latter community would be expected to expend more dollars in order to provide any given level of protection from crime. This disadvantaged

community would have to spend more even if wages and capital costs were identical. Thus, to ensure that one is observing similar service outputs one must account for input prices as well as environmental costs. Further, environmental characteristics are not always readily identifiable or measurable and the relationships between these characteristics and related costs will vary for each type of public service.

After accounting for both the environmental and input costs and thereby quantifying the costs of providing say, an average service level, the next step is to try to allocate this service among the "benefiting" households. This step is where many analysts have stumbled and have been forced to rely upon assumptions that are far removed from reality. How does one allocate a general public service such as police protection to the households in a community? Do all households receive the same level of protection? Clearly not. Some homes are adjacent to the headquarters or far removed from any patrolman's beat, others are apartments in poorer housing projects while still others are apartments in privately secured buildings. These homes do not share equally in this public service yet it is impossible to analyze the exact level that each individual household receives. The alternative to identifying individual receipts, which is employed by most analysts, is to assume average identical allotments for all households.

Even if we succeed in measuring costs and allocations of services to households, we still face one more difficult step. We cannot assume that all households value the services received to the same degree. No matter how stated, neither a dollar's worth of police services nor a once-an-evening police patrol is of the same value to any two households. The homes which are privately secured may not place any value on a dollar's worth of public police services whereas other homes may value it at significantly more than a dollar. In essence, we must try to estimate the demand for the given service level, or how much the community is willing to pay for its provision, by aggregating individual valuations.

Conceptually, the notion of individual valuation is fairly straight forward. An individual's willingness-to-pay for a good is a reflection of the personal economic and

environmental setting in which he resides. Such things as income, family make-up, neighborhood, education level, are just a few of these components. In order to derive an individual's valuation we must be able to observe all the relevant environmental characteristics which affect his consumption decisions and understand the relationship between these characteristics and his valuation of a particular good or service.

In the private market individual willingness-to-pay is observed directly in how much households actually expend to obtain a good or service. Market mechanisms will "price" the good for us and consumers will purchase the desired amount; given the price the individual chooses the quantity. Hence, in the private market analysts can determine an individual's willingness-to-pay from observations about his choices. However, in the case of public services such direct observations are difficult if not impossible to make. In the case of most public services, consumers cannot directly choose their level of consumption. (Exceptions occasionally arise when the public sector is providing a good that is very similar to privately provided goods, such as sanitation services.)

Since analysts are unable to observe directly the relationship between a public good, its market "price," and individual consumption of the good, they must resort to a rough approximation of how the individual values the good provided. For example, analysts often assume that willingness-to-pay for a public service is proportional to income. That is, the value of a service to a household is equated to some proportion of income. Those with higher incomes are assumed to be willing to pay more in absolute dollars for the same service level than will poorer households. Yet, they would both be willing to pay the same proportion of their income for the same service level. Completion of this type of analysis will yield an estimate of the true value the community places on the benefits received but it remains an imperfect measure.

The remainder of this paper addresses in much greater detail the methodological and theoretical obstacles intrinsic to benefit incidence analysis. Although benefit analysis can be of some assistance within appropriate contexts, the nature of public provision tends to preclude the



possibility of generating a universally applicable and appealing measure. The simplifying procedures and methodologies in the literature, which are presented in the next section, highlight the inability of contemporary social science research techniques to adequately resolve questions of benefit incidence. Summaries and critiques of individual benefit incidence studies are presented in the final section.

## **Approaches to Measuring Benefit Incidence**

### **Allocation Assumptions**

Faced with the inability to directly and accurately measure the dispersion and valuation of public goods and services, analysts must adjust their theoretical premises to facilitate research. In this section we provide a general overview of common approaches to benefit incidence measurement and we describe the simplifying assumptions that are often employed. Beginning with assumptions as to the allocation of benefits and continuing with some general assumption on cost and earnings distribution, the following examples will reveal the deficiencies common to, but presently unavoidable in, benefit measurement.

Incidence studies have largely relied upon two methods of benefit allocation, which yield vastly different results: allocation per capita and allocation in proportion to income. As we will see, both of these methods fail to value public sector goods and services according to their appraisal by the beneficiary.

**Benefit Allocation Per Capita.** The following examples reveal the dubious nature of two assumptions which underlie any per capita benefit allocation.

Example 1: "People Benefit Equally". By assuming equal benefits, allocation per capita ignores the distributional implications of government spending policies. Yet, whenever government spends, even when that spending is void of any net benefit, someone wins and someone loses.

For instance, although all children are offered a free public education, the redistributive impact of school spending is limited because neither school expenditures nor their benefits are actually spread evenly over all school children. Because schools are mostly financed by local property taxes, for example, wealthy suburbs can afford better schools than impoverished central cities. To the extent that the level of education is lower for the poor than for the well-to-do, incidence studies which allocate per capita overstate the benefits for low-income households.

Because high-income people often receive higher-quality services than low-income people and because high-income people tend to be willing to pay more than low-income people for a given service quality, allocating benefits on a per capita basis greatly exaggerates the redistributive consequences of public spending. Indeed, most of the studies that claim to find that public spending is pro-poor use this inappropriate assumption.

Example 2: "Individuals Have Identical Preferences". The benefits from a public good or service will never be valued equally by all citizens. A lover of roses, birds, and trees will value a public park differently from a mother whose children play on the swings and slides, differently from a teenager who enjoys the basketball courts and baseball diamonds, differently from a vendor who sells hotdogs and peanuts to visitors, and differently from a citizen who never visits the park.

As to the benefits of highway expenditures, is it fair to assume that businesses relying upon highways for fast transport of their products benefit from highway construction in the same way that drivers of automobiles or mass transit commuters benefit? Is it logical to assert that urban dwellers and rural residents benefit equally from highway construction and repair? No, it is obvious that personal preferences and circumstances will vary and hence, so will individual valuations of public goods.

**Benefit Allocation by Income.** Many analysts, arguing that people will value their benefits from government expenditures in proportion to what they have to expend, allocate benefits according to income. First the recipients of a program are identified. Secondly, the

income of those recipients are determined. Finally, all recipients are assumed to receive benefits equal to the same percentage of their income.

This approach is designed to reflect the fact that the demand for any good or service, public or private, depends to some degree on income. In most cases, people with higher incomes place a higher dollar value (that is, they are willing to pay more) for a given level of public services than are people with lower incomes.

For two reasons, however, the link between income and benefits is rarely as exact as this approach implies. First, some services are heavily focused on either high- or low-income people. Low-income people suffer more than others from violent crime, for example, so they may gain more than others from police services that reduce violent crime. In contrast, one might argue that our legal system is best at defending business interests and protecting large holdings of private property. To the extent that this is true, high-income property owners may benefit from the legal system at a rate that is more than proportional to their income.

Second, willingness to pay for a public service may not be a simple proportion of income. Some evidence suggests, for example, that doubling a person's income leads to more than a doubling of that person's willingness to pay for education. For some other services, high-income people may be willing to pay less than low-income people for a given public service, private goods can be substituted for public goods when income rises.<sup>2</sup> For example, police protection might have less value to a person who has a private guard than to a person who does not, public transit may be of little value to a person who commutes by car, and a person with a swimming pool may be willing to pay less than a low-income person for the construction of a public pool.

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<sup>2</sup>T. Catsambas argues that marginal utility declines at a rate higher than the increase in income and therefore the imputed value of public goods is in fact higher for the rich than for the poor. See T. Catsambas, "Substitutability, Separability, and the Distributional Implications of Public Goods," *Public Finance Quarterly*, Vol. 10, No. 3 (July 1982): 333-353.

## General Assumptions

**Costs = Benefits.** The absence of a market system to price most of the goods and services supplied by government has compelled all researchers to measure benefits by the cost of providing the service. It is plausible to assume benefits equal to costs in certain circumstances, but it seems a rather tenuous generalization on the whole.

If it is assumed benefits equal costs, then when the government gives a citizen 100 apples, the benefit to that citizen is determined to be exactly 100 apples, regardless of whether that citizen may already own an apple orchard, is allergic to apples, or hates the flavor of apples. It is easy to see the distortions this simplifying assumption will cause.

Employing this assumption, when \$1 million is spent on Medicaid, exactly \$1 million worth of benefits is allocated. However, Medicaid benefits may not be worth as much to the poor as they cost to provide. For example, some of the money never gets to recipients at all but rather is lost to administrative overhead. The actual worth of these benefits to recipients is, according to one estimate, only about 68 cents to the dollar.<sup>3</sup>

One dollar of fire protection spent in a neighborhood where older houses are situated close together, plagued with outdated electrical wiring and flammable materials, will buy less fire protection than if that dollar was spent in a neighborhood sparsely populated with newer houses, which meet contemporary and strict building and fire codes. Similarly, one dollar spent on education in a community where the cost of utilities are high, and supplies are expensive to procure, will not educate as many children as will one dollar spent in a community where such expenses are lower.

In conclusion, the studies consider the building or salary *cost* which may be imputed to, for example, the students attending a particular school, without attempting to estimate the *benefit*

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<sup>3</sup>B. Page, *Who Gets What From Government* (Los Angeles: University of California, 1983), p. 76.

which the particular student derives from that spending. Returning to the example of highway construction and repair, researchers allocate the construction and maintenance cost incurred on behalf of the users of particular highways, without trying to estimate user appraisal of benefits.

**Public Goods Have No "Public" Aspects.** The identification of the "ripple" effects of public spending is fraught with measurement hardships. Researchers have tended to bypass this problem by erroneously assuming that public spending does not create externalities. Yet, expenditures on public health, education, transportation, etc., provides benefits beyond those benefits to identifiable groups.

The general population benefits from the hepatitis inoculation of food handlers. Education provides baby-sitting services and increases the security of our nation by producing an educated electorate. Furthermore, education results in increased earning capacity, consumption enjoyment, and other benefits unrelated to the educational process. The elimination of poverty promotes a stable social and economic climate, and compassionate people are pleased that hungry children share in a school lunch program.

#### **Distribution of Earnings Is Not Affected**

Incidence studies have largely relied upon the assumption that government spending will not alter the distribution of earnings. However, benefits usually are "snatched away." Part of the hospital bills and doctor's fees which are reimbursed by Medicaid represents redistribution to high-income rather than low-income persons. The studies fail to consider the repercussions on the distribution of income which result as wages are paid to government employees, or to construction workers employed by private firms building public highways. Moreover, the public provision of goods can be expected to alter the distribution of private income. For example, the provision of roads is a probable stimulus to the purchase of gas and automobiles.

**Future Benefits = Zero.** Most researchers do not acknowledge that some public expenditure is for current consumption, while some is for investment. Expenditure on consumption is correctly allocated during the time period in which it is made. However,

expenditure on investment requires a different approach since it generates benefits in future years.

### **Conclusions**

Clearly, research endeavors are rarely free from disquieting assumptions. The research of public goods incidence might be tenable if the study only needed to rely upon a few of the above assumptions. By far, the most troublesome aspect of these studies is their failure to value public sector goods according to recipient appraisal. Additionally, the studies lack any meaningful conclusions because of their implication that every public goods recipient would buy government goods at their production costs if given the money to so.

Tax incidence analyses are less vulnerable to attack because "tax burden" has a clear quantitative component in the dollar amount of tax payments.

Each person will value one dollar of tax savings the same as he/she values any other dollar. But how do policymakers measure the benefits from a pool or a highway or a classroom when each person will value those goods differently? One dollar spent on a highway will not be worth the same to him/her as will one dollar spent on a pool, or a park, or public health. Moreover, citizens will differ in their valuation of any given type of spending.

The assumptions in existing benefit incidence studies do not adequately address these issues. Allocating public spending by a constant amount per capita or a constant portion of income is at best a rough approximation and can be very misleading.

## Review of Individual Studies

This section provides a summary of the distribution assumptions and research results of six prominent public goods incidence studies. There is great danger in over-interpretation of results which are based upon extremely complex, unresolved issues and oversimplified assumptions. Unfortunately, however, most authors are not cautious enough and their claims, such as the claim that mostly the poor benefit from government spending, have very little scientific foundation.

A summary of the research results of six public goods incidence studies is presented in Table 16-1. Upon casual glance, it seems incontrovertible that government spending benefits the poor. Unfortunately, all studies suffer from the flaws presented earlier.

### Gillespie<sup>4</sup>

One of the first comprehensive efforts for determining benefits was carried out by W. Irwin Gillespie. Using 1960 data from the state of Louisiana, Gillespie concluded that both federal spending and state and local spending were strongly pro-poor.

#### Research Method

Gillespie delineates two beneficiary groups "on whose behalf" highway expenditures were incurred: highway users and highway nonusers. Among highway users two main classes are distinguished: passenger cars and trucks. Among passenger car users, Gillespie assumes little possibility of benefit shifting.

Costs incurred on behalf of nonusers consist essentially in the basic cost of providing access to the sites of property owners. This study estimates the nonuser share of highway

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<sup>4</sup>W. I. Gillespie, "Effect of Public Expenditures on the Distribution of Income" in *Essays in Fiscal Federalism*, edited by Richard Musgrave (Washington, DC: The Brookings Institution, 1965), pp. 122-186.

TABLE 16-1

## PUBLIC GOODS INCIDENCE STUDIES

	<u>Highways</u>	<u>Education</u>	<u>Public Health and Welfare</u>	<u>Agriculture</u>
Gillespie	users: pro-poor nonusers: pro-rich	pro-poor	pro-poor	pro-poor
Musgrave	pro-poor to proportional	pro-poor	pro-poor	pro-rich
Greene				
cost:	pro-poor to proportional	pro-poor	very pro-poor	N/A
welfare:	proportional	proportional to pro-rich	pro-poor to proportional	N/A
Reynolds and Smolensky	pro-poor	pro-poor	pro-poor	pro-poor
Sahota	pro-poor	pro-poor (urban biased)	pro-poor (urban biased)	favours low-income and big landlords
Ebel	pro-poor	pro-poor	N/A	N/A

SOURCE: As noted in text and compiled by authors.



improvement programs costs to be 25 percent. The nonuser share is then allocated by the distribution of real property value by income classes. The remaining highway user share is divided between cars and trucks. The incremental cost approach is utilized to determine highway cost responsibility; i.e., the additional costs entailed in providing and maintaining a surface adequate to withstand vehicular traffic.

Gillespie believes that the allocation of education expenditures to beneficiary groups is quite straightforward. According to him, the government incurs these costs on behalf of one beneficiary group--the students who receive the education.

Gillespie proposes that most public health services and all public health research can be conceived as "pure social goods," consumed in equal amounts by all. According to this argument, all people equally consume (or have the opportunity of consuming) the services of public health either through a general reduction in the probability of contracting certain diseases, or having contracted disease, through an increase in the probability of recovering. Gillespie therefore, allocates this expenditure by a family distribution series.

Gillespie considers government purchase of agriculture surpluses as a benefit to the nation's economy. However, the benefit is offset by any spoilage which occurs. Additionally, Gillespie considers agriculture price supports as a benefit to farmers, offset by the higher prices consumers must pay for farm products. The net benefit of agriculture spending he found to be pro-poor.

### **Critique**

Some of Gillespie's assumptions tend to make government activity look more pro-poor than it really is. Gillespie's handling of education expenditures assumes, contrary to fact, that low-income students attend schools that are just as good as those high-income students attend. And throughout he assumes that a dollar spent (say on hospitalization or housing for the poor) results in a dollar's worth of benefits and that government spending does not increase the pre-tax earnings of the middle- or high-income providers of the goods and services--doctors, highway

builders, public employees.

### Musgrave, Case and Leonard<sup>5</sup>

Musgrave and his associates updated Gillespie's analysis using 1968 data and tried out a variety of assumptions about the incidence of particular taxes and spending programs. Naturally, their results vary according to which assumptions are employed.

Musgrave and his associates calculate that "allocable" expenditure programs, including transfer payments and spending on education, highways, health, and agriculture are strongly pro-poor at both the federal and the state and local level.

#### Research Method

In the case of highways, Musgrave imputes the construction and maintenance cost incurred on behalf of the users of particular highways. Highway expenditures are split in line with the household and business share in highway use, with the latter assumed to be shifted forward to consumers in lower prices. Highway benefits are found to be proportional except for pro-poor incidence at the upper income levels.

Education expenditures are allocated entirely to the student while external benefits are disregarded. As in highways, the building or salary *cost* is imputed to the students attending a particular school. Education benefits were allocated by family income and the resulting benefit rate for elementary and secondary education is pro-poor.

Musgrave and his associates assumes that a dollar of public health transfer payments provides a dollar's worth of benefits to the recipient. Additionally, it is assumed that benefits do not shift, and therefore full benefits are imputed to the recipient. Public health expenditures are allocated equally among all families, while hospital expenditures are allocated to patients.

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<sup>5</sup>R. A. Musgrave, K. E. Case, and H. Leonard, "The Distribution of Fiscal Burdens and Benefits," *Public Finance Quarterly*, Vol. 2, No. 3 (July 1974): 259-311.

Agricultural expenditures (almost entirely for price support) were allocated by income of farm proprietors. Agricultural expenditures are distributed in a pro-rich pattern except for the high income group.

### Critique

It is likely that the Musgrave *et al.* calculations overstated government benefits to the poor. Education expenditures were treated as equally benefiting the family of each student even though the children of the wealthy tend to have access to better schools. The benefits of all programs are equated with their costs, thus overvaluing the benefits of medical care and probably a number of other programs. No account is taken of the increased private incomes which government spending brings to the owners of capital and to doctors, electronics engineers, highway contractors, bureaucrats, and other high-income people. Musgrave admits:

To the extent that the return on education is lower for the poor than for the well-to-do, our procedure tends to overstate the benefits for low-income households. To the extent that external benefits result, the pattern of these externalities would have to be determined. To the extent that education merely assigns positions in a queue, benefits to A are offset by losses to B and no net benefits to the group occur, but distribution is affected. All these difficulties are disregarded here by following the "costs incurred on behalf of" formula.<sup>6</sup>

### Greene *et al.*<sup>7</sup>

Kenneth Greene and associates estimate benefit incidence of state and local expenditures in the Washington Metropolitan area. The income distribution is obtained from the 1970 census. By far the most interesting study, this analysis attempts to address the concepts of benefit shifting and externality generation which characterize government expenditures. Greene and associates use two estimates of benefit incidence: cost-of-service and welfare basis.

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<sup>6</sup>Musgrave, Case, and Leonard, "The Distribution of Fiscal Burdens and Benefits."

<sup>7</sup>K. V. Greene, *et al.*, *Fiscal Interactions in a Metropolitan Area* (Massachusetts: Lexington Books, 1974).

The cost-of-service assigns benefits of welfare programs entirely to direct recipients, assumes no external benefits, and a constant marginal utility of income. In contrast, the welfare basis estimate acknowledges the generation of externalities and a declining marginal utility of income.

### **Research Method**

Benefits from expenditures for road maintenance, police traffic control, and other programs are assumed to be private and are allocated to commercial and noncommercial road users in proportion to vehicle miles traveled within the various jurisdictions. The cost-of-service estimate indicates a pro-poor distribution whereas the welfare estimate shows a proportional allocation.

Educational benefits are distributed by income class and jurisdiction. In an attempt to measure social returns to education, Greene et al. assume varying percentages of education expenditures as redistributive and nonredistributive. They acknowledge that:

The arbitrary nature of these assumptions must be emphasized. While numerous studies have attempted to quantify the private returns from education and it has generally been admitted that there are also social returns to education, attempts to measure them have not produced definitive results.<sup>8</sup>

Public health and welfare benefits estimated on a welfare basis in contrast with a cost basis drastically reduces total benefits as a percentage of money income allocated to the lower-income classes and increases this percentage for the higher-income classes. This shift results both from recognizing public nonredistributive and redistributive benefits and from adjusting the value of both private and public benefits by the declining marginal utility of income.

Benefits estimated on a cost-of-service basis results in a pro-poor distribution. This estimate assigns all benefits to direct program recipients. When measured by the welfare basis,

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<sup>8</sup>Ibid., p. 62.

instead of the preponderance of benefits being concentrated in the lowest income classes, as they are under the cost-of-service estimate, a significant amount of the benefits is attributed to the higher-income classes.

### **Critique**

Although this study has addressed some important concerns, the benefits of providing government services remain equated to their costs, resulting in highly untenable conclusions. However, the value of this study lies in its effort to highlight the vulnerability of research conclusions to changes in assumptions. The welfare approach uses more realistic assumptions and the resulting benefit estimates indicate a notably less pro-poor impact of state and local expenditures than do the cost-of-service estimates.

### **Reynolds and Smolensky<sup>9</sup>**

Still another effort to estimate government's impact upon the distribution of income was made by Reynolds and Smolensky, using data from 1950, 1961, and 1970.

### **Research Method**

Incidence of expenditures is assumed to fall entirely on recipients directly identified as beneficiaries--auto owners for highways, children under 18 for education.

### **Critique**

Their calculations very likely overstate benefits to the poor in the same ways and for the same reasons as the earlier studies did. Indeed, they probably overstate them even more by allocating half of general expenditures on a per capita basis.

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<sup>9</sup>M. Reynolds and E. Smolensky, "Post-Fisc Distribution of Income in 1950, 1961 and 1970," *Public Finance Quarterly*, Vol. 5, No. 4 (October 1977): 419-438.

**Sahota<sup>10</sup>**

Using data from the 1970 Census, Sahota analyzes the distribution of expenditure benefits in Panama.

**Research Method**

Expenditures on public works are available for a number of expenditure categories. The expenditure on highways was allocated by road mileage. Between the urban and rural sectors, it was allocated by income. Expenditure on streets was allocated on the basis of urban population. The entire expenditure on streets was assigned to the urban sector. Public works expenditure yields a distribution curve which is nearly proportional to income, but has a perceptible bulge upward in the middle.

Of all educational expenditure, 25 percent was treated as providing externalities of the social-good type and was allocated on the basis of population among income classes and across provinces. The remaining 75 percent was allocated among eight subcategories including:

1. Expenditure on primary education was allocated on the basis of population equally to all income brackets. An urban-rural division of the province totals was calculated on the urban-rural population basis.
2. Secondary education expenditure was allocated on a 50-50 basis to population and income. It was assumed that an average urban family gets twice as many benefits from the provision of secondary education (given higher quality and proximity of schools in urban areas and other similar factors) as an average rural family.
3. The expenditure by the University of Panama was allocated among provinces on the basis of the number of students from each province attending the university in 70-71 and among income classes on the basis of a broad association between income and education levels.

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<sup>10</sup>G. S. Sahota, "The Distribution of the Benefits of Public Expenditure in Panama," *Public Finance Quarterly*, Vol. 5, No. 2 (April 1977): 203-230.

The analysis indicates that education expenditures are discernibly pro-poor and are more pro-poor in rural areas than in urban areas. It appears to correct inequalities of income more effectively in more concentrated distributions than in less concentrated ones.

Public health and welfare expenditure categories were treated based on their social-good and locational characteristics. Sahota argues that certain components of health service, for example epidemic prevention, are of the nature of social goods. The acquisition of most health measures, however, may also have a cost and, in many cases, health expenditure can also be largely localized. Allocation was therefore done on a per capita and income mixture. Public health expenditure is pro-poor although urban-biased in comparison with public education.

Agricultural expenditures are allocated among provinces and according to income. Agricultural policy favors low-income farm families as well as big landlords, but discriminates against middle-income farmers.

### **Critique**

Although this study attempts to address some externalities of government spending such as the social-good characteristics of health and education, this treatment is inconsistent. The benefits equal to costs assumption also invalidates the pro-poor conclusions.

### **Ebel<sup>11</sup>**

This unpublished paper focuses on the benefits to New Jersey residents of state and local spending policies.

### **Research Method**

Ebel identifies three groups of highway beneficiaries: household drivers, vehicles transporting business products, and owners of property. In the case of household, he allocates

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<sup>11</sup>R. Ebel, "Who Benefits From State/Local Public Spending?". unpublished draft paper, May 7, 1987, The Urban Institute.

highway expenditures across income classes resulting in a pro-poor distribution. He assumes that transported business products are eventually consumed, therefore the benefit is realized by the final consumers. Ebel distributes these benefits in a manner similar to a sales or receipts tax: disproportionately weighted toward the lower end of the income scale. Benefits of this type are pro-poor. Finally, the distribution to property owners is found to be pro-rich resulting in a net result of highway expenditures as pro-poor.

Ebel assumes that government incurs elementary education costs on behalf of one beneficiary group--the students who receive the education. He allocates benefits using school enrollment data and distributing the benefits according to the income of the students' families. The result is pro-poor.

### **Critique**

Again, this study should be criticized for its assumption that marginal benefits from public services are equal to their costs. Additionally, spending benefits for public assistance is allocated to direct recipients of this aid and expenditures for education are distributed to students. This distribution ignores in both cases the impact government spending has upon earnings.

### **Conclusions**

Once it is realized how conceptually unsatisfactory all available incidence studies are, a question arises as to whether the results are worth the efforts required to obtain them.

Estimating the distributional impact of government is inherently an extremely complicated undertaking. The unknown and unobservable nature of many of the relevant variables and relationships present measurement difficulties that are not easily resolved. Any research effort which ignores or distorts these difficulties will result in conclusions of negligible worth.

Because the distributional impacts of all programs in any agency are not identical, meaningful decision-making must concern itself with particular programs, not agencies. Thus a



shift away from studies which purport to estimate the distributional impact of the budget as a whole, and a movement toward more disaggregated estimates thus appears to be both theoretically more defensible and politically more relevant. But disaggregation is costly and the accuracy with which one allocates benefits to household groups will depend heavily upon both the quality of data and the amount of resources devoted to the task.

Despite the imperfect state of the art, if any conclusion at all can be derived from these studies, it would seem to be that governments that can muster the political will to redistribute income through budget policy can probably do so most efficiently and effectively by judiciously strengthening progressive taxes, and by increasing expenditures that clearly benefit families at the lower end of the income scale.



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