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BUSINESS TAXES AND COSTS: A CROSS-STATE COMPARISON 2003 UPDATE

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Kansas, Inc.

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PREFACE

Since the early 1980s, responsibility for the provision of many goods and services has shifted from the federal government to state and local agencies. Accompanying this shift in responsibilities has been an increase in state and local taxes. These taxes grew much faster than personal income during the 1980s, and slightly faster during the 1990s. Since 2000, a recession and slow recovery has placed substantial stress on state and local fiscal structures.

State and local governments have had to perform a difficult balancing act in order to meet revenue needs, preserve tax systems that are considered "fair" by the citizens, and maintain a business climate that is attractive, or at least not discouraging, to businesses. In many states (though not in Kansas), the pressure was relieved temporarily by budget surpluses of the late 1990s. But the underlying challenge remains, and the current economic slowdown has put most states under pressure again. The means by which state and local governments are meeting these challenges are the topic of this report.

This report is based on an investigation of business taxes and costs in Kansas, the region, and the nation. This study updates similar work published in 1990, 1992, 1995, 1997, 1999, and 2001. The purpose of the study is to provide policy makers with background information on state and local tax structure, and to assess the relative cost-competitiveness of Kansas as a location for doing business.

The study focuses on business taxes and costs in six states: Kansas, and the nearby states of Colorado, Iowa, Missouri, Nebraska, and Oklahoma. We compare basic tax rates, tax incentives, and other business costs for these states in Chapters 1-7 of the report. In Chapter 8 we survey recent literature on the effect of taxes on business location, and in Chapter 9, we examine the results of a model that simulates the taxes and costs that would be faced by a representative firm in each of several industries.

ACKNOWLEDGMENTS

Dr. David Burress was principal investigator for the study and a co-author of this report. Pat Oslund, who originated the Kansas Tax Model in 1987-88 and has worked on all previous reports in this series, was a co-author. Luke Middleton assisted in all phases of the research and also authored several sections. All three authors are Research Economists at the Policy Research Institute, University of Kansas.

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EXECUTIVE SUMMARY

Purpose

This report focuses on the structure of state and local business taxes, tax incentives, and operational costs, generally from the point of view of the effects on economic development, and especially on the location of mobile or "footloose" corporations. The study compares Kansas with five nearby states, examining effects on ten types of firms (new versus mature firms in five industries). The report includes:

- Chapters giving overviews on business taxation and on locational decisions of businesses.
- Separate chapters analyzing each major tax (personal and corporate income tax, property tax, sales tax, unemployment and workers compensation taxes), analyzing tax rates and summarizing related tax incentives by state.
- A chapter on other business costs (land, construction, labor, energy).
- A chapter comparing total business cost for the ten types of business for the six states.

The most general purpose of the report is to diagnose whether Kansas is a good location for doing business, with respect to taxes, measurable costs, and tax incentives.[1]

Conceptual framework

The locational decision

It is important to understand the criteria firms use in making locational decisions. While several factors may influence those decisions, the factor common to nearly every business is the total cost of doing business. This report follows a widely accepted model in which total cost is the *only* significant factor. This model has very important implications:

- What really matters is total cost and not any one individual tax or cost item. Thus, high taxes can be offset by low labor costs, and vice versa.
- Many tax incentives depend on the particular industry. Also, different industries differ in the composition of inputs, and hence differ in the relative importance of different costs. Therefore the locational effects of each tax or cost item differ by industry, and consequently, the analysis should be disaggregated by industry, with costs appropriately weighted for each industry.
- The analysis should also be disaggregated by stage of development. Newly established firms have different input needs (most importantly, capital investment) and face different tax preferences than established firms.

[1] Two important economic development issues are not dealt with in full detail in this report. First, small business proprietors often make locational decisions that depend on the personal income tax rather than the corporation tax, and also on personal attachments to specific places. Second, the competition for location of retailing across the state border in the Kansas City area has some economic development implications.

The economic development perspective

Modern economic development strategies generally focus on expanding sales of goods and service outside the area being developed – referred to as an "export expansion" strategy. This means that the goal is to bring in new outside dollars. From the state-level point of view, export expansion has two important aspects:

- interstate competition for location of mobile firms, and
- encouraging home-gown startups and expansions that sell outside the state.

This report focuses on interstate competition for mobile firms.

Empirical methods

PRI gathered thousands of very detailed data items on tax laws and statutory and effective tax rates for the six states, covering every broad-based business tax and every broad-based tax incentive, plus costs of land, construction, labor, and energy. PRI also gathered data on the composition of inputs for each industry. Then PRI calculated total measured costs of business for five industries, both for a newly established firm and for a mature firm. The model was also used to isolate tax effects from effects of other costs.

The focus was on firms that sell goods out-of-state. The industries studied were: low-capital-intensity manufacturing; high-capital-intensity manufacturing[2]; computer services; administrative back offices; and research and development (R&D) firms.

The study compared Kansas with five nearby states (Colorado, Iowa, Missouri, Nebraska, and Oklahoma). As it has turned out, Colorado is an outlier, a state with especially high costs relatively to the region. (Despite those high costs, Colorado arguably has the most successful economy in the region.) Removing Colorado from the mix of states would lower regional average costs (making Kansas look comparatively worse), but it would not substantially change PRI's qualitative conclusions about Kansas's competitive position, either within the region or within the nation.

The report focuses on *measurable* costs. Costs are averaged across metropolitan areas, with rural areas omitted. The report leaves out cost factors that are extremely difficult to measure, such as labor skills, productivity and recruitment costs. No attempt was made to measure non-tax incentives. Important local factors such as entrepreneurship, risk capital, regulatory burdens, public services (especially highways and education), and quality of life were not measured. Nevertheless, this study and its predecessors are among the most comprehensive cost of business comparisons that have been performed.

[2] Previous reports used a much more detailed breakout of manufacturing industries; however analysis showed that, except in the case of highly specialized tax incentives, almost all significant variation between manufacturers was determined by the level of capital intensity.

Because capital investment costs are incurred prior to costs of production, costs vary substantially over time. In order to weight costs appropriately across time, all comparisons between firms and states are given in terms of the modeled present value of future profits at the time the investment is made.

Key findings and conclusions

Summary of findings

The present study, like the 2001 study, found that total measured costs in Kansas are average to below average for the region, for every industry examined, for mature firms as well as newly established firms. Tax costs taken alone are also are near the regional average. As a typical example, for new firms in high-capital-intensity manufacturing, modeled profits of a firm locating in Kansas would yield profits about five percent above the regional average of its surrounding states. Colorado is highest in cost (yielding profits 18 percent below the same regional average) and Oklahoma is lowest in cost (with profits 10 percent above the average). Given that this is a relatively low-cost region, Kansas is also cost-competitive in the US as a whole.

Two other finding are worthy of note. First, cost variations within states can equal or exceed variations between states. Therefore differences in state-wide averages do not tell the whole story. Second, labor costs are much more important than tax costs, with respect both to average levels and variations across states. Therefore low-cost strategies would need to focus more on labor costs than tax costs.

Strategic implications

The 1997 Kansas strategic economic development plan [Kansas Inc., 1997, p. 3-5] stated:

> The 1986 and 1993 economic development strategies explicitly rejected the goal of making Kansas a low tax state. Kansas business leaders and economic development advocates have recognized the vital importance of quality public services and the need for adequate funding for the public sector. Rather, the goal has been to achieve tax competitiveness within the region; in other words, a level of taxation that would neutralize this issue as a locational factor. The 1997 strategy re-affirms the goal of tax neutrality.

The 2001 strategy update [Kansas, Inc., 2001], however, called for "more competitive business taxes, and improved attraction and retention incentives, based on [PRI's 1999 business cost and tax study]." The 2001 strategy did not call for making Kansas a low tax state, but did express concern that mature firms and exporting service firms were suffering from a competitive disadvantage due to taxation. According to PRI's 2001 study (completed after the strategic plan was formulated) as well as the present study, this concern is misplaced. Kansas has fully achieved the goal of tax neutrality.

Implications for highly targeted industry preferences

This study focused on firms disaggregated into general categories such as capital intense manufacturing, or back office operations. It found that no good case can be made for across-the-board tax relief, or for other preferences intended to reduce business costs, either at that level or using even more general categories. That does not preclude the possibility that Kansas costs could be out of line for more narrowly defined industries. In such a case, highly targeted preferences could have positive economic development effects. At the same time, however, the authors believe that the burden of proof should rest on the industry seeking cost relief, and should be based on interstate comparisons of the total cost of business, rather than on isolated cost items. Also, it is important to tailor the preferences quite narrowly to the industry that seeks relief.

On the effectiveness of low-cost strategies

It is significant that low cost of production is not a good predictor of economic development success in this region. Colorado is a relatively high cost location, mainly because of relatively high land and labor costs, yet it is the fastest growing state in the region and has the highest average incomes. Oklahoma has the lowest measured taxes and costs in the region, yet is slowly growing and has lower than average incomes.

What seems important for economic development leadership in this region is non-cost factors. According to research in other scholarly literature, those factors might include good education, good transportation, skilled workforce, local availability of risk capital, and quality of life. All of these factors are responsive to well-crafted state and local government policy, but significant amounts of tax revenues are needed in order to implement effective policies.

Low-cost-of-business strategies were effective in the 1960's and 1970's, especially in attracting industry to low-wage states of the South (a practice often referred to as "smokestack chasing"). They continue to be effective internationally, generally in underdeveloped countries. However, a low-cost strategy in this region at this time would seem to be self-defeating. The stated goals of economic development in Kansas and elsewhere emphasize increasing income levels and tax revenues. A low cost strategy specifically means low wages and low tax rates.

CHAPTER 1: OVERVIEW OF STATE AND LOCAL TAXATION

Introduction

> As the state's financial picture continues to resemble a giant black hole, Bob Johnson's doing all he can to keep Douglas County's money from being sucked away. *Lawrence Journal World* [Fagan, 2004].

> The budget, however, would still leave hundreds of disabled children and adults in Sedgwick County alone with no help or less help than they need. *Wichita Eagle* [Painter, 2003].

> Legislative leaders told more than 200 local school officials Wednesday that prospects for additional state aid …were dim this session. *Wichita Eagle* [2003].

Government finance has moved to the forefront of political discussion—not just at the state level, but also within counties and municipalities—and not just in Kansas, but nationwide. The surpluses of the late 1990s have evaporated, leaving policy makers struggling to maintain adequate levels of government services on stripped-down budgets. An understanding of state and local finance is necessary to track the origins and potential consequences of the current budget crisis. Our study describes state and local financial structures, with an eye to long run stability and adequacy. The study identifies patterns and trends in state and local taxation. The study focuses on a region consisting of six states: Kansas and the nearby states of Colorado, Iowa, Missouri, Nebraska, and Oklahoma. Appendix 1 contains a discussion of data sources and methods.

Expenditures and revenues

State and local governments provide essential goods and services. The responsibilities of state and local governments have expanded dramatically in the last two decades. The Reagan federalism initiatives of the early 1980s marked a distinct shift in state and local government finance. Since that time, the federal government has transferred major responsibilities for programs such as health, welfare, housing, transportation, and education to the states. State and local governments also face federal performance mandates, especially in areas such as education and the environment [Quigley and Rubinfeld, 1996]. The expanded role of state and local governments is evidenced by substantial increases in expenditures as a share of personal income over the last two decades.

Table 1-1:
State and Local Expenditures as a Percent of Personal Income

	1981	1990	1995	2000
Kansas	16.6%	17.2%	18.3%	17.9%
US	16.6%	17.6%	19.0%	18.6%

SOURCE: US Census Bureau, *State and Local Government Finances*, various years.

State and local governments derive the revenues to support these expenditures from three major sources: taxes, charges and fees, and intergovernmental transfers. State level governments receive transfer payments from the federal government for welfare, health, education, highways, and other programs. Local governments receive grants from state governments and from the federal government directly. Federal transfers have failed to fund fully the increases in state and local responsibilities.

This pattern clearly is evident during the 1980s: federal transfer payments fell as a percentage of personal income and as a share of state revenues during the decade. States were given block grants to fund many of their new responsibilities, but the block grants often failed to keep pace with demands for state and local government services. As a result, taxes and charges and fees rose, as measured as a share of personal income (Table 1-2).

The pattern reversed itself somewhat during the 1990s. The overall level of federal aid returned to a level approximating that of the early 1980s. However, a much greater share of this federal aid was dedicated to Medicaid than in earlier periods. Medicaid expenditures rose dramatically during the 1990s, especially during the first half of the decade (Centers for Medicaid & Medicare Services, 2004). Federal transfers for Medicaid, which are not block grants but which are tied to expenditures, rose in step. Between 1990 and 2000, Medicaid transfers to states increased by about 115 percent after adjustment for inflation (120 percent in Kansas). Nevertheless, state and local taxes remained higher throughout the decade of the 1990s than they were during the early 1980s, indicating that not all of the structural increase in state and local expenditures had been federally financed.

The enhanced role of state and local governments presents some future challenges to state and local revenue systems. Medicaid now comprises close to 20 percent of state-level expenditures and about 14 percent of combined state and local expenditures. These expenditures are financed jointly by the states and the federal government. Clearly, changes in federal Medicaid reimbursement systems would have serious impacts on state fiscal systems. Kansas was able to take advantage of special Medicaid funding "loopholes" that brought in over $200 million for long-term care in the past few years. But now changes in federal regulations have eliminated this source. More generally, states rely on the federal government to supply close to 20 percent of their overall revenues, and cuts in federal aid would leave states with even more serious financial problems.

Table 1-2:
Revenue Sources as Percent of Personal Income

Kansas		**1981**	**1990**	**1995**	**2000**
	Taxes	9.4%	10.6%	11.0%	10.7%
	Charges and Misc.	3.9%	4.8%	4.9%	4.6%
	Federal Transfers	3.1%	2.4%	3.0%	3.5%
US					
	Taxes	10.0%	10.6%	10.9%	10.8%
	Charges and Misc.	3.6%	4.5%	4.6%	4.7%
	Federal Transfers	3.7%	2.9%	3.8%	3.6%

SOURCES: US Census Bureau, *State and Local Government Finances;* calculations by PRI.

Revenues and personal income

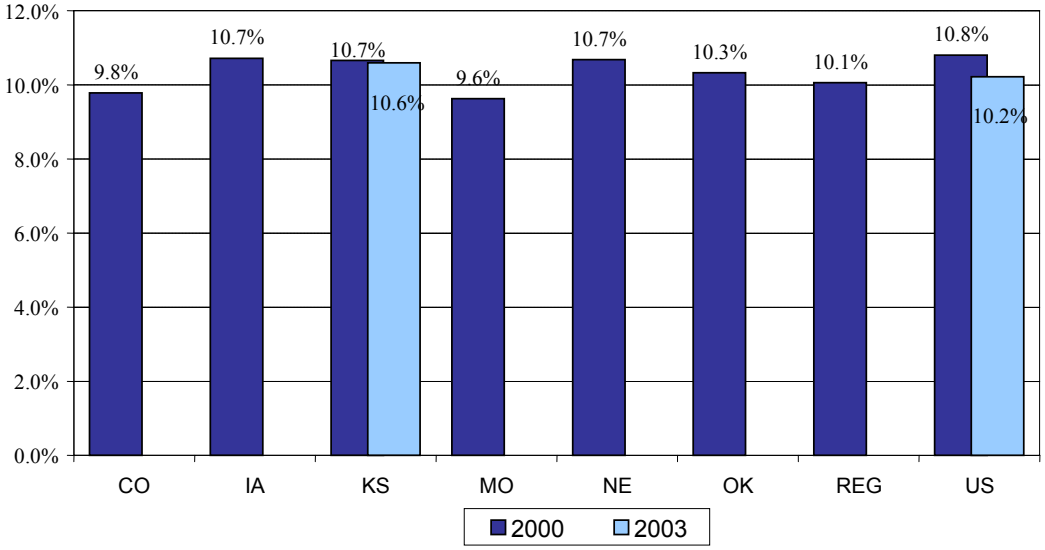
Taxes comprise well over 50 percent of state and local revenues, both nationwide and in Kansas. Unlike federal transfers, tax structures are under the direct control of state and local policy makers. State legislatures, city councils, county commissions, and local school boards devote considerable effort setting and negotiating tax levels.

One indicator of the general level of taxation in a state is the ratio of state and local taxes to personal income (Figure 1-1). In most states, state and local taxes claim between nine and eleven percent of income. In 2003, Kansas (10.6 percent) was somewhat higher than the U.S. average (10.2 percent). In 2000, the last year for which data on all states in the region are available, Kansas collected 10.7 percent of personal income in taxes, compared with 10.1 percent for the region and 10.8 percent for the nation.[3] Within the region, Iowa and Nebraska collected about the same percentage as Kansas, while Colorado, Missouri, and Oklahoma collected 9.6 to 10.1 percent of income in taxes.

Per capita tax collections are another indicator of the level of taxation. These figures also provide some information about the availability of the funding for state and local services, since taxes are the largest source of state and local government revenue. Figure 1-2 shows that (as of 2000) the states in this region fell into two groups with respect to tax collections. The higher taxed states (Colorado, Iowa, Kansas, and Nebraska) collected revenues ranging from about $2,970 to $3,300 per capita, or a little less than the U.S. average of $3,325. The lower taxed states in the region, Missouri and Oklahoma, both collected less than $2,750 per capita. Note that Colorado is relatively high for the region with respect to tax dollars per capita, but relatively low with respect to tax share of personal income. This reflects the fact that Colorado has a higher level of average income than other states in the region.

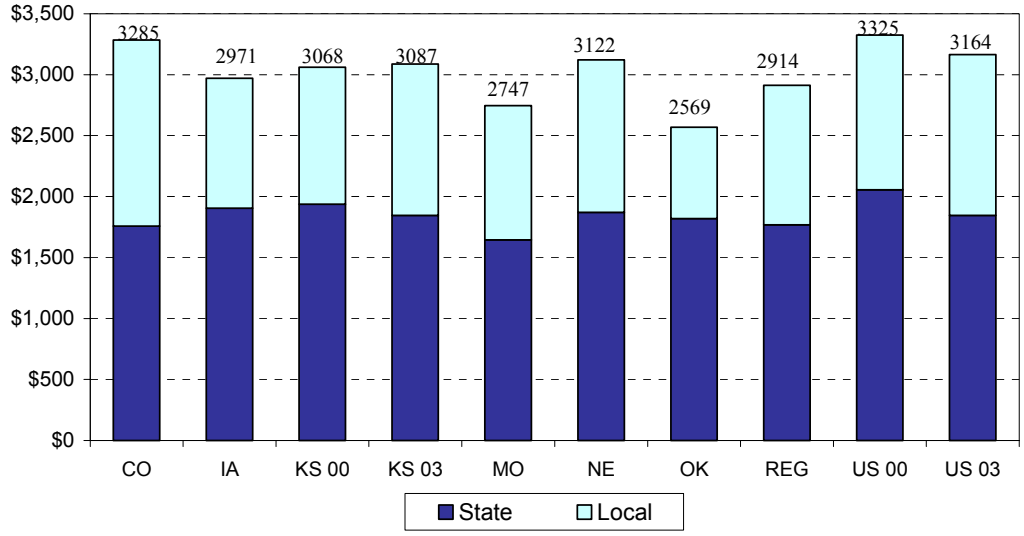
[3] Unfortunately, because of Census Bureau budget reductions much of the data used in this chapter are not available at the state level for years after 2000. However, more recent nation-wide data are often available (the data are based on sampling), while recent specific Kansas data are available from Kansas sources. See Appendix 1.

Figure 1-1:
State and Local Tax Revenue as a Share of Personal Income, 2000 (and 2003)



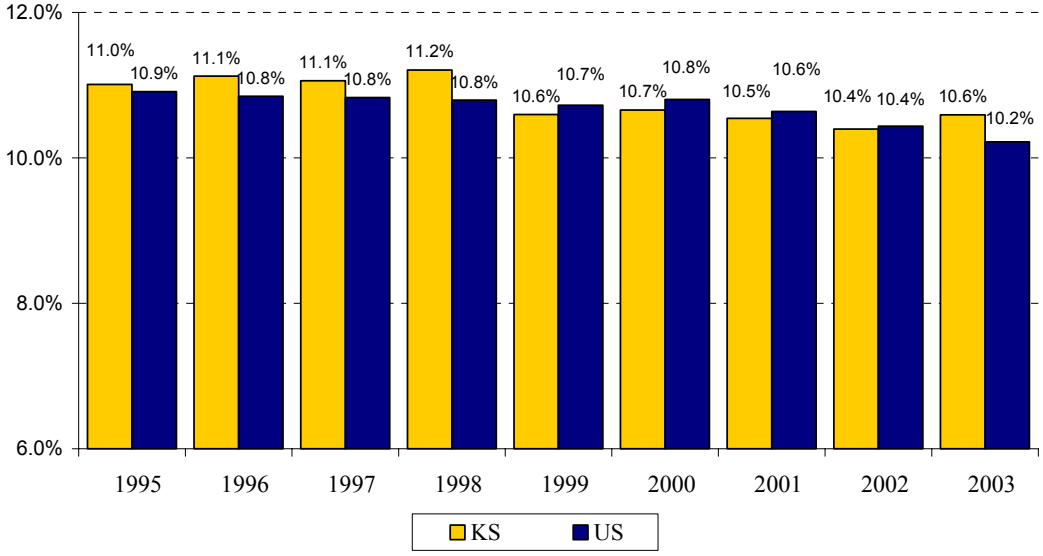
Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates (see Appendix 1).

Figure 1-2:
Per Capita State Plus Local Tax Revenues 2000 (and 2003) (in real 2003 dollars)



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates.

Figure 1-3:
State and Local Tax Revenue as Percent of Personal Income, FY 1995-2003



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates.

Ratios of gross taxes to personal income and to population provide a very rough guide to tax levels, but they are not especially accurate measures of the tax burden actually experienced by taxpayers. For example, they ignore the fact that some taxes are shifted or "exported" to persons, firms, and other institutions outside the state. They also ignore the distribution of taxes across households and firms in different situations. Also, personal income is an incomplete measure of true ability to pay because it leaves out wealth, cost of living, number of dependents, non-monetary resources, and many other factors.

Some researchers use the ratio of taxes to personal income ratios to rank states as high-tax versus low tax [Hodge, Moody, and Warcholik, 2003]. While this approach might help identify states at the extremes, the approach fails to consider that there is substantial year-to-year variation in this ratio, as demonstrated in Figure 1-3. As we will discuss later in this chapter, there are many causes for the variation in this ratio other than tax policy changes.

State versus local taxes

In addition to the state government, many different local governments are empowered to collect taxes. Counties, cities, school districts, and other special districts impose their own sets of taxes and tax rates. A very large number of local governments (3,950) operate in Kansas:[4] Kansas has the highest total number of local governments in the region, the fifth-highest number

[4] Data are provided in U.S. Census Bureau, *1997 Census of Governments, Volume 1, Government Organization*. Counts of local governments in surrounding states are: Colorado-1,869; Iowa-1,876; Missouri-3,416; Nebraska-2,894; Oklahoma-1,799.

in the nation. Not all of these units can collect taxes; data on the number of taxing local governments are not available.

Over the last few years, Kansas has collected between 36 and 40 percent of its taxes at the local level. Kansas is in line with regional and U.S. averages in this regard. Of other states in the region, Oklahoma at one extreme collected only 29 percent of total taxes locally in 2000, while Colorado at the other extreme collected 46.5 percent.

Historically in Kansas, responsibility for educational finance shifted substantially from local governments to the state during the mid 1980s and early 1990s. The local property tax plays a smaller role in K-12 education finance than it did in the early 1980s. As a result, the share of revenues collected by Kansas local governments has fallen.

However, there is no simple relationship between the amount of funds collected at the local level and the degree of support for locally provided services. Most states redistribute a substantial amount of funds from state to local jurisdictions, primarily to support education, and secondarily to support public welfare programs. Kansas illustrates the point: the Governor's FY2004 budget allocated about 53 percent of the state general fund – $2.4 billion – in aid to K-12 education [Governor's Budget Report, 2003, p. 82].

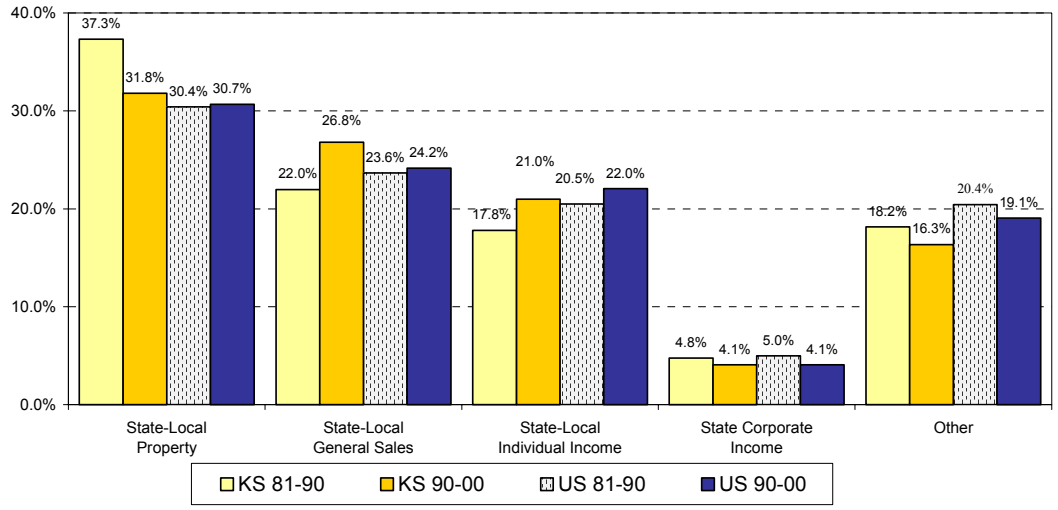
Composition of combined state and local taxes

The states share the common problem of financing government services, but differ significantly in the ways they raise revenue. In other words, both individual states and localities employ a variety of tax structures. In gross outline, the Kansas tax structure has been rather typical of states within the US – and indeed, more typical than any state in the region – with between 30 to 35 percent of combined state and local tax revenues coming from property taxes; 25 to 30 percent of revenues from sales taxes, 20 to 25 percent from individual income taxes, around 4 percent from corporation income taxes, and the remainder from other sources (see Figure 1-4) [5]

Compared with the 1980s, Kansas has implemented policy changes that have changed tax composition, reducing reliance on the property taxes while increasing reliance on sales taxes and individual income taxes. This change resulted partly from replacing much of the school district property tax with state-wide income taxes, and partly from increases in local sales tax rates. National trends show slight increases in reliance on individual income taxes and sales taxes, while property tax shares have remained unchanged. Kansas and the US as a whole have seen a decreased reliance on corporation income taxes.

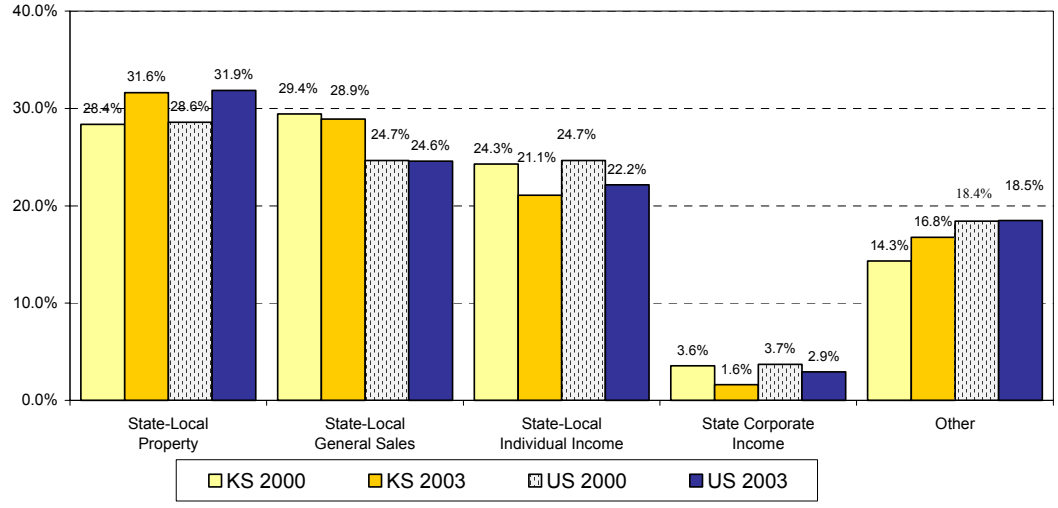
[5] The remaining tax revenues come from the motor fuel tax and other miscellaneous sources. We have compared multi-year averages because the data fluctuate from year to year. We have chosen time periods that correspond, roughly, to time periods between business cycle peaks. The National Bureau of Economic Research dates business cycle peaks to 1981, 1990, and 2001. However, much of our data extends only through 2000.

Figure 1-4
Composition of State and Local Tax Revenues
FY 1981-1990 Compared with FY 1990-2000



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates.

Figure 1-5:
Composition of State and Local Tax Revenues
FY 2000 Compared with FY 2003



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates.

But the composition of taxes varies from year to year even in the absence of policy changes, because different tax types have different responses to the business cycle. In particular, individual and corporation income taxes fall steeply in recessionary periods. This is shown clearly in Figure 1-5. Kansas has followed national trends, but the decline in the individual and corporation income tax share has been more dramatic in our state than for the nation as a whole.

State and local tax sources

For the most part, corporation and individual income taxes are in the sole purview of state government, providing about 44 percent of state level tax revenue in Kansas (2000), 46 percent of state level tax revenue in our region, and 42 percent nationwide. Of the states in our region, only Iowa and Missouri make use of local income taxes.

Both state and local governments employ sales taxes, with local sales taxes increasing in importance as a local revenue source in recent years. In Kansas, the share of sales taxes in local revenue has trended upward steadily, from 4 percent in 1981 to 18 percent in 2000. Our region has shown a similar pattern, trending upward from 16 to 24 percent over the same time period.

Although state and local governments both collect property taxes, the lion's share of property taxes are collected locally. In fact, property taxes are the single largest local tax source, raising about 76 percent of local tax revenue in Kansas in 2000, 65 percent in the region, and 72 percent nationwide.

Criteria for evaluating tax structures

The composition of state and local taxes has important consequences for the stability and long-run growth of tax revenues, the distribution of the tax burden among income groups, the overall efficiency of the economy, and for specific economic outcomes such as the location of industry. We will sketch some of the issues here.

Revenue stability and growth potential

A particular tax is stable if it exhibits only small fluctuations in its revenue-generating ability between periods of recession and expansion. A tax system as a whole is stable if fluctuations in total revenue between periods of recession and expansion are small. Many studies find property taxes to be the most stable taxes, income taxes to be the least stable, with sales taxes somewhere in-between.

The income tax is the least stable element of the tax system during short run business cycle fluctuations. As Figure 1-5 demonstrates, income tax collections have dropped off substantially (as a share of tax revenue) during the recent recession –even more so in Kansas than in the nation as a whole. However, the income tax also offers the best potential for long-term revenue growth -- i.e. it is stable in the long run [White, 1983]. That is, the income tax automatically generates new revenues as real income expands over long periods of time. A balanced tax system will

make use of a variety of taxes to combine elements of short-run stability and long-run growth-potential.

Equity

Equity (or fairness) is a second standard by which to judge tax systems. The states have a difficult balancing act to perform in providing stable revenue sources while maintaining a tax system that is perceived as fair. The public finance literature defines two types of equity, vertical and horizontal. Some authors also address equity in terms of benefit taxation – do people get what they pay for?

Vertical equity refers to relative incidence of the tax system on families at different levels of income or ability to pay. Under a progressive tax, lower income families pay a smaller percentage of their total income in taxes than do higher income families. Under a proportional tax, lower income families pay out the same percentage of their incomes as do higher income families. Under a regressive tax, they pay out a greater percentage.

Many authors have examined the progressivity of individual taxes and of state and local tax structures [Pechman and Okner, 1974; Pechman, 1985; Phares, 1980]. In general, the studies have concluded that:

- State and local tax systems as a whole are probably regressive on net, but in any case are much less progressive than the federal tax system.
- Particular state and local taxes fall in the range of regressive to mildly progressive.
- Income taxes are progressive in states such as Kansas, where tax brackets depend on income. However, in some states with flat income tax rates, they are proportional to mildly regressive.
- Sales taxes are generally regressive, placing a higher burden on low income families than on higher income families. However, many states attempt to ameliorate the regressive aspects of the sales tax. For example, almost all states exempt prescription medicines. Within the region, Colorado, Iowa, and Nebraska also exempt food, and Missouri taxes it at a reduced rate. Many states, including Kansas, offer income tax credits to offset some of the sales tax paid by the most disadvantaged households.
- Whether property taxes are progressive or regressive is complicated [Aaron, 1975; Mieszkowski and Zodrow, 1989]. In general, the portion of the tax that falls on either owned or rented residential property is regressive. The portion that falls on non-residential urban property is progressive. Programs that grant limited homestead exemptions or property tax credits make the tax more progressive.

Horizontal equity refers to equality of the tax burden between households that are similarly situated, especially with respect to ability to pay. However governments usually do not make much effort to equalize taxes with respect to ability to pay; instead they attempt to equalize tax rates applied to specific tax bases.[6]

[6] An exception is that some states have household property tax credits that are linked to income in ways that increase horizontal as well as vertical equity.

Benefit taxation refers to the idea that taxes should be akin to private market prices, in which you pay for what you get. In other words, it is argued that taxes should be paid in rough proportion to the value of government services received. As a direct application of this principle, governments use fixed and direct fees rather than taxes to pay for services such as license registration and building inspection. An intermediate case is the gasoline tax, insofar as gasoline use depends roughly on the number of miles driven on public roads, and also on the weight of the vehicle (which affects wear and tear on highways). The benefit approach is an alternative which directly conflicts with the equity approach. It is not widely used as an analytic tool because the benefits of government service tend to be hard to measure. It is not widely used as a basis for tax design because benefit taxes would distort the consumption of government services.[7]

Efficiency

In general, taxes distort the price of goods and services and hence change economic incentives. For example, a tax on labor income (such as the personal income tax) decreases the returns that a person realizes for working, which reduces work incentives.[8] As a goal, tax systems should try to keep incentive distortions to a minimum. Generally, this means keeping tax rates both low and equalized across different portions of the tax base. This leads to two independent reasons for keeping the tax base as broad as possible:

- Given that we will raise a fixed amount of revenue needed for government services, then the broader the tax base, the lower the tax rate.
- If some portions of the tax base are exempted from taxation, then there is a distortion of choice between taxed and untaxed items.[9]

Another distorting effect of taxes occurs when taxes pose difficult or costly collection issues. For example, Kansas passed legislation in 2003 requiring that sales tax rates be applied based on where goods are delivered rather than where they are sold. Businesses argue that this will impose high administrative costs, to ascertain and document the exact delivery location of every sale. The implementation of this legislation has been delayed due to these concerns.

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[7] In particular, many government services have marginal costs of delivering services to an additional taxpayer that are far below average costs. (For example, it may cost almost nothing to let an additional person use an existing park.) In fact, that can be an important reason for providing them as government services. Charging average costs, as in a private market, would cause a marked underconsumption of these goods.

[8] The size of the labor supply response to this lost incentive is controversial, but the reduction in incentive is not.

[9] A third argument in favor of having a broad tax base is political: if everyone is helping to pay to government services, then there are no "free riders" voting for excessively high services because they do not have to help pay for them. An opposing political viewpoint supported by some economists is that the level of government taxes and services is always too high, so the best thing to do is to riddle the tax base with loopholes, so as to limit government's ability to raise revenues.

Locational incentives and tax competition

Taxes are often specifically designed to influence economic behavior. Perhaps most importantly in recent years, state and local taxes on business are increasingly viewed as a significant factor in the locational decisions of firms. Therefore, there have been recurring efforts to lower taxes on firms, especially firms that are mobile across state lines. Because of continuing interstate competition in tax incentives, the average levels of state and local tax rates on "footloose" firms in the U.S. have declined rather steadily over the last two decades. Consequently, these tax revenues have constituted a decreasing share of the state and local tax base.

Locational tax incentives are generally in conflict with revenue stability, horizontal and vertical equity, and the benefit principle, and often conflict with principles of efficient taxation– in other words, they conflict with almost every other major goal of taxation. For that reason tax incentives are controversial. It has often been pointed out that all states could make themselves better off by joining together and agreeing not to provide locational incentives, but no policy initiative along these lines has yet succeeded. It continues to be the case that well designed incentives can potentially serve to the advantage of a particular state (when it acts separately) to bring in new jobs and increase the tax base. Because no state believes it can afford to "unilaterally disarm," incentives continue to be granted.

At the same time, designing effective and efficient locational incentives is not a simple task. There is evidence that some states go too far–they disadvantage themselves and others by giving up too much.[10] Chapter 8 of this report reviews research on taxes and the locational decisions of firms. Chapter 9 then examines the question of whether Kansas taxes could be a factor driving away business, or whether they could lean too far the other way.

Tax structures and current state budget crises

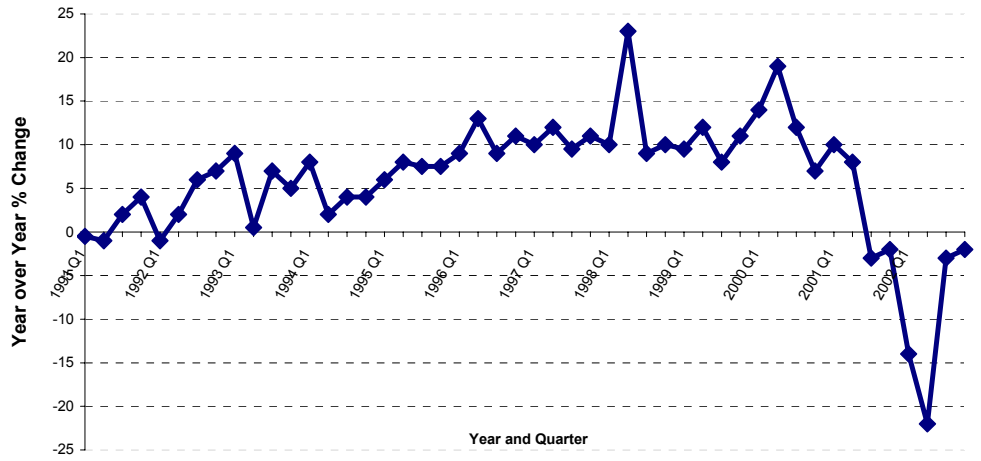
Kansas is not alone in facing serious budget challenges. According to the National Governors Association [2003, p. ix], declining revenues forced 37 states to make substantial cuts in their FY 2003 budgets, after the budgets had already been passed. After adjustment for inflation, state expenditures were, on average, expected to fall by about 0.1 percent during FY 2003, breaking a 20-year pattern of expansion. This section examines some of the sources of the current budget crisis. In particular, we look at the effect of the recession, declines in capital gains, erosion of tax bases, and legislation tax cuts.

Individual income tax response to recession

As pointed out above, taxes vary in their responsiveness to the business cycle. Of the taxes used by state and local governments, individual income taxes are the most responsive. This has an upside, in that income taxes expand, often more rapidly than income, during strong growth periods. The downside is that income taxes contract during recessions. Around 20 to 25 percent

[10] See, e.g., Burress and Oslund [1998], Chapter 8.

Figure 1-6:
Percentage Change in State Personal Income Tax, Adjusted for Legislation
1991-2002



SOURCE: Nicholas W. Jenny, The Rockefeller Institute of Government. State Fiscal News, April 2003.

of combined state and local tax revenues depend on this source, so the tax system suffers severely when this tax falls off.

There is evidence that the decline in state individual income taxes has been more severe during the current recession than in previous business cycle downturns. The Rockefeller Institute compiles a tax data series that is ideal to explore just this issue. The series adjusts tax collections for changes in legislated tax policy, so that it is possible to distinguish tax revenue changes due to a recession or expansion from changes due to raising or lowering rates. This series shows that during the 1991 recession, state individual income taxes actually rose slightly after adjusting for policy changes. During the 2001-2002 downturn, on the other hand, individual income taxes after adjustments fell by over 20 percent (Figure 1-6).

Part of the explanation for the difference in response during the two recessions is the role of capital gains. Capital gains comprised an increasing share of adjusted gross income during the 1990s, rising in Kansas from 5.8 percent of AGI in 1997 to a peak of 6.8 percent in 1999 ($3.4 billion). For 2001, the last year that data are available, reported capital gains in Kansas fell by to a level of $1.7 billion, or 3.3 percent of AGI (Internal Revenue Service, undated).

Erosion of sales tax base

Tax base erosion is a serious concern in state and local taxation. The sales tax is a staple of state and local finance, yet as consumers have shifted their purchases to untaxed services and away from taxed physical goods, the sales tax has failed to keep up. In addition, sales tax bases are "riddled with exemptions" [Brunori, 2001, p. 73]. Some of these exemptions make sales tax systems less regressive, others are intended to stimulate economic development, while yet others are political legacies of past efforts by special interests.

An even more important development is the loss of sales tax revenues to remote sales, both mail order and Internet. Businesses that do not have a physical presence in a state currently are not obligated to collect sales taxes on behalf of the state. Bruce and Fox [2001] project that by 2006, states will lose as much as 45 billion in potential sales tax revenues. In response, the National Governors Association and other organizations have developed proposals for a streamlined sales tax [Streamlined Sales Tax Project, 2004] to simplify and coordinate collection of taxes on remote sales. Effective implementation of these proposals, however, may depend on action by the U.S. Congress.

Erosion of corporation tax base

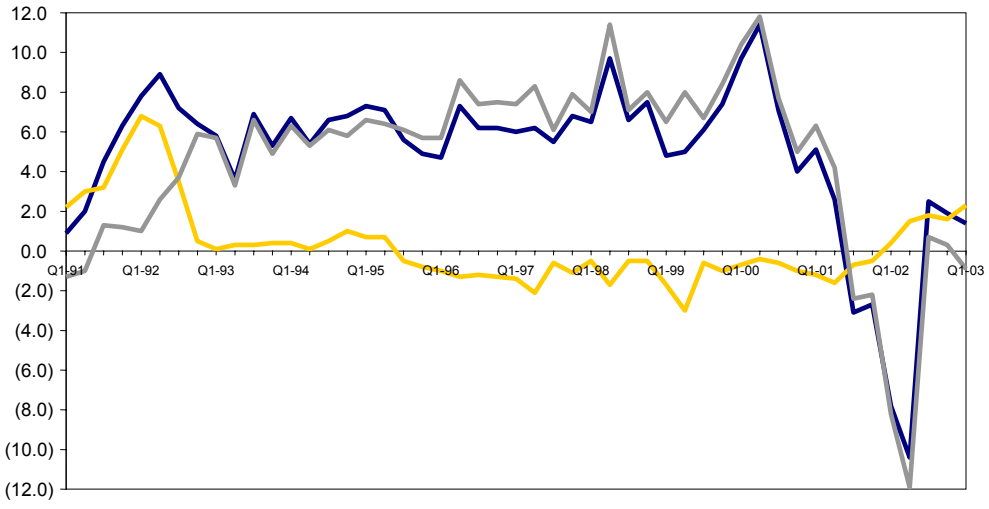
Fox [2003] describes three sources of erosion of the corporation income tax base. The first source is legislated tax concessions, in particular the expansion of economic development tax incentives throughout the 1980s and 1990s. The second is the redefinition of the federal tax base. Fox and Luna [2002] conclude that this has resulted in substantial declines in taxable income. A good example of tax base redefinition is federal "bonus depreciation," discussed in Chapter 3 of this report. A third source of tax base erosion is income sheltering. The Multistate Tax Commission [2003] recently published an extensive study on this topic. The study looks at expansion since 1989 in tax sheltering due factors such as the virtual "relocating" of income (through accounting devices) to other countries outside US tax jurisdiction, or to states with low or no corporation income tax. According to this study, states as a whole lost about $10 billion, or about 1/3 of actual corporate income tax revenues, due to tax sheltering in 2001. In Kansas, the estimated loss amounted to $74 million.

Legislative tax cuts

A final factor contributing to the current budget crisis is legislated tax reductions during the 1990s. As income expanded after the recession of 1991, states experienced strong revenue growth. At the same time, political pressure to cut taxes mounted. States responded by implementing a variety of tax rate and tax base reductions during the mid to late 1990s. For example, Kansas reduced the mandatory school mill levy from 35 to 20 mills, exempted the first $20,000 of residential properties from the school levy, reduced motor vehicle taxes, reduced income tax rates for single filers, reduced the severance tax, and repealed the inheritance tax.

The impact of legislated tax cuts is seen clearly in data from the Rockefeller Institute, again using their data that has been adjusted for policy changes. The Institute calculates actual state tax growth each quarter, and compares the growth with what it would have been collected in the absence of legislated tax changes. The residual is the impact of tax reductions on revenue growth.

Figure 1-7
Percentage Change in Quarterly State Tax Revenues Adjusted and Unadjusted for Tax Policy Changes, 1991-2003



Source: Rockefeller Institute of Government, *Growth in Quarterly Tax Revenue (1991–2003), Adjusted for Legislated Tax Changes and Inflation.*

Figure 1-7 shows the historical trends in state tax policy changes for the country as a whole. First consider the time period of the early1990s. As a result of the recession of 1991, many states increased taxes to try to restore or maintain state services. Hence revenue changes due to tax policy adjustments are positive. During the mid 1990s, the tax policy adjustment line hovers near the horizontal axis. In other words, tax cuts about cancel out tax increases. Then the picture changes. From late 1995 through the start of 2001, states implement policy changes that reduce their tax revenues. At the same time, overall revenue growth remains strong. But tax collections plunge in 2001, with revenues falling through mid-2002. Tax revenues start to rise slightly in late 2002, but the revenue increase is entirely due tax rate increases. Also note that, at least as of the beginning of 2003, states have been much less willing to increase taxes than they were during the earlier 1991 recession.

Summary

The tax structure of Kansas is typical of tax structures in the US. And as a typical state, it shares in the budget difficulties that have affected other states nationwide. Kansas, along with most other states, cut taxes during the mid 1990s. Now, with falling incomes, it finds that revenue sources are inadequate. Many states have increased taxes in response to the current recession: so far, Kansas has held fast on tax increases, with the exception of a small (and possibly temporary) sales tax increase.

More generally, states face difficult challenges in designing tax systems that meet four criteria: that they reliably produce sufficient revenue for the finance of state and local

government services; that they are perceived to be “fair” in their treatment of taxpayers at different income levels; that they do not seriously burden or distort economic transactions; and that they do not negatively affect the interstate locational decisions of firms. Nationwide, efforts to broaden the sales tax base, to evaluate the effectiveness of business incentives, and to design more effective state “savings” mechanisms such as rainy day funds may help states meet these challenges.

CHAPTER 2: INDIVIDUAL INCOME TAX

Introduction

Forty-one states and the District of Columbia impose a broad-based tax on the income received by households. Two additional states tax interest and dividends. In some states, local governments are also authorized to impose income taxes or earnings taxes. All six states in the study region levy a state-level income tax; in addition local individual income or earnings taxes are found in Iowa and Missouri. But only in Missouri do local income taxes contribute a modestly significant amount of revenue (recently around two percent of state plus local tax revenue, in the form of an earnings tax).

State and local individual income taxes affect businesses in two ways. First, many businesses are organized as partnerships or sole proprietorships, and hence pay taxes at individual rather than corporate rates. Second, income taxes affect the business location decisions of corporate planners who are considering expansions or relocations, as those taxes affect the cost of living for employees and managers. Individuals with high incomes may be reluctant to relocate to a high tax area unless their compensation increases. Because of these links between economic development and individual taxes, we discuss them in this chapter. However, these taxes are not part of the cost of business as usually defined and are not included in cost of business estimates in Chapter 9.

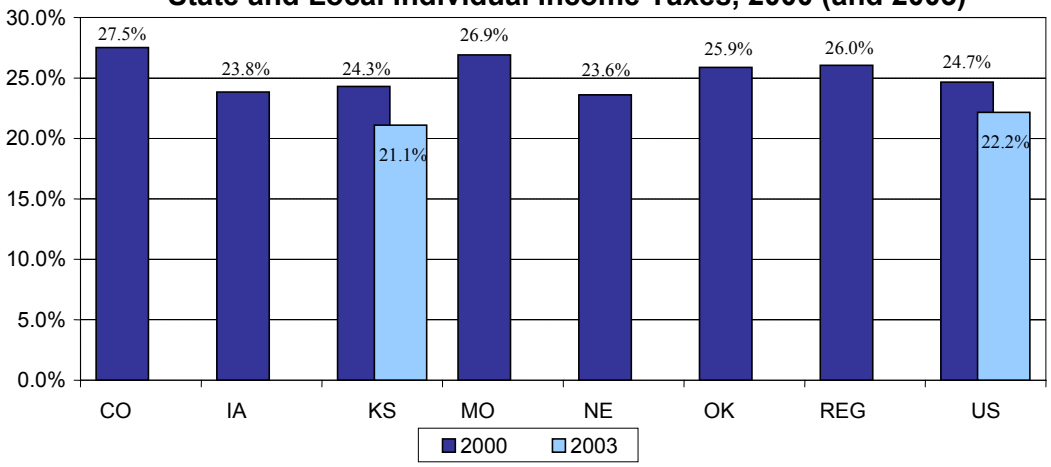
In recent years, individual income taxes have provided around a quarter of state plus local tax revenue in Kansas. The same is true in all five nearby states and in all states of the U.S. as a whole (Figure 2-1). However, the share in both Kansas and the US dropped abruptly by around 3 percentage points between 2000 and 2003. As discussed in Boyd [2000] and Sjoquist and Wallace [2003], a major cause for this drop was the drastic decline in capital gains income that occurred after the stock market crash.

Previously these shares had increased slowly but fairly steadily over time, up from around 18 percent two decades ago (Figure 2-2). Income taxes also increased as a share of personal income, rising in Kansas over the last two decades from 1.7 percent to a high of 2.7 percent by 2000 (Figure 2-3). Kansas, regional and U.S. averages followed roughly the same path. Because the income tax is more progressive than other taxes, these trends tended to make the net burden of state and local taxes less regressive.

For all states in this region, the individual income tax is the largest single source of revenue at the state level. In Colorado over the last four years it has provided around 51 percent of state-level revenue. In Kansas and other regional states, as well as in the US as a whole, it has usually provided between 35 percent and 41 percent of state-level revenue.[11]

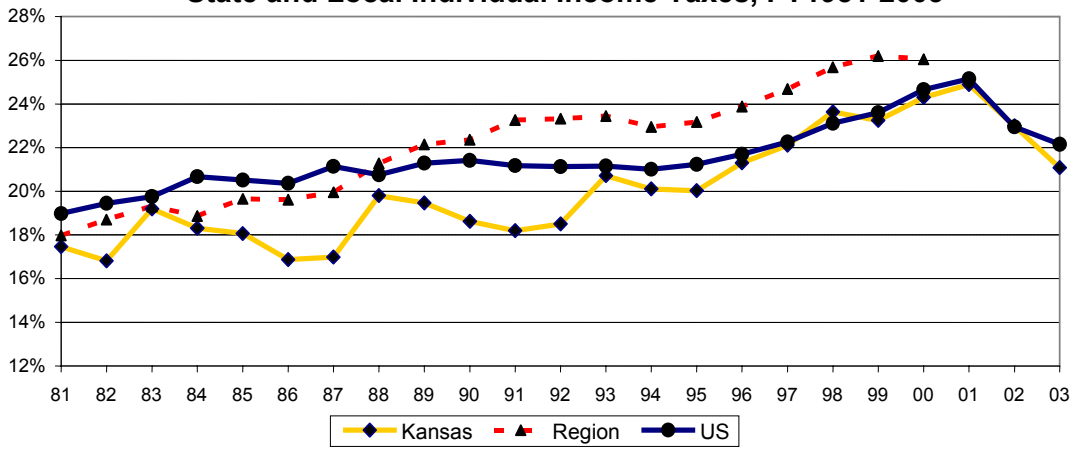
[11] Here and throughout, tax revenue data are available through fiscal year 2002 or 2003 for Kansas and the U.S., but only through 2000 for the remainder of the region. See Appendix 1.

Figure 2-1:
Share of State and Local Tax Revenue Provided by State and Local Individual Income Taxes, 2000 (and 2003)



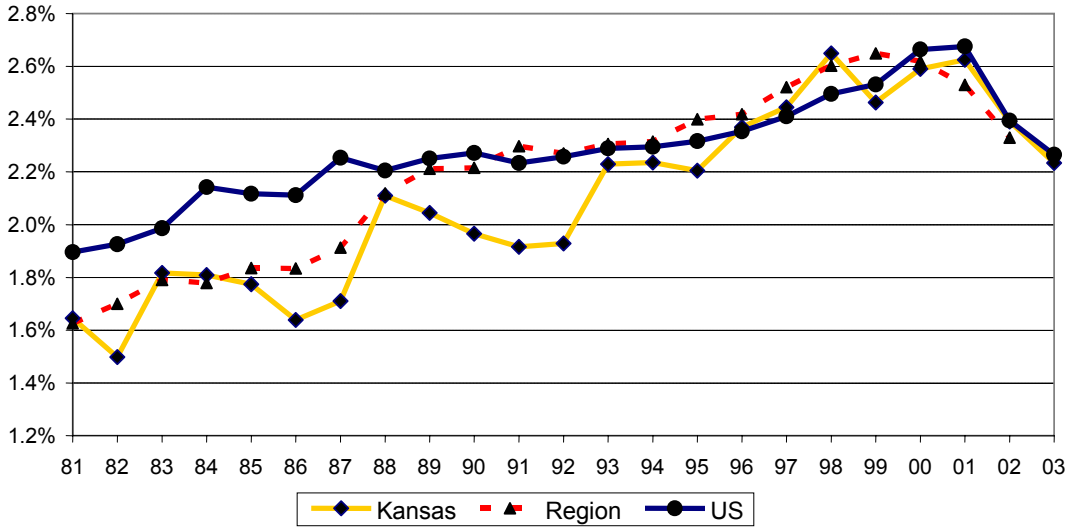
Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances*; and PRI estimates (see Appendix 1).

Figure 2-2:
Share of State and Local Tax Revenue Provided by State and Local Individual Income Taxes, FY1981-2003



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates.

Figure 2-3:
State and Local Individual Income Taxes as Percent of Personal Income, FY1981-2003



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates (see Appendix 1).

Description of Income Taxes

States differ widely in their income tax rate structures. These differences affect the degree of progressivity of the tax system—that is, the extent to which tax rates increase as income increases. All states in the region except Colorado implement progressive rate structures. In some states, the highest rate bracket starts at such a low level of income that most working families are subject to it. For example, the highest bracket for a married couple applies for incomes over $18,000 in Missouri and for incomes over $24,000 in Oklahoma (See Table 2-1). As a consequence, the tax is not very progressive in these states.

In other states, the highest bracket becomes effective only at higher income levels. Kansas rates reach the highest bracket for married taxpayers with incomes over $60,000 and single taxpayers with incomes over $30,000, the highest thresholds in the region. Consequently, the Kansas tax is fairly progressive.

In addition to the rate schedules, it is important to consider the various deductions, exemptions, and credits that each state allows. Where allowed, deductions for federal income taxes paid provide a substantial reduction in state taxable income. Nationally, nine states allow some form of federal tax deduction. Among the states covered by this study, Iowa allows a full deduction, and Missouri allows a full deduction up to a maximum of $10,000 for married

Table 2-1:
State Individual Income Tax Rates, Tax Year 2003

State	Marginal tax rates: Lowest Tax Rate	Marginal tax rates: Highest Tax Rate	Number of Brackets	Highest marginal tax rate begins at: Single Bracket	Married Joint Bracket	Married Separate Bracket	Head of HH Bracket
Colorado	4.63%	4.63%	Flat Rate	-0-	-0-	-0-	-0-
Iowa *	0.36%	8.98%	9	$55,080	$55,080	$55,080	$55,080
Kansas	3.50%	6.45%	3	$30,000	$60,000	$30,000	$30,000
Missouri [1]	1.50%	6.00%	10	$9,000	$18,000	$9,000	$9,000
Nebraska **	2.56%	6.84%	4	$26,500	$46,750	$23,375	$35,000
Oklahoma (with or without the optional deduction for federal tax)**:**							
with	0.50%	10.00%	11	$16,000	$24,000	$16,000	$24,000
without ***	0.50%	7.00%	8	$10,000	$21,000	$10,000	$21,000
compare:							
federal ****	10.0%	35.0%	6	$311,950	$311,950	$155,975	$311,950

[1] The cities of Kansas City and St. Louis, Missouri impose an additional tax of 1% of earnings.
* Iowa brackets have moved upwards since 2001 as a result of indexation.
** Nebraska rates have increased somewhat since 2001.
*** Oklahoma tax rates have increased slightly since 2001, but only when not claiming the federal tax deduction.
**** Federal brackets have moved upward since 2001 and marginal rates have been reduced.

SOURCES: Information provided by state departments of revenue and finance (2002 personal income tax forms, instructions, and tax tables, 2003 estimated tax forms), state statutes, Russell [2001].

taxpayers filing a joint return. Oklahoma allows a deduction as an option. Kansas does not allow a deduction for federal taxes paid.

Most states allow standard or itemized deductions of various expenses and allow exemptions for taxpayers and their dependents. However, deductions and exemption amounts generally are not the same as under federal law. Deductions and exemptions can make a critical difference in the taxes that a typical family pays. For example, Kansas allows a married couple a standard deduction of $6,000 and a personal exemption of $2,250 per person ($9,000 for a family of four). In contrast, Oklahoma allows a standard deduction of only $2,000, plus a personal exemption of $1,000 per person. (Table 2-2 summarizes some of these deductions and exemptions.)

Like the federal government, some states have an alternative minimum tax to recapture tax preference items that are considered excessive. Within the six state region, Colorado, Iowa, and Nebraska have minimum taxes. Kansas does not.

Table 2-2:
State Standard and Itemized Deductions, Tax Year 2003

State	Itemized deductions: State Income Taxes	Federal Income Taxes	Charitable Contri-butions	Misc. Deductions	Standard Deductions: Single	Married-Joint	Married-Single	Head of Household
Colorado *	None	None	Federal	Federal	Federal	Federal	Federal	Federal
Iowa *	None	100%	State	State	$1540	$3780	$1540	$3780
Kansas	None	None	Federal	Federal	$3000	$6000	$3000	$4500
Missouri *	None	≤$5000 Single ≤$10000 Joint	State	Federal	$4750	$7950	$3975	$7000
Nebraska*	None	None	Federal	Federal	$4750	$7950	$3975	$7000
Oklahoma (with or without the optional deduction for federal income tax):								
with	100%	100%	Federal	Federal	15%xAGI, min $1000, max $2000	15%xAGI, min $1000, max $2000	15%xAGI, min $500, max $1000	15%xAGI, min $1000, max $2000
without	100%	None	Federal	Federal	same	same	same	same
compare: **Federal ***	100%	None	Federal	Federal	$4750	$9500	$4750	$7000

In addition, all listed states use federal definitions for interest expense and medical deductions, and all states have various other deductions and subtractions not available at the federal level.
* Federal standard deductions (affecting Colorado) and Iowa, Missouri, and Nebraska standard deductions have increased somewhat since the 2001 tax year.
SOURCES: Information provided by state departments of revenue and finance (2002 personal income tax forms, instructions, and tax tables, 2003 estimated tax forms), state statutes, Russell [2001].

Recent Developments

Several states in the region have changed their personal income tax rates somewhat since 2001. (Selected changes in tax law since our 2001 report are flagged in the tables.) Many of the changes were adjustments to remove some of the effects of inflation (indexation), or had approximately the same effect, leading to nominally lower taxes.

Other changes followed tax-reducing changes at the federal level. Yet other changes were intended to increase revenues. Colorado eliminated its credit for sales taxes (increasing taxes) but followed the federal increases in exemptions and standard deductions (which reduced taxes). Iowa moved its brackets and standard deductions upward in response to inflation (reducing taxes). Missouri defederalized its standard deductions but still increased them (reducing taxes). Nebraska defederalized its standard deductions but still increased them, and also increased its

Table 2-3:
State Personal Exemptions and Credits, Tax Year 2003

State	Exemption or Credit?	Single	Married-Joint	Married-Single	Head of Household	Elderly	Dependent	Blind
Colorado*	Exemption	Federal	Federal	Federal	Federal	Federal	Federal	Federal
Iowa	Credit	$40	$80	$40	$80	$20	$40	$20
Kansas	Exemption	$2,250	$4,500	$2,250	$4,500	$850	$2,250	$850
Missouri	Exemption	$2,100	$4,200	$2,100	$3,500	$1,000 [1]	$1,200	-0-
Nebraska*	Credit [2]	$99	$198	$99	$99	-0-	$99	-0-
Oklahoma	Exemption	$1,000	$2,000	$1,000	$1,000	$1,000 [3]	$1,000	$1,000
compare:								
Federal*	Exemption	$3,000	$6,000	$3,000	$3,000	S $1,150 M $950	$3,000	S $1,150 M $950
S=single, M=married								

[1] Applies only to dependents.
[2] Credit phases out for AGI above a threshold of $57,000 or higher, depending on filing status.
[3] Applies to low income households only.
* Nebraska and federal exemptions and credits have increased somewhat since 2001. Colorado follows the federal rules.
SOURCES: Information provided by state departments of revenue and finance (2002 personal income tax forms, instructions, and tax tables, 2003 estimated tax forms), state statutes, Russell [2001].

personal exemption credit (reducing taxes), but raised its tax rates somewhat (increasing taxes). Oklahoma increased its tax rates slightly, but only for taxpayers who do not claim a deduction for federal income taxes.

Comparison of Income Taxes across States

The differences in state taxable income definitions, deductions, and credits present challenges for comparing state income tax systems. One possibility is to look at the tax situation faced by a representative family. To construct comparison measures, we focused on a family of four, consisting of a married couple with two dependent children, with federal adjusted gross income of $60,000, all from wages and salaries.[12] We filled out federal and state tax forms for the families, adjusting for recent changes in the income tax code in each state. The family was assumed to take the standard deductions to which it was entitled, including the deduction for federal taxes paid where applicable. However, our assumption was that the family did not claim any specially targeted deductions or credits (such as child care). Our hypothetical family had too much income to qualify for the general low-income credits offered in some states.

[12] Kansas figures for 2001 from the U.S. Census Bureau [2003] estimate median income for a family of four at $61,686.

Table 2-4:
Effective Individual Income Tax Rates, Tax Year 2003
Hypothetical Household Earning $60,000

State	State tax: before federal offset [1]	State tax: after federal offset [2] *	State plus federal tax
Colorado	2.97%	2.53%	10.98%
Iowa	4.78%	4.06%	12.52%
Kansas	3.31%	2.82%	11.27%
Missouri	3.43%	2.92%	11.38%
Missouri plus local [3]	4.43%	3.77%	12.23%
Nebraska	3.09%	2.63%	11.09%
Oklahoma [4]	5.11%	4.34%	12.80%

[1] Comparison rate is for a married couple with two dependent children, filing jointly, standard deduction, with federal adjusted gross income of $60,000. Comparison rate = (state tax/federal adjusted gross income).
[2] See text for a definition of federal offset.
[3] The cities of Kansas City and St. Louis impose an additional tax of 1% of earnings.
[4] For the given hypothetical household, the lowest tax is achieved without using the deduction for federal tax.
* Effect of federal offset has decreased since 2001, due to reduction in federal marginal tax rate for this tax bracket from 28% to 25%.
Note: These rates do not include effects of social security or payroll taxes.
SOURCES: Information provided by state departments of revenue and finance (2002 personal income tax forms, instructions, and tax tables, 2003 estimated tax forms), state statutes, Russell [2001]. Calculations by PRI.

We used our tax calculations to estimate effective average state tax rates for each state. We defined the effective average state tax rate as the state income tax liability divided by federal adjusted gross income. We found that the effective tax rates range from a low of 2.97 percent of adjusted gross income in Colorado to a high of 5.11 percent in Oklahoma. The Kansas effective rate, 3.31 percent, falls within the middle group of states. Kansas effective rates for the representative family are significantly lower than rates in Missouri, Oklahoma and Iowa, but significantly higher than in Colorado and Nebraska (Table 2-4).

It should be noted that because of federal income tax effects, these tax rates overstate the true economic effect of state taxes on these representative households. If the family itemizes its deductions on the federal income tax return, then it can deduct its state and local income taxes. This leads to a reduction in federal taxes which is referred to as a "federal offset." Table 2-4 shows that the federal offset reduces the effective tax rates on the representative households in the region to between 2.53 percent and 4.34 percent. The total of state and federal taxes spans a relatively narrow range between 11 percent and 13 percent. These differences by themselves do not suggest very strong incentives for household relocation within the region, because they are relatively small in comparison, for example, to differences in wage offers a job seeker might receive from different firms.

The representative family approach provides a broad indicator of whether a state provides a high or low-taxed income tax environment for individuals. However, some individual families in each state face very different tax environments. For example, families with child care expenses will be advantaged in states where these expenses trigger a tax credit. Families with an income much higher than the median income will be disadvantaged in states like Iowa, which levies relatively high marginal tax rates for taxpayers in the upper tax brackets.

Another qualification of our results is that the level of income chosen for comparison, $60,000, has not been adjusted for the differences in the cost of living across locations. A family receiving $60,000 in Kansas may be considerably better off than a family receiving $60,000 in Colorado, where average housing costs are much higher.[13] Cost of living differences within the states can be even more extreme.

Summary

Individual income taxes are a cornerstone of state finance. Nationwide, individual income taxes provide a fifth to a quarter of total state and local tax revenue. Individual income taxes can affect business location through their effect on corporate managers and key employees, and through their effect on non-corporate business owners.

In order to make valid comparisons of tax levels across states, it is important to design a measure that takes rates and brackets, exemptions, and deductions into account. One such measure is the effective tax rate paid by a representative household. The representative household used for this study consists of a married couple with two dependents and annual adjusted gross income of $60,000. After accounting for the effects of the federal income tax, the effective rate at this income level in the six state region ranges from a low of 2.5 percent in Colorado to a high of 4.3 percent in Oklahoma. Kansas falls below the middle at about 2.8 percent. Total state plus federal taxes range from 11 percent to 12.8 percent of income. This relatively small variation is unlikely to have much effect on business location within the region.

[13] In first quarter 2003, the median prices of homes sold in selected MSAs in Kansas were: Kansas City-$138,400; Wichita-$98,500; and Topeka-$90,500. In contrast, the median prices of homes sold in Colorado MSAs were: Denver-$229,300; and Colorado Springs-$177,700. National Association of Realtors [2003].

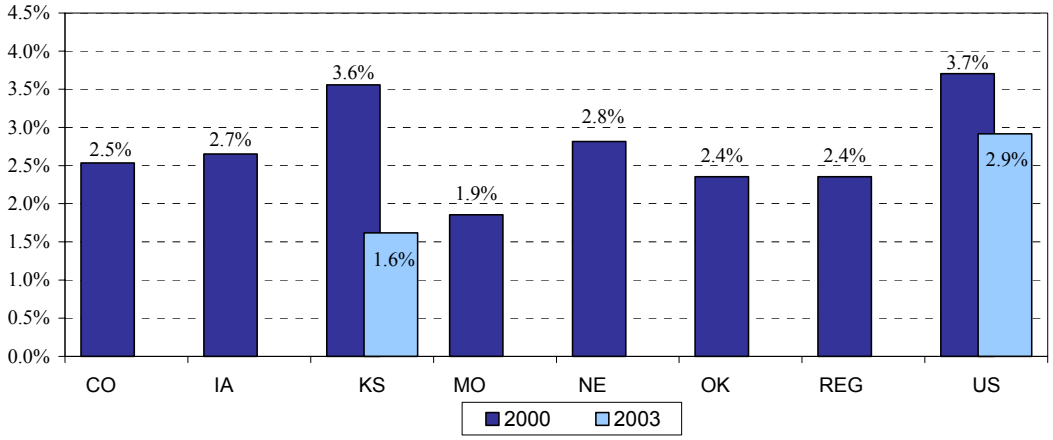
CHAPTER 3: CORPORATE INCOME TAX

Introduction

Corporate income taxes are imposed in forty-four states plus the District of Columbia. (In addition, the Texas earned surplus tax is functionally equivalent to a corporate income tax, while the Michigan Single Business Tax does tax business income). In recent years, the tax has contributed between 3.5 and 4 percent of state plus local tax revenues, both in Kansas and for the U.S. as a whole (Figure 3-1). In contrast, other states in the six state region have collected only 2 to 3 percent of tax revenues from corporate taxes. However, during 2000-2003 revenues dropped by one fourth across the US, partly due to reduced corporate profits, and by more than half in Kansas. (Regional data were not available after 2000.)

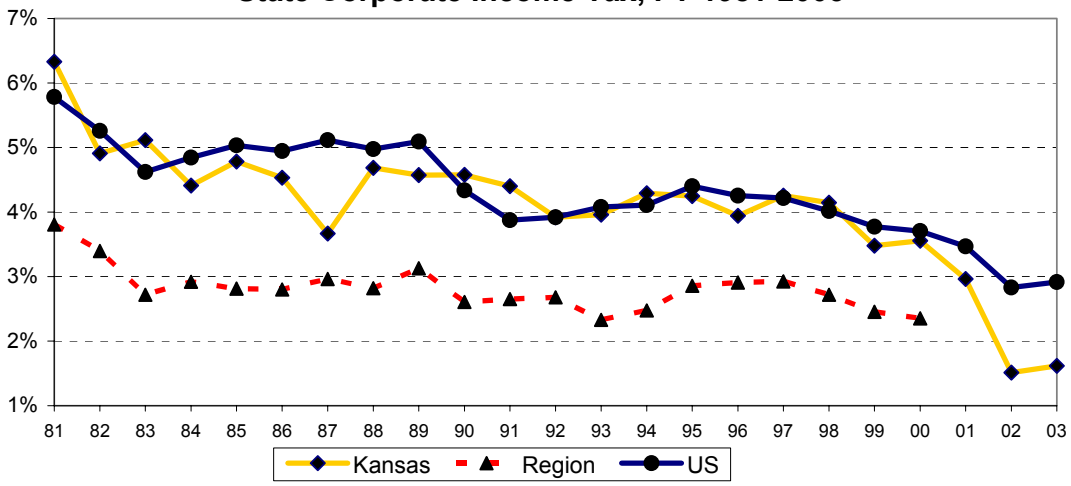
Differences in the importance of the corporate income tax across states reflect many factors. The first factor is state tax rates. The second factor is the definition of the corporate tax base. Tax exemptions shrink the tax base and tend to lower tax collections. In addition, laws pertaining to the apportionment of income of multi-state firms affect the amount of taxable corporate income in a state. Third is the importance of the corporate sector in a state--that is, how important are corporations in contrast with other kinds of business organizations. Fourth is the profitability of

Figure 3-1:
Share of State and Local Tax Revenue Provided by State Corporate Income Tax, 2000 (and 2003)



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates (see Appendix 1).

Figure 3-2:
Share of State and Local Tax Revenue Provided by State Corporate Income Tax, FY 1981-2003



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates.

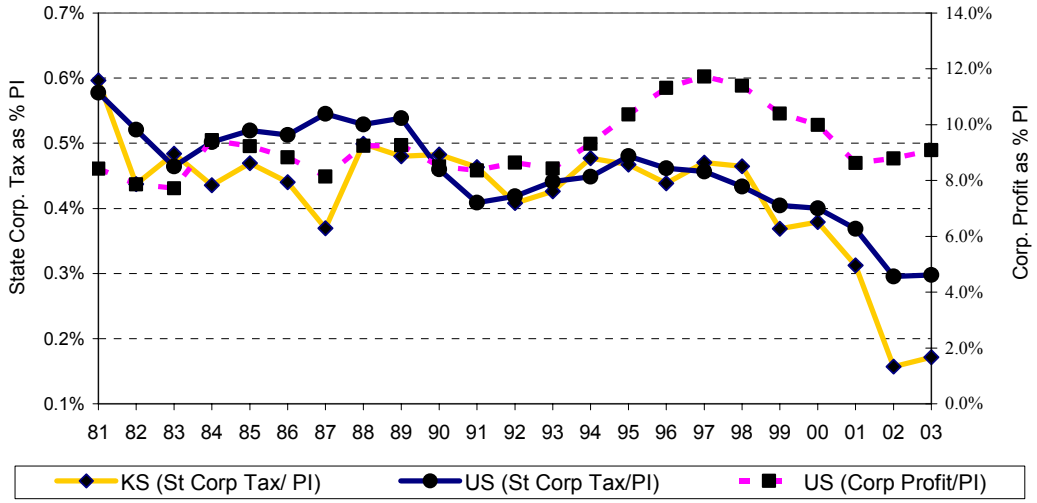
the corporate sector. This depends on, among other things, how the industries most concentrated in a given state fare during national upturns and downturns.

Over the last two decades in the nation as a whole the corporation tax share of state and local revenue fell slowly from around six percent to around three percent (Figure 3-2). There were several causes: growth of economic development incentives reduced effective corporate tax rates; growth of other types of taxes, especially sales and individual income, expanded total state and local collections; and an increasing sophistication of corporate tax avoidance [Mazerov, 2003a]. An offsetting factor until 1997 was an ongoing increase in corporate income as a share of gross product (Figure 3-3). During that period effective tax rates were falling even faster than tax revenue shares. After 1997 corporate income fell as well.

The revenue share in Kansas generally followed the national trend until 2002, when Kansas revenue shares dropped drastically. They failed to recover in 2003.

Corporate taxes as a share of personal income also declined over the last two decades. Through 2000, the Kansas share and the national average share both fell from about six percent to about three percent. The regional average fell roughly from three percent to two percent. After 2000, he US share held steady while Kansas fell by half.

Figure 3-3:
State Corporate Income Tax as Percent of Personal Income and Corporate Profit as Percent of Personal Income FY1981-2003



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* U.S. Bureau of Economic Analysis, *National Income and Product Accounts;* and PRI estimates.

Tax rates

State corporate income tax rates in the U.S. typically range from four percent (sometimes just for the lowest tax bracket) to 10 percent. About two-thirds of the states that impose a corporate income tax impose a flat tax, while the remaining third have a graduated rate system. Within the region surrounding Kansas, statutory tax rates range from four to 12 percent (Table 3-1). On the low end, Kansas applies a rate of four percent to the first $50,000 of income; on the high end, Iowa taxes corporate incomes over $250,000 at 12 percent. However, these statutory rates are often misleading, as explained below.

Local governments also levy taxes on corporate income and related activities. Kansas City, Missouri and St. Louis, Missouri impose an additional income-based corporate tax of one percent on allocable income.

Table 3-1:
State Corporate Income Tax Rates,
Federal Deductibility, and Effective Tax Rates, Tax Year 2003*

State	Bracket	Marginal Rate	Deduct-ibility of Federal Income Tax	Marginal Gross Effective Rate[1] (after state deduction for federal tax)	Marginal Net Effective Rate[2] (after federal deduction for state tax)	Marginal state plus federal rate
Colorado	Flat	4.63%	No	4.63%	3.01%	38.01%
Iowa[3]	First $25,000	6.00%	50%	4.95%	3.25%	38.25%
	Next $75,000	8.00%	50%	6.60%	4.35%	39.35%
	Next $150,000	10.00%	50%	8.25%	5.46%	40.46%
	Over $250,000	12.00%	50%	9.90%	6.57%	41.57%
Kansas	First $50,000	4.00%	No	4.00%	2.60%	37.60%
	Over $50,000	7.35%	No	7.35%	4.78%	39.78%
Missouri						
state	Flat	6.25%	50%	5.16%	3.39%	38.39%
state/local[4]	Flat	7.25%	43%	6.16%	4.05%	39.05%
Nebraska	First $50,000	5.58%	No	5.58%	3.63%	38.63%
	Over $50,000	7.81%	No	7.81%	5.08%	40.08%
Oklahoma	Flat	6.00%	No	6.00%	3.90%	38.90%
Compare:						
Federal	First $50,000	15.00%	--	--	--	--
	Next $25,000	25.00%				
	Next $25,000	34.00%				
	Next $235,000	39.00%				
	Next $9.665M	34.00%				
	Next $5M	35.00%				
	Next $3.3333M	38.00%				
	Over $18.333M	35.00%				

* No brackets or rate have changed since 2001

[1] This calculation assumes a marginal federal tax rate of 35%. See text.
Marginal gross effective rate = statutory rate x (1 - .35 x deductibility fraction).

[2] Marginal net effective rate = statutory rate x (1 - .35 x deductibility fraction)
x(1 - .35)/(1-.35 x statutory rate x deductibility factor).
These formulas ignore time lags. See text.

[3] Iowa has an alternative minimum tax of 7.2% for certain tax preference items.

[4] Additional tax of 1 percent of net profits in Kansas City and St. Louis. Federal tax is not deductible.

SOURCES: Information provided by individual state departments of revenue and state statutes; calculations by PRI.

Factors affecting corporate income taxes

It is necessary to look at much more than corporate tax rates to see how heavy a burden a state puts on corporate income. There is considerable variation across states in allowable deductions, depreciation rules, income apportionment methods, income allocation methods, economic development incentives, and corporate income tax rebates, all of which affect a corporation's bottom line tax bill. We will examine each of these issues.[14]

Federal definitions and state deductions

In general, state definitions of taxable income start with federal definitions. All of the states in our study generally follow federal depreciation rules and conform with the U.S. Internal Revenue Service code on expensing (single year deduction) of assets. The only exception has to do with the new federal "bonus depreciation," as explained below. Income after depreciation is then modified through additions and deductions.

Deduction for federal taxes

One major deduction is for federal taxes paid. Within the region surrounding Kansas, Missouri and Iowa each allow a deduction of 50 percent of federal taxes. The marginal federal rate on corporate income is currently 35 percent for firms in the highest bracket. So as an approximation, federal deductibility reduces a firm's state marginal tax rate by 35 percent times the percentage deductibility. The "Marginal Gross Effective Rate" column of Table 3-1 shows how this changes the effective tax rate.

Deduction of state taxes from federal income tax

At the same time, the state-level corporation tax is deductible from the federal corporation tax. This leads to a net reduction in the burden of the state tax, which is referred to the "federal offset." Similarly, all other state and local taxes are deductible from the federal corporation tax and have corresponding federal offsets. However the state corporation tax is noteworthy because its reciprocal deduction for federal taxes leads to complicated interaction effects.

Combined effects of cross-deductibility

The last column of Table 3-1 quantifies the impact of cross deductions between state and federal corporation taxes.[15] In our region the statutory tax rates in the top brackets cover a fairly wide range, ranging from about 5 percent to 12 percent. Once all the effects of federal taxation have been accounted for, the marginal tax rates are much more homogeneous, with net effective

[14] In some states, another factor that can affect corporations with substantial tax preference items is the Alternative Minimum Tax (AMT), which we will not discuss. Kansas does not have an AMT.

[15] A static and simultaneous model is assumed. In reality, there are complicated lags between effects of state and federal taxes. It is also assumed that the corporation has over $18,333,333 in total US income, so that the marginal federal tax rate is 35%.

Table 3-2:
Conformity with Federal Bonus Depreciation, Tax Year 2003 *

State	Treatment of bonus depreciation
Colorado	100% of federal
Iowa	0% of federal
Kansas	100% of federal
Missouri	100% of federal, delayed until June 30, 2003
Nebraska	15% of federal in first year, 85% deducted over next 5 years
Oklahoma	20% of federal in first year, 80% deducted over next 4 years
Compare:	
Federal	An additional 50% of investment, taken in first year

* All states except Iowa have changed their depreciation schedules since 2001. The changes piggyback on federal changes that are scheduled to sunset after 2004.

SOURCE: Commerce Clearing House [2003b]; state departments of revenue.

rates generally between 3 percent and 5 percent. Iowa's tax on corporate income over $250,000 is somewhat higher, with a marginal net effective rate of 6.57 percent. With all effects accounted for, regional state plus federal marginal rates cover a relatively narrow range between 37.6 percent and 41.6 percent.

Other state deductions

The most important differences between state and federal income have to do with the allocation formula, discussed separately below. Some states have deductions that serve purposes more commonly addressed with credits; we will discuss them along with other tax credits. Depreciation can also be important.

Depreciation rules

Depreciation of real and personal property is always treated as a deduction from taxable income. Traditionally, states in this region as well as most other states have followed federal rules for determining the amount of depreciation. However, recent changes in federal depreciation rules provided for "bonus depreciation," which is added on to existing depreciation rules:

- The Job Creation and Worker Assistance Act of 2002 provided for an additional first year depreciation of 30 percent of investment.
- The Jobs and Growth Tax Relief Reconciliation Act of 2003 raised the 30 percent to 50 percent for investment made after May 5, 2003.

This applies to property with a 20 year asset life or less, which includes most new investments except real estate. There is a sunset provision after 2004.

These changes provided very generous deductions at a time when most states were suffering from revenue shortfalls. Consequently a majority of states choose not to conform with the changes, or to conform only in part. The changes made in this region are summarized in Table 3-2. Kansas is following the federal rules, resulting in a substantial income tax cut.

Division of corporate income

Perhaps the most challenging single issue in understanding corporate taxation is the division of income for firms that do business in several states or nations. Each state is limited to taxing the income that was actually generated in that state. However, the individual states exercise considerable freedom in deciding what income to claim as their own. Consequently, there is no assurance that exactly 100 percent of income (no more and no less) will be taxed overall by the states in which a firm operates. Depending on the firm's circumstances, multiple states may claim the right to tax the same income, while other income may go untaxed. Key concepts in the division of income include:

Nexus. Does the state have the legal authority to tax the income of the firm?

Unitary businesses. Should a group of corporate affiliates be treated like a single firm for the purposes of taxation?

Apportionment. What kind of formula does the state apply to decide what share of income of the multi-state firm is taxable by this state?

Allocation. Can the state identify and claim specific income streams that belong to that state alone, and hence are not divided?

Nexus

Federal law guides the states in determining nexus. In particular, Federal Interstate Commerce Law defines two activities that, in and of themselves, *do not* give a state the right to impose the income tax. These activities include: a) the solicitation of orders for sales of goods in a state when those orders are approved and filled from a location outside the state, and b) the maintenance of an office by an independent contractor who makes sales or solicits orders for sales of goods. Court cases have further defined the operational meaning of nexus, in determining how much activity can take place within the state before the corporate income tax is triggered.

Unitary businesses

For all multi-state businesses, the question of income apportionment arises. The question is difficult enough when it arises in the context of a single firm. But often a group of corporate

Table 3-3:
Example of Income Apportionment

Factor	Amount in All States	Amount in Kansas	Share in Kansas
Sales	$4,000,000	$600,000	15.0%
Payroll	$2,000,000	$1,800,000	90.0%
Property	$3,000,000	$2,700,000	90.0%

In this example, UDITPA-type apportionment results in an overall allocation factor of 65% = (15% + 90% + 90%)/3.
SOURCE: PRI

affiliates is involved. Then the question becomes whether the group of firms does business in such a way that the activities in the various states are interrelated. If so, the group of firms is a *unitary business* and may be treated by a state as if it were a single firm for the purposes of income apportionment.

States show great differences in the way in which they treat the income of a unitary business. Among the states in our study, all except Iowa allow combined reporting (treating the entire group as a single entity), and most require it. Iowa requires that the affiliates that actually do business in the state file a consolidated return but does not allow their income to be "mixed" with income of other members of the group.

Apportionment

When a firm does business in several states, it is often difficult to say precisely where the firm's income is earned. The firm may have its labor force in one state, own property in a second state, and sell to customers in yet a third state. Because of the difficulty in deciding exactly where income is earned, states rely on formulas based on percentages of in-state property, wages, and sales.

States may pass legislation to define apportionment formulas and sales definitions as they wish–there are no federal mandates. However, many states have voluntarily agreed to a set of standards known as UDITPA (Uniform Division of Income for Tax Purposes Act). UDITPA defines an apportionment formula based on evenly-weighted property, payroll, and sales factors, and provides clarification on how each factor should be calculated. The example in Table 3-3 shows a simple case of a UDITPA-type taxable income calculation for a multi-state firm in Kansas. The firm has most of its production facilities in Kansas, 90 percent of payroll and property, but only 15 percent of sales. Applying even weights of 1/3 to each of the payroll, property, and sales factors results in an overall allocation factor of 65 percent; hence Kansas would tax 65 percent of the firm's income.

Table 3-4:
Apportionment and Allocation Methods for Income of Multi-State Firms, Tax Year 2003*

State	Choice of apportion-ment formulas	Factor weights			Substan-tially UDITPA Allocation	Includes sales shipped:		Qualifications
		Revenue or sales	Prop-erty	Pay-roll		In	Out	
Colorado[1]	yes	1/3	1/3	1/3	yes	100%	0%	Applies to business income only
		1/2	1/2		yes	100%	0%	Applies to business and non-business income
Iowa	no	1			no	100%	0%	
Kansas	sometimes	1/3	1/3	1/3	yes	100%	[2]	
		1/2	1/2		yes	100%	[2]	Payroll factor > property factor + sales factor
Missouri	yes	1/3	1/3	1/3	yes	100%	[2]	
		1			yes	50%	50%	
Nebraska	no	1			no	100%	0%	
Oklahoma	sometimes	1/3	1/3	1/3	no	100%	[2]	
		1/2	1/4	¼	no	100%	[2]	Investment > $200 M

* No apportionment or allocation rules have changed since 2001.
[1] For companies with no other Colorado activity except sales, with no owned or rented real estate in Colorado, and with gross sales under $100,000, an alternative is to pay 0.5 percent of gross receipts on sales in Colorado.
[2] 100 percent of shipments from the state to locations without a corporate income tax, 0 percent if to other locations (a "throwback" rule).
SOURCES: Information provided by individual state departments of revenue and state statutes.

Rules for the division of income across states are far from uniform, despite UDITPA. Many states do not use UDITPA-type apportionment rules, and even those that do may offer an alternative formula. Within the region, four states use the equal weighted 3-factor formula in some but not all situations, while Iowa and Nebraska always use a 1-factor formula.

Most of the adopted alternatives to the UDITPA apportionment formula weigh sales or receipts more heavily than other factors. A state with a heavily-weighted sales factor will provide a locational advantage to firms that sell most of their products out-of-state [Mazerov, 2001].[16] Take, for example, a firm that concentrates the bulk of its payroll and property in a single state,

[16] For a sale to be designated as "out-of-state," a physical product must generally be shipped to an out-of-state customer. Services provided by in-state employees are generally considered as in-state sales. For example, work done by a lawyer in Kansas for an out-of-state client is still an in-state sale.

Table 3-5:
Income Apportionment under Alternative Formulas

Factor	Amount of Factor in All States	Amount of Factor in Kansas	Share in Kansas	Contribution Under Three Factor Formula[1]	Contribution Under Two Factor Formula[2]
Sales	$4,000,000	$600,000	15.0%	5.00%	7.5%
Payroll	$2,000,000	$1,800,000	90.0%	30.0%	45.0%
Property	$3,000,000	$1,800,000	60.0%	20.0%	0%
Kansas Taxable Income %				55.0%	52.5%

[1] Three Factor Formula: 1/3 * sales share + 1/3 * payroll share + 1/3 * property share.
[2] Two Factor Formula: 1/2 * sales share + 1/2 * payroll share.
SOURCE: PRI

but that sells to a national market (mostly out-of-state). The higher the weight that the state places on sales the lower will be the firm's overall in-state apportionment, and the lower its taxable income in the state. Of course, the firm will still be liable for taxes in other states, but these are largely independent of what goes on in the state where the firm has its production facilities.[17] Table 3-5 contrasts the percentage of income taxable in a state under the two alternative apportionment formulas used in Kansas –one with a sales factor of 1/3 and one with a sales factor of 1/2.

Kansas started to move away from the exclusive use of the UDITPA apportionment formula in 1988. At that time, the state offered a new option by which a taxpayer could choose to drop payroll from the apportionment formula. The option remains open to taxpayers for whom the payroll factor is at least twice the average of the property and sales factors.

Allocation

Allocated income of a multi-state firm is defined as that income assigned to one state rather than divided by an apportionment formula. UDITPA provides guidelines for income that should be allocated rather than apportioned: income such as rents and royalties from tangible personal property utilized in the state, capital gains and losses from real estate, and interest and dividends of firms that are incorporated in the state. Among the states in our study, Colorado, Kansas, and Missouri follow UDITPA or similar rules for allocation.

States are split evenly with respect to use of UDITPA definitions of factors to be allocated; Kansas does use UDITPA definitions (Table 3-4). States also differ with respect to "throwback" rules, i.e., treatment of income from states without a corporation income tax in apportionment formulas (see, for example, the columns in Table 3-4 on sales of goods shipped in- and out-of-state). Because of differences in apportionment formulas and in the definitions that states use in

[17] This argument depends on the existence of differences in state tax systems. If other states in which the firm does business are using a three-factor formula, the state with a heavily weighted sales factor provides an advantage for the location of payroll and capital.

calculating what goes into the formulas, “non-taxed and double-taxed sales are almost inevitable” (Vandenbush and Worcester, 1990).

Income tax-based economic development incentives

Kansas and states in the surrounding region take an active role in trying to encourage new and expanding businesses. Some states have used tax incentives aggressively to recruit jobs and investment from out-of-state, while other states, including Kansas, have provided for moderate tax incentives to "level the playing field" rather than as a leading economic development strategy.

Types of incentives

Most income tax incentives fall into one of four categories: research and development incentives; rebates of property taxes paid, job and investment credits; and enterprise zone incentives. The specific programs and policies of each state are presented in detail below.

Research incentives

Within the region, Colorado, Kansas, Iowa, and Missouri all offer income tax credits or deductions based on research and development expenditures (see Table 3-6).[18] Oklahoma has new incentives which can exempt 10 percent to 100 percent of inventor’s royalties from the tax base. In 1988, Colorado legislated tax credits for R&D expenditures made within enterprise zones. The law limits the credit to three percent of the amount by which research and development spending increases over its previous average. Kansas also focuses on the expansion of research and development activities, granting a credit of 6.5 percent of increased expenditures. Iowa allows a 6.5 percent credit on increased spending on research activities; the credit increases to 13 percent if several conditions are met, and up to 26 percent in enterprise zones. Credits in excess of a firm’s tax liability are refundable. Missouri’s research credit stands at 6.5 percent of increases in research expenditures.

[18] Although Nebraska does not specifically credit R&D expenditures, like most states it does include research and development activities among the list of industries covered by other incentives. Nebraska grants incentives for research and development under its Employment and Investment Growth Act. Benefits include sales tax refunds and income tax credits for jobs and investment (see Table 3-8).

Table 3-6:
Research and Development Tax Credits, Tax Year 2003[1] *

State/ *program*	Rate	Basis	Limitations/ carryover	Eligibility requirements
Colorado				
Research and Development Credit	3%	Excess over average R&D for two previous years.	Credits earned this year become available in equal parts over 4 years.	E.Z.
Iowa[2]				
Basic Research Activities Credit	6.5%	Excess over R&D for previous year. (There is also an alternative formula.)	Fully refundable. 7 year carryforward.	All Iowa.
Research Activities Credit under New Jobs and Income Program	6.5% (additional)	As above.	As above.	Participation in New Jobs and Income program (see Table 3-8).
Research Activities Credit	13% (additional)	As above.	As above.	E.Z. Same conditions as E.Z. credits (see Table 3-9).
Kansas[2]				
Research and Development Credit	6.5%	Excess over average R&D for two previous years.	Credits earned this year become available in equal parts over 4 years. Unlimited carryforward.	All Kansas.
Missouri[2]				
Research Expenses	6.5%	Excess over average R&D for three previous years.	5 year carryforward Limited to 2/3 of total R&D in three previous years.	All Missouri.
Nebraska	No R&D credit as such.			
Oklahoma *				
Technology Transfer Income Tax Exemption	10%	Gross royalties received. (Deduction, not a credit.)	First ten years.	Technology transfer to qualified small business in Oklahoma.
New Products Development Income Tax Exemption	100%	Gross royalties received. (Exemption, not a credit.)	First seven years.	Products developed and manufactured in Oklahoma and registered.

* Oklahoma's Credit for New Jobs in Computer, Research, and Development Businesses was sunsetted in 2003. Otherwise, no R&D credit rules have changed since 2001.

[1] R&D is also eligible for conventional and EZ investment credits in all listed states (see Tables 3-7 and 3-8).

[2] Iowa, Kansas, and Missouri also have sales tax exemptions for R&D investments or inputs (see Chapter 4).

Abbreviations: M&E means investment in machinery and equipment.
R&D means investment in research and development.
E.Z. means enterprise zone.

SOURCES: Information provided by individual state departments of revenue, state statutes, and Commerce Clearing House [2003a].

Table 3-7:
Property Tax Rebate Credits, Tax Year 2003[1] *

State	Rate	Basis	Limitations/ carryover/ qualifications	Revenue pool
Colorado	varies by year	Property tax on personal property		Aggregate state tax receipts less expenditure limit less $170M
Iowa	none			
**Kansas ** **	15%	Property tax on M&E	Fully refundable	Unlimited.
Missouri	none			
Nebraska	none			
Oklahoma	100%	Local property tax abatement	E.Z. only. 10 year carryover	$200,000

* No rebate credits have changed since 2001; however, see next note.
** The Kansas credit is scheduled to increase to 20% in tax years 2005 and 2006, and to 25% thereafter.
[1] All states have property tax abatement programs as well; see Chapter 5.
Abbreviations: M&E means machinery and equipment.
E.Z. means enterprise zone.

SOURCES: Information provided by individual state departments of revenue, state statutes, and Commerce Clearing House [2003a].

Rebates of property taxes

Property taxes on business assets, particularly machinery and equipment, are sometimes thought to discourage investment in a state. At the same time, property taxes on businesses form an important part of the local property tax base. Three states in the region, Kansas, Oklahoma, and Colorado, offer property tax rebates through income tax credits (see Table 3-7). Such credits leave the local tax base untouched. Kansas offers a credit against personal and corporate income tax in the amount of 15 percent of the property tax paid on industrial machinery and equipment. If the amount of the credit exceeds the taxpayer's income tax liability, the taxpayer is entitled to a refund for the amount in excess of the taxpayer's income tax liability.

In 1999, Colorado established a credit against personal and corporate income tax based on taxes paid on business personal property (not real estate). The credit, however, is only effective if the total amount of state revenues exceeds Colorado's constitutional state spending limit by at least $170 million. In other words, the rebate is a means of distributing any state budget surplus. If revenues sufficiently exceed expenditures, corporate and individual taxpayers in Colorado will receive a credit against their income taxes for the lesser of $500 or the total amount of personal property tax paid in the fiscal year for which the credit is claimed. If a taxpayer paid more than

$500 in personal property tax for the year in which the credit is claimed, an additional credit of 13.37 percent will be applied to the amount of property tax paid in excess of $500.

In 2000, Oklahoma created a tax credit which equals the amount of local property taxes abated for qualifying investments in real property and attached improvements in enterprise zones (effectively doubling the abatement by local governments). There is a 10 year carryover. There is a limited state-wide pool of $200,000 available for this purpose.

Most states also have property tax abatement and exemption programs for investment that are not directly tied to the corporate income tax. These programs are discussed in Chapter 5.

Job and investment credits; enterprise zones

Job and investment credits are the most important state credits. All of the states in the region offer job and investment credits in some form, both to attract new industries and, in some cases, to encourage the expansion of established firms (Tables 3-8 and 3-9). The amount of credit that a firm receives depends directly on the amount of new or expanded activity it undertakes in the state. In many states, credits may be claimed for several years, provided that a firm keeps its new employees and investment in place.

Job and investment credits vary widely from state to state. The programs can be analyzed along the following dimensions:

1. Do the credits target specific types of jobs, particularly those paying high wages?
2. Do the credits target specific industries such as manufacturing?
3. Do the criteria by which a firm qualifies for credits emphasize jobs, investment, or a mixture of the two?
4. Are the credits provided for both new and established firms, or are they targeted to new firms only?
5. Are the credits limited to enterprise zones and other specified geographic areas?

There is one key difference between enterprise zone programs and other economic development programs: enterprise zones attempt to stimulate development in limited geographic areas and to bring jobs and investment to declining or disadvantaged regions.

Some of these credits are linked both to new jobs or investment and also to workforce training. Most states have other workforce training incentives that are not specifically linked to the income tax. Those incentives will not be described in this report.

Our discussion will provide a description of job and investment credits in Kansas and in selected other states in order to illustrate the range of incentive programs (details for all six states in the study region are found in Tables 3-8 and 3-9). Our analysis focuses on the five dimensions defined above.

Table 3-8:
New Job, Training, and Investment Tax Credits, Tax Year 2003

(See also Table 3-6 for R&D and Table 3-9 for Enterprise Zones.)

State [2]/ *program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements
Colorado				
New Investment Tax Credit	1%	Investment	$1,000 per year. 3 year carry forward	All industries
Investment in School-to-Career Program	10%	Internship costs to employer	5 year carryforward	Certified school-to-career program
Iowa [3]				
New Jobs Credit	6%	Wages of new employees subject to unemployment insurance tax	10 year carryforward	All industries. Must enter into a job training agreement with an area community college New or significantly expanded business.
Supplemental New Jobs Credit from Withholding	1.5%	Payroll	7 year carryforward	As above. Wages > county or regional average.
	1.5% (additional)	Payroll	7 year carryforward	As above. Participation in New Jobs Training Program.
Investment Credit under the New Jobs and Income Program	10%	Investment in M&E, real property and buildings	Recapture if investment sold within 5 years. 7 year carryforward	All industries except retailing. 1) obtain community approval 2) start-up or expansion 3) not an in-state relocation 4) pays 80% of health insurance 5) median wage > about $13 per hour (indexed) and 130% of average county 6) investment > about $12 million 7) 50 new FTE jobs for 5 yrs 8) satisfy 3 of the following: a) pension plan or profit-sharing b) high value-added goods or services c) provide day-care d) R&D > 1% of pretax profits e) worker training >1% of pretax profits f) productivity and safety improve-ment program g) reuse 20,000 sq. ft. of vacant space

Table 3-8:
New Job, Training, and Investment Tax Credits, Tax Year 2003

(See also Table 3-6 for R&D and Table 3-9 for Enterprise Zones.)

State [2]/ *program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements
Industrial New Jobs Training program	6%	Wages of new jobs during first year	Training costs	Manufacturing, assembly, R&D, interstate services except health, retail, professional. First $16,000 (approx.) of wages
Kansas				
Income Tax Credits	$1,500	Per new job (See also Table 3-9)	Maximum $50,000 for all credits. Maximum 50% of income tax. Unlimited carryforward if jobs are maintained.	Financial institutions and headquarters, > 19 new jobs Manufacturer, >1 new jobs Non manufacturer, > 4 new jobs Retail, >19 jobs in cities < 2,500 pop.
	1%	Investment	As above.	As above. Investment units of $100,000.
Job Expansion and Investment	$100	Per new job per year	50% of tax liability No carryforward. Annually for 10 years. Not available with other investment credits	Most industries qualify. Firms must add 2 jobs.
	0.1%	Investment	As above.	As above. Investment units of $100,000.
High Performance Incentives Program	10%	Investment less $50,000	10 year carryforward. Not available with other investment credits	Industry: manufacturing, state-export- oriented service firm, e headquarters or back office of a national or multi-national firm. Above-average wages for comparable firms in the county.
	100%	Training expenses less 2% of payroll	$50,000 per year 10 year carryover	As above. Qualified training program

Table 3-8:
New Job, Training, and Investment Tax Credits, Tax Year 2003

(See also Table 3-6 for R&D and Table 3-9 for Enterprise Zones.)

State [2]/ *program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements
Missouri				
New or Expanded Business Facilities	$75 (new firm) $100 (expansion) firm) $125 (distressed community	Per new job per year.	Annually for 10 years. Resalable.	Manufacturing; wholesaling; warehousing; mining; R&D; inter-exchange telecommun-ications; office headquarters; agriculture; ag implement dealers; recycling: > 24 new jobs. Other business: > 1 new jobs. > $100,000 investment
	0.075% (new firm) 0.1% (expansion) 0.125% (distressed community	Investment	As above.	As above. Investment units of $100,000
Individual Training Account Program	50%	Costs of classroom training	$1500/emloyee/ year 2 years/employee 5 year carryforward	
Nebraska				
Employment Expansion and Investment Incentive Act (See also Table 3-9)	$1,500	Per new job	$75,000 per tax year. 50% of tax liability (except in E.Z.). 5 year carryforward. Not available with Employment and Investment Growth Act Credit.	Industries: R&D, data processing, telecommunications, finance, manufacturing, warehousing, transportation, wholesale trade, administration, livestock feeding, farming, ranching, medicine. Excludes restaurants, contractors and repair persons, most retailing. New jobs > 1. Investment > $75,000.
	1.33%	Investment	As above.	As above. Investment units of $75,000
Employment and Investment Growth Act	5%	Increased payroll (formula).	15 year carryforward. Annually for 7 years. Credits applied to tax liability or refund of sales and use tax on investment.	Industries: same as above, except livestock feeding and farming. Investment >$3M New jobs > 30.

Table 3-8:
New Job, Training, and Investment Tax Credits, Tax Year 2003

(See also Table 3-6 for R&D and Table 3-9 for Enterprise Zones.)

State [2]/ *program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements
	10%	Investment	As above.	As above.
Invest Nebraska Act	5%	Increased payroll (formula)	Available for 10 years. 8 year carryover after project ends. Credit is spent on training, benefits, or safety. Recapture rules apply. $5000 application fee.	Industries: produce, warehouse, or process tangible personal property, conduct R&D for science, ag., or industry, or produce data processing, telecom, insurance, or administration of the above. Either: (a) Investment > $10M, new jobs > 25, ave. wage > 100% NE average; (b) Investment > $50M, new jobs > 500, ave. wage > 110% NE average; (c) Investment > $100M, new jobs > 250, ave. wage > 110% NE average; or (d) Investment > $200M, new jobs >50, ave. wage > 120% NE average. Not a relocation. Average wage > $40,000.
	4%	As above.	As above.	Same as above, except $40,000 > average wage > $30,000
	3%	As above.	As above.	Same as above, except $30,000 > average wage > $20,000. (No credit below $20,000)
	15%	Investment	As above. Not available with payroll credits.	Same industries as above. Investment > $200M and new jobs > 500
Rural Economic Opportunities Credit (no new projects after 2004)	10%	Investment	Partial recapture if goals not met. 9 year carryforward. Not available with other investment credits. $5000 application fee.	Most industries qualify New employees > .5% * county employment Average wage > 125% of county and 100% of region Investment > $100,00*(.5% of county employment), if County pop. >30000. Investment > $50,00*(.5% of county employment), if County pop. <30000. Rural counties.
	5%	Increased payroll (formula)	As above	As above.

Table 3-8:
New Job, Training, and Investment Tax Credits, Tax Year 2003

(See also Table 3-6 for R&D and Table 3-9 for Enterprise Zones.)

State [2]/ *program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements
Oklahoma				
Basic Investment/ New Jobs Credit	1%	M&E, buildings, improvements	Annually 5 years for a total of 5%. 15 year carryover Not available with most other investment credits	Industries: manufacturing, processing or aircraft maintenance. > $50,000 investment.
	$500	Per new job paying > $7,000/year	Annually for 5 years for a total of $2,500. 15 year carryover Not available with previous credit or most other investment credits	As above.
Investment/ New Jobs Credit Requiring $40 Million Investment	2%	M&E, buildings, improvements	Annually for 5 years for a total of 10%. 15 year carryover Not available with most other investment credits	Manufacturing. > $40 million investment.
	$1,000	Per new job paying > $7,000/year	Annually for 5 years for a total of $5,000. 15 year carryover Not available with previous credit or most other investment credits	As above.
Incentive Payments for Jobs	5% (6% for defense contracts)	New or at-risk payroll	Not available with most other investment credits Annually for 10 years.	Industries: manufacturing, central and administrative offices, research and development labs. Also, warehousing and selected business service industries (if exports from state >75% of output) Basic health care coverage. 80% of employees work > 25hours/week Average wage > $0 or $26,000 depending on county and zone. New payroll > $2.5 million Alternative conditions available for food products and R&D and Superfund sites.

Table 3-8:
New Job, Training, and Investment Tax Credits, Tax Year 2003

(See also Table 3-6 for R&D and Table 3-9 for Enterprise Zones.)

State [2]/ *program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements
Above, for High Impact Projects	2.5%.	New or at-risk payroll	As above, except annually for 6 years	Same industries as above. > 1% of the county labor force $2.5 million > new payroll > $1 million
Above, with Additional Premium Payment for Saving Quality Jobs	up to 5%	New or at risk payroll	As above, except annually for 3 years total payroll credits may not exceed 5% (6% for defense contracts).	As above, also 1 new job per job saved, or else "strategically important industry
*Small Employer Quality Jobs Act (1997)**	5%	New full-time payroll	Not available with other incentive credits Annually for 7years.	> 10 new employees. < 90 total employees. Health benefits. 80% of payroll must exceed 125% of average county wage, or opportunity zone. Exports from state >75% of output

* Conditions slightly liberalized since 2001.

[1] Except as noted, credits are one time only and are not refundable, but do carry over.

[2] All states also provide direct employee training services.

[3] Iowa carryovers are further restricted by requiring that the credits with most generous carryovers be applied first.

Abbreviations: M&E means investment in machinery and equipment.
R&D means investment in research and development

SOURCES: Information provided by individual state departments of revenue, state statutes, and Commerce Clearing House [2003a]

Table 3-9:
New Job, Training, and Investment Tax Credits in Enterprise Zones, Tax Year 2003

(See also Table 3-6 for R&D credits in enterprise zones)

State/ *Program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements [2]
Colorado				
E.Z. Investment Tax Credit	3%	M&E and R&D	100% of tax liability up to $5,000 plus 25% of tax liability above $5,000. 12 year carryforward. 3 year carryback.	Not a relocation unless expanded.
E.Z. New Business Facility Employee Credits	$500	Per new job per year	5 year carryforward.	New facility or major expansion.
As above - health insurance credit	$200 (additional credit)	Per new job per year	As above.	New facility or major expansion. Employees covered by health insurance plan. Only during the first 2 years in the zone.
As above- agricultural processing facility	$500 (additional credit)	Per new job	As above.	New facility or major expansion. Industry: processing agricultural products.
Job Training Program Investment Credit	10%	Training costs for new jobs, including investments	12 year carryforward.	
Iowa				
Investment Tax Credit	10%	Real and personal property except land and intangibles	20 year carryforward. Partial recapture if goals not met.	All industries except retailing: 1) obtain community approval 2) start-up or expansion 3) not an in-state relocation 4) pays 80% of health insurance 5) median wage exceeds $7.50 + per hour (indexed) and 90% of county or regional average 6) investment of at least $.5 million 7) 10 new FTE jobs for 10 yrs (or 5 FTE jobs for 5 years in small places)
Supple-mental New Jobs Training Credit	1.5%	New wages	Training costs	As above. (See Table 3-8 for New Jobs Training Credit.)

Table 3-9:
New Job, Training, and Investment Tax Credits in Enterprise Zones, Tax Year 2003

(See also Table 3-6 for R&D credits in enterprise zones)

State/ *Program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements [2]
Kansas				
Income Tax Credits	$2,500 (cf. $1,500 in metro areas)	Per new job	Maximum $50,000 for all credits. Maximum 50% of income tax. Unlimited carryover if jobs are maintained.	All nonmetro areas. Financial institutions and headquarters with > 19 new jobs. Manufacturer, >1 new jobs. Non manufacturer, > 4 new jobs. Retail, >19 jobs in cities < 2,500 pop.
Missouri				
Enterprise Zone Credits	$400	Per new job per year	Available annually for 10 years. Not available with conventional new or expanded business credit. Partially refundable.	New or substantially expanded business. 30% of firm employees must be E.Z. residents or meet at least one of : (a) difficult to employ (b) unemployed at least 3 months after end of unemployment benefits (c) eligible for AFDC or relief.
	$400 additional	Per new job held by distressed worker, per year	As above.	As above.
	$400 additional	Per new job held by E.Z. resident, per year	As above.	As above.
	10%	First $10,000 investment	As above.	As above.
	5%	Next $90,000 investment	As above.	As above.
	2%	Investment over $100,000	As above.	As above.
Relocation in Distressed Community	40%	Income tax owed	First 3 years. <$125,000 per year.	Manufacturing, biomedical, medical devices, scientific R&D, animal R&D, computer programming, telecommunications, or professional services. >75% of all employees at this location. <100 employees subject to payroll tax.

Table 3-9:
New Job, Training, and Investment Tax Credits in Enterprise Zones, Tax Year 2003

(See also Table 3-6 for R&D credits in enterprise zones)

State/ *Program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements [2]
Nebraska *Employment Expansion and Investment Incentive Act* (See Table 3-8)	$4,500	Per new job for zone resident	Maximum $75,000 total credits/year 5 year carryover. Not available with Employment and Investment Growth Act Credit.	Industries: same as for non-zone incentive, plus medical doctors (See Table 3-8). Investment > $75,000. New jobs > 2.
	$3,000	Per new job for non-resident	As above.	As above; > 50% of employees are residents
	$1,500	Per new job for non-resident	As above.	As above; < 50% of employees are residents
	4%	Investment	As above.	As above; >50% of employees are residents Investment units of $75,000
	1.33%	Investment	As above.	As above; < 50% of employees are residents Investment units of $75,000
Oklahoma *Investment/ New Jobs Credit for Enterprise Zones*	2.5%	M&E, buildings, improvements	Can be claimed 5 years for a total of 12.5%. 15 year carryover. Not available with most other investment credits.	Industries: manufacturing, processing or aircraft maintenance. > $50,000 investment.
	$1,000	Per new job per year	Can be claimed 5 years for a total of $5000. 15 year carryover. Not available with most other job credits.	Same industries as above. Minimum salary > $7,000. For Computer services and R&D firms, up to 50 new employees with salaried > $35,000 (see Table 3-6).
	5%	M&E, buildings, improvements	Can be claimed 5 years for a total of 25%. 15 year carryover. Not available with most other investment credits.	Same industries as above. Investment > $40M.

Table 3-9:
New Job, Training, and Investment Tax Credits in Enterprise Zones, Tax Year 2003
(See also Table 3-6 for R&D credits in enterprise zones)

State/ *Program*	Rate	Basis	Limitations/ carryover [1]	Eligibility Requirements [2]
	$2,000	Per new job	Can be claimed 5 years for a total of $10000. 15 year carryover. Not available with most other job credits.	Same industries as above. Investment > $40M. Minimum salary > $7,000.

* Replaces more generous 50% Missouri credit available in 2001.
[1] Except as noted, credits are one-time only and are not refundable, but do carry over.
[2] Except as noted, both investment and jobs must be in the enterprise zone.
Abbreviations: E.Z. means enterprise zone.
M&E means investment in machinery and equipment.
R&D means investment in research and development.

SOURCES: Information provided by individual state departments of revenue, state statutes, and Commerce Clearing House [2003a]

State programs

Kansas

Kansas offers three alternative job and investment incentive programs. The first has been in existence since the late 1970s and offers a credit of $100 per employee and $100 per each $100,000 investment. The credit may be taken in each of 10 consecutive years in which employment levels are maintained.

The second program offers a one-time $1,500 for each job created, with an increased credit of $2,500 in non-metro areas. In addition, firms are offered $1,000 for each $100,000 of new investment. Manufacturing industries must add two new employees to qualify, while non-manufacturing firms other than retail must add five employees. Most industries are eligible under this legislation. Retail firms qualify only if they add two jobs and locate or expand in a city with a population of 2,500 or less. Headquarters and back-office establishments that meet a threshold of 20 new jobs qualify for incentives, regardless of their business classification. Legislation passed in 1996 extended this program to businesses (insurance and banking) that pay privilege taxes rather than the corporate income tax.

This program emphasizes job creation in the sense that no credits are granted for investment unless job creation takes place simultaneously. However, firms that add a few jobs and undertake a large investment still qualify for credits on the full investment amount. There is no specific

targeting of this program toward particular types of jobs, and only minimal targeting (in terms of differential thresholds) in terms of industries. The legislation targets rural development by increasing credit amounts in such areas. But unlike traditional enterprise zone legislation (which this replaces), the Kansas incentive defines the targeted geographic area very broadly.

A third Kansas incentive program offers incentives for Kansas "high performance" firms. Such firms are eligible to receive a 10 percent investment credit for investments over $50,000, a workforce training credit on training expenses exceeding two percent of payroll, and matching grants for consulting services provided by the Mid- America Manufacturing Technology Center or other approved consultants. To qualify for incentives, firms must meet one of two wage criteria: they must pay wages that are above the industry average for the county (or region) in which they locate, or they must pay wages at least 1.5 times the statewide average for all industries. This, along with the training and engineering-consulting grants, directs the program at firms that produce high-quality jobs. To be eligible for credits, a firm must be a Kansas manufacturer, a supplier to Kansas manufacturers, an export-oriented service firm, or the headquarters or back-office establishment of a national or multi-national firm; hence the credit is targeted toward industries that comprise the Kansas "export base." Firms may receive the credit without actually adding to their workforce. This incentive encourages firms to add capital as a means of enhancing productivity.

Iowa

Iowa's job and investment credit package provides six percent of wages associated with new jobs, plus 10 percent of related investment. There is an additional credit equal to 1.5 percent of wages in excess of the county or regional average, and another 1.5 percent for participation in a new jobs training program. In addition, there is a credit for training costs of up to 6 percent of first year wages.

To obtain the investment portion of the credits, firms must meet a number of qualifications. Qualifications require firms to add 50 new jobs, pay 80 percent of employee health insurance, and to pay minimum wages indexed to $11 per hour in 1993 (or 130 percent of the average county wage, whichever is higher), and to make a minimum investment indexed to $10 million in 1993. Firms must not reduce operations at another Iowa location. In addition, the firm must satisfy three out of a list of eight alternative qualifications, including that the firm offer a pension plan, produce high value-added goods or services, or invest in research and development.

In 1997, Iowa adopted a new set of Economic Development Enterprise Zone benefits. A 13 percent R&D credit is available. Also, conditions on the ten percent investment credit are relaxed to allow a wage indexed from $7.50, ten new FTE employees (or five in small places), and $.5M investment.

Missouri

Missouri offers two major job and investment credit programs–a program for firms located anywhere in the state, and an expanded program for firms in enterprise zones. Under the general credit program, Missouri offers small annual credits for new and expanding firms and extends the credits for up to ten years. Credits are based on the amount of new investment and the

number of new jobs. Credits are targeted at basic industries (manufacturing, wholesaling and warehousing, mining, R&D, and inter-exchange telecommunications facilities). Firms in these industries must add two jobs and $100,000 investment, or invest $500,000 with no job requirement in order to qualify. Office facilities also qualify, but with a higher jobs threshold.

Missouri also makes extensive use of enterprise zones. Within the zones, job and investment credits are several times greater than in other areas of the state. To qualify for enterprise zone credits, a business must create at least two new jobs and spend $100,000 on new investment ($1 million for replacement facilities) at the project site. Firms in almost all industries may qualify.

Job credits begin at $400 per job per year, and can rise as high as $1,200 based on whether the employee is a resident of the enterprise zone, and whether the employee is classified as difficult to employ. Missouri encourages job training in enterprise zones by offering a one-time job training credit of up to $400 per job. Missouri job credits extend over 10 years. For the first two years that credits are earned, firms may receive partial refunds for any credits that exceed the firm's tax liability from its new or expanded facility.

In addition, Missouri offers additional tax credits for firms that hire at least 30 percent of new employees from special categories defined as "hard to employ." For such firms, 50 percent of taxable income attributed to the enterprise zone is exempt from the Missouri income tax.

Credits for investment in Missouri enterprise zones start at 10 percent of the first $10,000 investment, to which is added five percent of the next $90,000 investment and two percent of any remaining investment within the zone.

Missouri’s job and investment incentives are highly targeted: credits are modest outside enterprise zones but very generous within zones. Investment credits are typically linked to job creation, but can be granted even without job creation if investment meets a higher threshold. Credits within enterprise zones are targeted at creating employment for the hard to employ. Missouri targets basic industries outside of enterprise zones but allows credits for almost all industries within a zone.

Table 3-10:
Miscellaneous Corporation Income Tax Credits, Tax Year 2003[1]

State	Basis
Colorado	Alternative Fuel Vehicles and Equipment; Child Care Facilities Credit; Child Care Investment Credit; Charitable Contributions of Conservation Easement; Colorado Works Program Investment; Contribution to Educational Institution Credit; Contributions to Zone Administrators; Employee Child Care Facility Credit; High Technology Scholarship Contribution Credit; Impacts Assistance Contributions Credit (mining and milling); Increased Purchase of Colorado Coal; Investment in School-to-Career Program; Low Income Housing Credit; Preservation of Historic Property; Redevelopment of Contaminated Land; Rural Technology Enterprise Zone Credit
Iowa	Assistive Device Credit; Community-based Seed Capital Fund; Iowa Fund of Funds; Livestock Production Credit; Motor Fuel Credit; Property Rehabilitation Credit; Tax Deferment for Startup Business; Venture Capital Investment Credit
Kansas	Abandoned Well Plugging Credit; Agricultural Loan Interest Rate Reduction Credit; Certified Capital Investment Credit; Child Care Facilities Credit; Community Service Contribution Credit; Credit for Alternative-Fueled Motor Vehicle Expenditures; Employer Health Insurance Contribution Credit; Habitat Management Credit; Historic Structure Restoration and Preservation Credit; Investment in Local Seed Capital Pools; Investment in Stock of Kansas Venture Capital Inc.; Swine Facility Improvement Credit; Telecommunications Property Credit
Missouri	Adoption of Special Needs Child Credit; Charcoal Production; Construction of Condominiums in Economically Distressed Neighborhoods; Development of Abandoned Property; Development Credit; Disabled Access Expenditures Credit; Donation to Scholarship Fund; Film Production Activities; Grape Growing or Wine Production; Historic Structure Rehabilitation; Infrastructure Facilities Loans; Low-Income Housing; Neighborhood Assistance; Qualified Fund Contribution Credit; Shelters for Victims of Domestic Violence and Maternity Homes; Small Business Incubator; Transportation Development; Wood Energy Producer Credit; Youth Opportunities and Violence Prevention
Nebraska	Child Care Services Credit; Contributions to Community Betterment Programs; Non-highway use of Motor Vehicle Fuels
Oklahoma	Advanced Small Wind Turbine Manufacturers; Agricultural Commodity Processing Facility Income Tax Exemption; Child Care Services Provider Credit; Coal Credits; Credit for Commercial Space Industry Jobs; Credit for Electricity Produced by Zero-Emission Facility; Credit for Employer-Provided Day Care; Credit for Hazardous Waste Control; Credit for Investment in Agricultural Processing Cooperatives, Ventures, and Marketing Associations; Credit for Investment in Air Transportation Establishments; Credit for Investment in Electric Motor Vehicle Property; Credit for Investment in Small Business Ventures; Credit for Investment in Qualifying Clean-Burning Motor Vehicle Fuel Property; Credit for Qualified Space Transportation Investment; Credit for SBA Financing; Credit for Tourist Attraction Development; Credit for Venture Capital Investment; Energy Conservation Assistance Fund Credit; Hepatitis A Employee Immunization Credit; Historic Rehabilitation Tax Credit; Incubator Site Tenant Tax Exemption; Manufacturer's Gas Credit; Oklahoma Capital Investment Credit; Oklahoma Film Act; Rural Capital Investment Credits

[1] Note: this list is not exhaustive.

SOURCES: Information provided by individual state departments of revenue, state statutes, and Commerce Clearing House [2003a].

Oklahoma

Oklahoma operates a number of alternative job and investment incentive plans. All apply to manufacturing plus a few other industries, with each program addressing somewhat different industries. Credits are available which can variously total 2.5 percent, five percent, or six percent of annual payroll for new or at-risk jobs, and can last three, four, six, seven, or 10 years. The available terms depend on the industry, amount of new investment, quality of the new jobs, and location in or out of an enterprise zone. Credits are also available based on the amount of investment, in amounts of one percent to four percent per year (over five years), depending on the same variables. Other credits may pay $500, $1,000, or $2,000 per new job per year (again over five years).

Other deductions and tax credits

Most states offer specialized deductions and tax credits that are intended to encourage specific behaviors on the part of firms, such as providing child care or using equipment that is energy-efficient or environmentally friendly. These credits are not very important to the locational decisions of most firms, nor were they intended to be. However, they could make a difference to locational decisions in certain specialized cases. Some of these credits are listed by type in Table 3-10.

Tax avoidance and revenue recapture

The recent shrinkage of corporate tax revenues has contributed significantly to the recent state and local fiscal crises in Kansas and other states (discussed in Chapter 1). As shown in Figure 3-3, this shrinkage cannot be explained by changes in corporate profits alone. One important factor alluded to above is an increasing sophistication of tax avoidance behavior on the part of corporations. Mazerov [2003a] argues that a major part of this tax avoidance depends on three features or "loopholes" present in the corporate tax laws of many states. These features are not well tailored to economic development goals – for example, they are not linked to new investments. Moreover, reforms would be straightforward. Therefore reforming these features could provide an opportunity to recapture significant amounts of corporate revenues without seriously affecting locational decisions of firms.

Two of the three features discussed by Mazerov are not at issue in Kansas. In particular, Kansas already has "throwback" rules to capture income not otherwise subject to state-level taxation, and it also has rules preventing use of "passive investment companies" (PICs) to avoid taxation of royalties and interest. However, Kansas apportionment rules do not provide for taxation of irregular or extraordinary income items, such as capital gains realized on the sale of corporate subsidiaries and other major assets, reversions from over-funded pension plans, and damage awards in lawsuits. Taxing these items could significantly increase Kansas revenues without having much effect on locational decisions.

Summary

Corporate income taxes comprise only a small percentage of total state and local tax revenues, about four percent nationally. They are nevertheless an important cost to businesses. Of taxes paid by "export base"[19] firms to state and local governments, the corporate income tax generally ranks second in dollar amount after the property tax.

The income tax that will actually be paid by a firm depends not only on the tax rate, but also upon the method that the state uses to apportion income and on the types and amounts of credits for which the firm may qualify. Consequently, there is no simple way to compare corporate tax burdens across states. The scenarios developed in Chapter 9 will show how these relative burdens work out in certain representative cases.

An evenly weighted three-factor formula was once the most widely used method of apportioning the income of multi-state firms. However, formulas that give extra weight to sales seem to be gaining momentum. Export-oriented firms can gain an advantage by locating their property and payroll in states that allow a sales-only formula. However, this option generally is not available in Kansas.

Economic development tax credits are abundant in all of the states examined in this study. Most important among these credits are those aimed at stimulating jobs and investment. Many states enhance these job and investment credits in geographically targeted enterprise zones. States are beginning to provide incentives targeted at stimulating the growth of high-quality jobs. Examples of this approach include Kansas and Iowa.

Kansas offers a competitive package of job and investment incentives. The incentives are available throughout the state to a wide range of industries. In contrast, many states confine incentives to narrowly-defined enterprise zones and to narrowly-defined groups of industries.

[19] By "export base" firms we mean firms that sell to national or international markets. These firms are not tied by their markets to any particular location. They are critical to economic development because they bring outside dollars into the state. (See Chapter 8 for a discussion of taxes and economic development.)

CHAPTER 4: SALES TAX

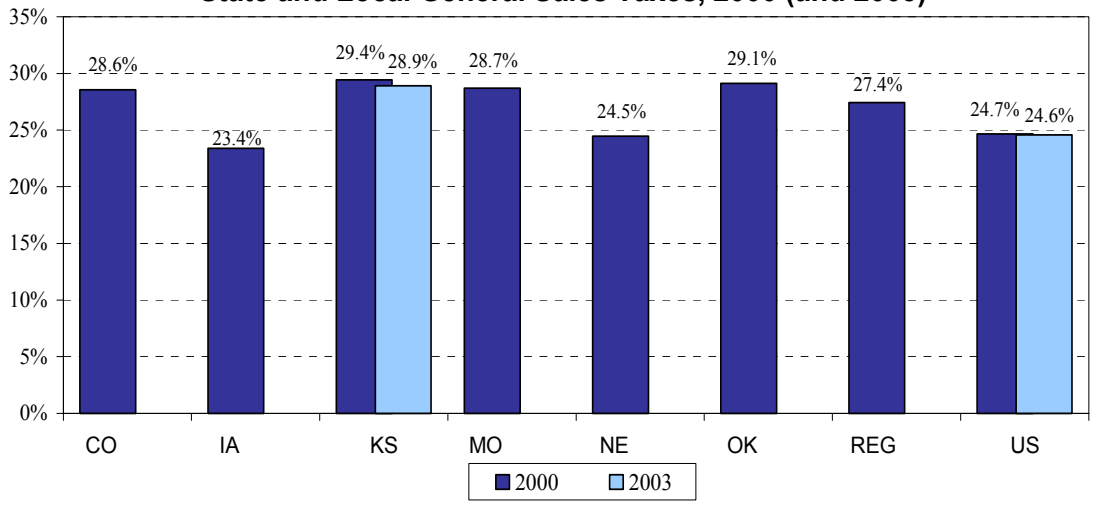
Overview

Sales tax collections comprise an essential part of state and local tax systems in the United States. Almost all state governments (forty-five states at last count) impose a general ad valorem tax on retail sales, gross receipts, or some other similar base. Local governments in 34 states, including all of the states in this study, also impose some form of general sales tax [Sales Tax Institute, 2003]. Strictly speaking, the term sales tax applies to goods and some services sold within a state's boundary, while the term use tax applies to items purchased out of state but brought into state for their final consumption. However, sales and use taxes generally are applied at the same rate and to the same categories of goods and services. Therefore, summary data in the tables and graphs in this chapter combine both revenue sources.[20]

Sales tax revenues in Kansas made up nearly 29 percent of total state and local tax revenues in 2003, as shown in Figure 4-1. This was only slightly different (one half of a percentage point less) than the value three years earlier. The share in Kansas was nearly the same as shares in Colorado, Missouri, and Oklahoma. These states had a relatively higher reliance on sales tax revenues than Iowa, for example, whose share of total tax revenues attributable to the sales tax was only 23 percent (in 2000). However, Kansas is fairly typical for the region. The average share in the rest of the region in 2000 was 27 percent. Looking at the two-decade trend in Figure 4-2, sales taxes are a growing part of tax collections in Kansas, and to some extent in the rest of the region as well. On the other hand, the share of total collections comprised by the sales tax for the U.S. as a whole changed little during the last decade. Sales taxes comprised an average 22 percent of total tax collections in Kansas during the 1980s; this rose to 27 percent during the 1990s and 28 percent if the '1990s' are extended to 2003. Similarly, sales taxes averaged 25.8 percent of regional state and local tax collections during the 1980s, compared with 26.9 percent during the 1990s. While most states increased their reliance on the sales tax over time, during the 1980s and early 1990s Colorado significantly reduced its sales tax revenues as a share of total tax collections. This partly accounted for the slump during those years seen in Figure 4-2. Recently, however, Colorado has reverted to the normal trend of steadily increasing percentages of total revenues derived from sales tax.

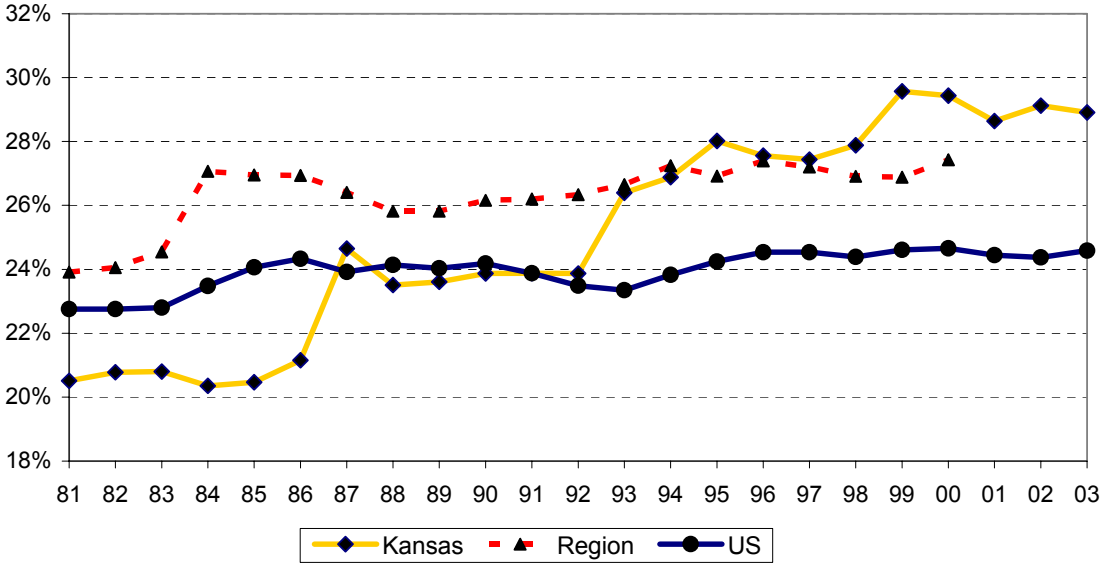
[20] In addition, most states impose special sales taxes on particular goods such as tobacco and alcohol. These are not included in our report.

Figure 4-1:
Share of State and Local Tax Revenue Provided by State and Local General Sales Taxes, 2000 (and 2003)



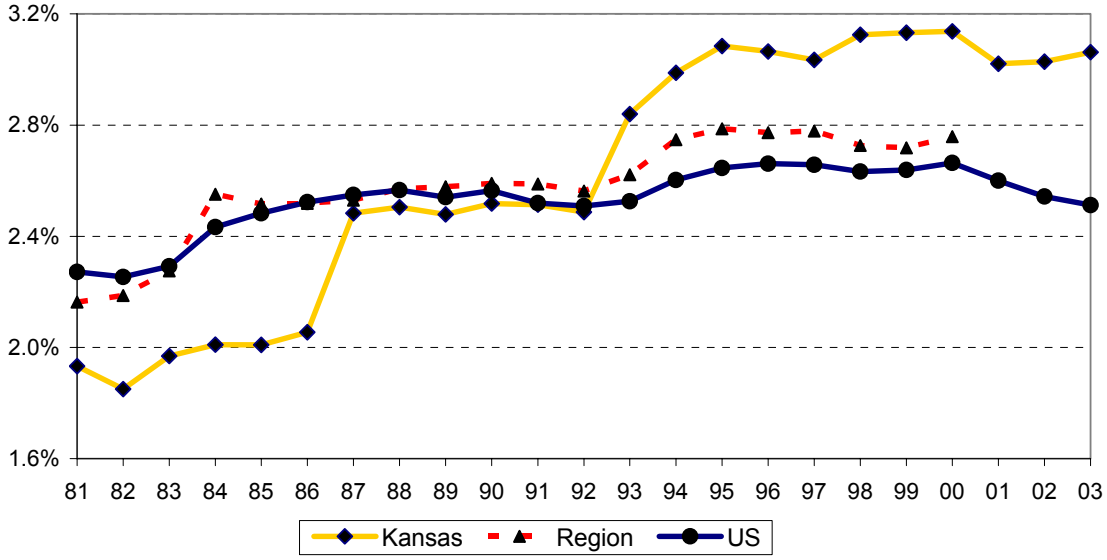
Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates (see Appendix 1).

Figure 4-2:
Share of State and Local Tax Revenue Provided by State and Local General Sales Taxes, FY1981-2003



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates (see Appendix 1).

Figure 4-3:
State and Local General Sales Taxes as Percent of Personal Income, FY1981-2003



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates (see Appendix 1).

As shown in Figure 4-3, sales taxes have claimed a growing share of personal income throughout the last two decades. During the 1980s, the ratio of state and local sales taxes to personal income averaged 2.2 percent for Kansas and 2.5 percent for both the region and the nation. During the 1990s, the share of personal income consumed by the sales tax grew to 3 percent in Kansas, 2.7 percent in the region, and 2.6 percent in the nation as a whole. In part, these trends are due to a shift away from the property tax at the local level in Kansas and the region. And in part, they are also due to overall increases in state and local spending as states and localities take on responsibilities that were once federal but have been scaled back in recent years.

Sales tax rates

State-level sales tax rates in the region range from a low of 2.9 percent in Colorado to a high of 5.5 percent in Nebraska (See Table 4-1). The current rate in Kansas is 5.3 percent. This rate took effect on July 1, 2002; previously it had been 4.9 percent. The rate is set to decrease to 5 percent in 2006, but until that occurs it is always possible for the decrease provision to be amended or rescinded.

Table 4-1:
State and Local Sales Tax Rates, Tax Year 2003

State	State Sales Tax (Current 2003)	Current Local Sales Tax Rates	Average Local Sales Tax: Metro Areas	Average Local Sales Tax: Non-Metro Areas
Colorado	2.9%	0% to 7%	3.23% (FY 2002)	2.18% (FY 2002)
Iowa	5.0%	0% to 2%	0.96% (FY 2003)	1.42% (FY 2003)
Kansas*	5.3%	0% to 3%	1.83% (FY 2002)	1.71% (FY 2002)
Missouri	4.225%	0% to 4.125%	2.86% (FY 2002)	1.72% (FY 2002)
Nebraska*	5.5%	0% to 1.5%	1.47% (CY 2002)	0.71% (CY 2002)
Oklahoma	4.5%	0% to 6%	3.71% (FY 2003)	3.14% (FY 2003)

* The Kansas sales tax rate changed from 4.9% on July 1, 2002. It is set to decrease to 5% on July 1, 2006. The Nebraska rate changed from 5% on October 1, 2002.

Sources: Information provided by individual states. Average local sales tax calculated from most recent information available.

Local sales taxes add to the tax bite, and in some jurisdictions rival or exceed state taxes in magnitude. For example, local taxes in Colorado can be as high as 7 percent, more than double again the state rate of 2.9 percent. Within the immediate region, combined county plus city local taxes are imposed as follows: Kansas City, Missouri–3.375 to 2.75 percent; Kansas City, Kansas–2.0 percent; Overland Park (Johnson County, Kansas)–2.225 percent; Topeka–1.90 percent; and Wichita–1 percent.

Local sales taxes vary widely within individual states. In some states such as Iowa, local sales taxes are rarely used; in other states such as Kansas and Missouri, the taxes are prevalent. In some states (Nebraska) the maximum local rate is low; in other states (Colorado, Oklahoma) it is very high. An average local sales tax rate summarizes the frequency and intensity with which the local sales tax is used. To calculate an average local sales tax rate we first assumed the definition of the tax base for the local tax was the same as the definition of the state base. We then computed the ratio of local sales to state sales. We then multiplied by the state sales tax rate. For example, suppose the state sales tax rate is 5 percent, $500 million is collected at the state level, and $250 million is collected at the local level. We estimate the average local sales tax as ($250 million /$500 million) * 0.05 = 0.025, or, 2.5 percent.

Sales tax base and exemptions

Most states use a fairly broad concept of retail sales in defining their sales tax bases. In fact, the sales tax combines elements of a direct tax on consumption, a direct tax on investment, and a direct tax on production. The extent to which each of these three activities is taxed depends on state-specific rules for sales tax exemptions and inclusions (see Table 4-2 for sales tax applicability and exemptions). Sales taxes also have a second round or indirect impact. For example, a tax on business inputs may increase the price of products purchased by households.

Consumption

States tax consumption directly when sales taxes are levied on purchases commonly made by households. Most tangible consumer products are included in the sales tax base, but states commonly make exceptions for food and drugs. Among the states in this study, Colorado, Iowa, and Nebraska exempt groceries, and Missouri lowers the state sales tax rate by 3 percent for food. Efforts have been made in Kansas in the past to repeal sales tax on food for human consumption, none of which have been successful. However, for qualifying low income consumers there is a food sales tax refund available, typically claimed as a reduction in state income taxes. All the states in this study exempt prescription medications. States also include selected consumer *services* in the tax base–these may include residential utilities, telephone bills, restaurant meals (sometimes considered a good rather than a service), hotels, and personal services such as haircuts.

Investment

Sales taxes affect investment when states levy taxes on the purchase of machinery, equipment, tools, construction materials and construction services, or repairs (see Table 4-3 for investment and production-related exemptions). All of the states in this study make some provisions for machinery and equipment exemptions, and most make provisions for exemption of construction materials. The specific requirements for exemption vary widely by state. Criteria by which these exemptions can be compared include:

- the extent to which exemptions are limited to certain industries, particularly manufacturing;
- the extent to which exemptions are limited to direct use in the production processes and exclude auxiliary machinery and equipment;
- the extent to which exemptions are limited to new firms; and
- the extent to which exemptions are broadened in enterprise zones or other distressed areas.

Following the informative tables we summarize several states in detail in order to illustrate the range of possibilities.

Table 4-2:
State Sales Tax Applicability and Exemptions, Tax Year 2003

State	Important Items Specifically Included	Important Items Specifically Excluded
Colorado	Sales of goods at retail plus selected services. –Consumers: telephone and telegraph services; restaurant meals; hotel and motel rooms. –Businesses: gas and electricity sold for commercial (not industrial) consumption.	–Consumers: sales of prescription drugs; sales of electricity, natural gas, fuel oil, coal, and other energy sources to residences; sales of food. –Businesses: sales for resale; sales out of state; Internet access fees; sales of goods which become ingredients or component parts of manufactured, compounded, or finished goods; sales of electricity, natural gas, and fuel oil for use in processing, manufacturing, mining, refining, irrigation, construction, communication, and all other industrial uses. All purchases of machinery, machine tools and parts used directly and primarily in manufacturing are exempt from sales tax if purchase is over $500. Pollution control equipment may be eligible for refunds contingent on state budget surpluses.
Iowa	Sales at retail plus selected services. –Consumers: gas and electricity (though will be phased out by 2006); intrastate communications; water; amusements; repairs; barbers; dry cleaning; maintenance, and many other services. –Businesses: intrastate communications, repairs, and maintenance.	–Consumers: food (except for immediate consumption); prescription drugs; medical devices; Internet access charges. –Businesses: sales for resale; sales out of state; building materials for resale; computers and industrial machinery, equipment and replacement parts used directly and primarily in processing by a manufacturer; agricultural machinery, equipment, and chemicals; services and installations connected with construction or remodeling; chemicals, fuels, and electricity used in processing; materials used in processing.
Kansas	Sales of goods at retail plus selected services. –Consumers: restaurant meals and drinks; telephone; hotel and motel rooms. –Businesses: computer software; installations and repairs; electricity; gas; water, unless consumed directly in production; and telecom.	–Consumers: prescription drugs; sales of gas, electricity, and heat to residential customers (though not exempt from local sales taxes); taxable services exempt when performed in conjunction with remodeling or renovation of a residence. –Businesses: sales for resale; farm machinery and equipment; all sales of tangible personal property or services used in constructing or enlarging a new or expanding qualified business facility (see Table 4-3); component parts of manufactured or produced goods or services; goods consumed in the production of tangible personal property or services if depleted within one year; all sales of machinery and equipment used as an integral or essential part of operation by manufacturing or processing plant; gas, electricity, water when consumed by or are essential component parts of manufacturing, mining, agricultural, irrigation, or service producing processes; and original (new) construction services.

Table 4-2:
State Sales Tax Applicability and Exemptions, Tax Year 2003

State	Important Items Specifically Included	Important Items Specifically Excluded
Missouri	Sales of goods at retail plus selected services. –Consumers: communications including basic phone charge; meals and drinks. –Businesses: electricity, water, and gas unless otherwise exempted, and communications.	–Consumers: water, natural gas, and electricity for domestic use (though taxable by local governmental units); prescription drugs and prosthetic devices; Internet access fees; sales tax on food is 3 percent less than total state sales tax rate. –Businesses: sales for resale; materials and manufactured goods which, when used, become component parts or ingredients of new goods; machinery and equipment used to establish or expand manufacturing, mining, or fabricating plants, when the machinery is used directly in production; replacement machinery, equipment and parts when used in production; electrical energy used in the actual manufacturing, processing, or mining of a product, if the total cost of electricity so used exceeds 10 percent of total production costs or if the raw materials used in such processing contain at least 25 percent 'recovered materials'; farm machinery; farm pesticides and herbicides; computers, software, and computer security systems for architectural or engineering firms headquartered in the state; machinery and equipment to abate pollution.
Nebraska	Gross receipts from sales of goods at retail plus selected services. –Consumers: admissions to events; restaurant meals, utilities, cable TV, and intrastate communications; Internet purchases. –Businesses: computer software, utilities unless otherwise exempt, and intrastate communications.	–Consumers: prescription drugs; food products (excluding prepared meals), Internet access. –Businesses: sales for resale; goods shipped out of state; electricity, coal, gas, and other fuels, when more than 50 percent of the amount purchased is used directly in processing, manufacturing, refining, irrigation, farming, or generation; water when 90 percent or more is used for manufacturing purposes; agricultural machinery, equipment and chemicals; goods which become an ingredient or component part of manufactured, processed, or fabricated goods. Also, qualified new business facilities with at least $20 million investment or $3 million investment and 30 new employees or $10 million investment and 100 new employees are entitled to a refund of sales and use taxes on property for the new investment.
Oklahoma	Sales at retail plus selected services. –Consumers: hotel and motel rooms; telephone service; restaurant meals; admissions to events. –Businesses: custom software applications; sales of services and property used to develop or improve real estate, including materials, supplies, and equipment.	–Consumers: electricity, water, and natural gas utility bills; sales of farm products directly to consumers; and prescription drugs. –Businesses: sales for resale; sales out of state; sales of goods, wares, merchandise, tangible personal property, machinery, and equipment to a manufacturer for use in a manufacturing operation (here a manufacturing operation begins at the point where the materials enter the manufacturing site and ends at the point where a finished product leaves the manufacturing site); natural gas and electricity used directly in the manufacturing process; agricultural machinery and equipment; sales of tangible personal property to a qualified manufacturer to be consumed or incorporated in a new or expanding manufacturing facility, where qualification requires total construction costs of $5 million and 100 new full time employees, or $10 million and 75 new employees (but the sum of construction, material and machinery must also exceed $50 million), or an expansion of $300 million for a manufacturer who maintains an average employment level of at least 1,750 full time employees.

Note: The basic tax base in most of the states is the sale of tangible personal property at retail plus sales of selected services.

Sources: CCH Incorporated, Business Incentives Guide, 2003; and information from individual states including state web sites.

Table 4-3:
State Sales Tax Exemptions for Machinery, Equipment, Construction Materials and Services, and Utilities, Tax Year 2003

State	Machinery and Equipment Exemptions	Construction Exemptions	Utilities Exemptions
Colorado	Machinery or machine tools and parts are exempt when equipment is used directly and primarily in manufacturing, if purchase is over $500. Within an enterprise zone, these items are exempt when used in refining and mining activities as well as in manufacturing. In enterprise zones, goods used to build or repair machinery also qualify. Contingent on state budget surpluses, a firms may claim a refund on all sales taxes paid on the purchase, storage, use or consumption of tangible personal property, including machinery, used directly for research and development.	Construction labor is not taxable. Materials are taxable.	Electricity, natural gas, and industrial fuels used in manufacturing, mining, irrigation, communications, and transportation are exempt. Water is exempt. Intrastate telephone is taxed, interstate is exempt.
Iowa	Exemptions apply to computers, industrial machinery and equipment, including replacement parts, when used directly in processing, manufacturing, R&D, recycling, or in processing or storage of data by insurance companies, financial institutions, or commercial enterprises; design and installation of new industrial machinery or equipment. Sales taxes on machinery, equipment and computers are exempt if directly related to new jobs created by location or expansion of a qualified business under the New Jobs and Income Program (see Table 3-8).	Construction labor is not taxable, unless for repairs. Materials are taxable. Sales and use tax refunds are authorized for utilities, goods and services provided by contractors during construction in an enterprise zone.	Electricity, gas, fuels, and water used directly in processing by a manufacturer are exempt. Intrastate telephone is taxed, interstate is exempt.
Missouri	For new and expanding firms: machinery, equipment, and parts used to establish new or to expand existing manufacturing are exempt, when such machinery and equipment is used directly in the manufacturing of a product intended for sale. For established manufacturing, mining and fabricating firms, the state exempts replacement machinery, equipment and parts, when such machinery and equipment is used directly in the manufacturing of a product intended for sale. Machinery and equipment used to abate air and water pollution are also exempt.	Construction labor is not taxable. Materials are taxable.	Electricity consumed in the manufacturing process is exempt if it exceeds 10 percent of total production costs, or, if the raw materials used in the processing contain at least 25 percent 'recovered materials.' Electricity or gas used in basic steel making is exempt. Both intrastate and interstate telephone are taxed.

Table 4-3:
State Sales Tax Exemptions for Machinery, Equipment, Construction Materials and Services, and Utilities, Tax Year 2003

State	Machinery and Equipment Exemptions	Construction Exemptions	Utilities Exemptions
Kansas	New and expanding firms: New or expanding manufacturing businesses that add at least 2 new full time jobs qualify for exemptions on all property and services used in constructing, expanding, or remodeling a facility. Non-manufacturing firms other than retail qualify for the above if they add 5 full time jobs. Retail firms qualify if they add 2 full time jobs and locate or expand in a city of population of 2,500 or less, or outside of a city in a county having a population of 10,000 or less. Other: All sales of machinery and equipment used as an integral or essential part of operation by a manufacturing or processing plant, as well as repair and replacement parts and accessories for the above. Farm machinery and equipment are exempt.	All materials and services used in construction are exempt for qualified new or expanding businesses (see previous column). For other original construction, materials are taxed, and labor is exempt. Labor is taxable for repair or remodeling construction for businesses.	Electricity, gas, fuels, and water exempt when consumed by or are essential component parts of manufacturing, mining, agricultural, irrigation, or service producing processes. Both intrastate and interstate telephone are taxed.
Nebraska	New and expanding firms: Qualified business facilities with at least $20 million in new investment or $3 million in new investment and 30 new employees or $10 million in new investment and 100 new employees are entitled to a refund of sales and use taxes on machinery, equipment and other qualified property related to the facility. "Credits" which can be used as sales tax refunds can be earned by qualifying new or expanding businesses when they invest $75,000 and add at least two new full time equivalent employees.	Construction labor is not taxable. Materials are taxable. Materials may qualify for a refund if purchased as investment in real estate improvements of a qualified new or expanding firm (see previous column).	Water, if 90 percent is used for manufacturing. Electricity, gas, and other fuels, if 50 percent is used directly in processing, manufacturing, or refining. Intrastate telephone is taxed, interstate is exempt.
Oklahoma	Tangible personal property to be consumed or incorporated in a new or expanding manufacturing facility, if total construction costs of $5 million and 100 new full time employees, or $10 million and 75 new employees (but the sum of construction, material and machinery must also exceed $50 million), or an expansion of $300 million for a manufacturer who maintains an average employment level of at least 1,750 full time employees. Sales of machinery and equipment to a manufacturer for use in a manufacturing operation. Machinery and equipment used by qualified computer service firms. Sales of computers, data processing equipment, and telecommunication equipment for use in qualified new or expanding R&D establishments, data processing, or computer service firms are exempt.	Construction labor is not taxed. Materials are taxable. New or expanding firms: Refunds on construction materials are allowed for qualifying new or expanding manufacturing facilities, (see previous column). This refund is not available if the firm also participates in the Quality Jobs Program (see Table 3-8).	Electricity, gas, and other fuel used in the manufacturing process are exempt. Water is exempt. Both intrastate and interstate telephone are taxed.

Note: more specific definitions of new and expanding firms and enterprise zone qualifications (Chapter 3, Table 3-7).
Sources: CCH Incorporated, Business Incentives Guide, 2001; and information from individual states including state web sites.

Kansas sales tax exemptions for investment

The basic investment exemption in Kansas applies to machinery and equipment used directly in manufacturing, assembling, processing, warehousing, or in-plant distribution of goods intended for resale. In 1998, the exemption was extended to include replacement parts, components, and accessories for machinery and equipment. Labor services for new construction (whether or not in manufacturing) are also exempt, as are the construction materials themselves for qualified new or expanding business. Building supplies and labor services used in remodeling are not exempt.

For qualifying new or expanding firms the exemptions are much broader. They extend to all property, including machinery, equipment, and building supplies, and services used in constructing, expanding, or remodeling a facility. Firms in manufacturing industries must add two jobs to receive the "new or expanding" designation, while firms in non-manufacturing industries (any commercial enterprise other than manufacturing or retail) must add five jobs. Firms in retailing must add two jobs and locate in communities will small populations to qualify. Corporate headquarters, computer services firms, and firms in selected other business service industries may be granted a sales tax exemption if the investment leads to the creation of at least 20 new full time jobs.

The new or expanding firm designation augments the basic machinery and equipment investment exemption in three ways. First, construction materials and construction labor services receive an exemption. Ordinarily, all building materials would be taxed, as would any labor associated with remodeling or repair. Second, establishments such as corporate headquarters and service-oriented businesses not covered under the basic investment exemption may qualify. Finally, machinery and equipment of manufacturers that does not qualify under the “direct use” criterion may receive an exemption.

Iowa sales tax exemptions for investment

The basic investment sales tax exemption in Iowa applies to machinery, equipment, and computers, including replacement parts, that are used directly and primarily in processing; research and development of new products; manufacturing; or recycling. The design and installation of such equipment is also exempt. The same exemption applies to insurance companies, financial institutions, or commercial enterprises when the equipment or computers are used in data processing or storage. Most labor services related to new construction, remodeling, and restoration are exempt, but those related to structural repairs are not.

One of the business incentive programs Iowa offers is the New Jobs and Income program. For firms that qualify, businesses can claim a sales tax exemption for industrial machinery, equipment, and computers if the equipment is directly related to the new jobs created by the location or expansion of the eligible business.

Missouri sales tax exemptions for investment

Missouri’s sales tax exemptions are somewhat less generous than the other state’s studied. The original purchase of machinery and equipment is exempt only for new or expanding

manufacturing firms and when the machinery and equipment will be used directly in the fabrication of a product intended to be sold for final use or consumption. However, for established firms that are not expanding, all replacement machinery, equipment and parts are exempt, but again only so long as they are used directly in the fabrication of a product intended to be sold for final use or consumption.

Oklahoma sales tax exemptions for investment

Oklahoma has a broad machinery and equipment exemption: as long as they are for use in a "manufacturing operation" they are not subject to sales tax. Previous to 1998, the machinery and equipment had to be directly *used* in the operation, which is more similar to the exemptions in the rest of the states in this study. All tangible personal property sold to qualified manufacturers that is consumed or incorporated into a new and expanding facility is exempt; this has the impact of adding construction materials and supplies to the exemption list. Oklahoma also extends sales tax exemptions to computer services firms, and firms that derive specified percentages of their sales from out-of-state customers.

Production

Production, in contrast to consumption or investment, is taxed to the extent that materials, utilities, fuels, business services, and other production-related purchases enter the sales tax base. All states with a sales tax include some items that are purchased by businesses. Examples often include office furniture, office supplies, and cleaning supplies. And all states exclude, to some extent, materials that become incorporated into new goods. For example, the hard drive that goes into a computer manufactured in a state is not taxable to the computer manufacturer. The extent to which states tax these "intermediate goods" varies. All states in our study exempt components, that is, distinctly identifiable parts of the new good (such as the hard drive in the computer). Ingredients are also generally exempt, although whether a good is an ingredient is sometimes disputed. Laws covering products which are consumed or used up during production vary widely across the states. In Kansas and Oklahoma, consumables are clearly tax exempt. Iowa excludes materials used in processing. Colorado excludes materials which "enter into processing" of manufactured products. Under Oklahoma's expanded sales tax exemptions for manufacturers, all goods and tangible personal property used in a manufacturing operation are covered.

Laws covering taxation of energy also vary across states. All states in our study allow some exemptions for electricity, gas, and other energy. For most of the states in this study, electricity, gas, and other industrial fuels are exempt when used directly in the manufacturing processes (Table 4-3). Several states extend exemptions beyond the narrow definition of manufacturing. For example, Kansas includes mining, irrigation, and service producing processes. On the other hand, some states provide a narrower exemption; Missouri, for example, exempts electricity only when it exceeds 10 percent of overall production costs.

Another business input that is frequently subject to the sales tax is telecommunications. Half of the six states in this study tax intrastate telephone services but exempt interstate calls. Kansas, Missouri and Oklahoma tax both kinds of calls at the regular rate.

Table 4-4:
Sales Taxes on Services, Tax Year 1996

State	Utilities (Business Use)	Personal Services	Business and Computer Services	Fabrication, Installation, Repair	All Services
Total possible in category	8	20	41	19	16 4
Number Taxed in:					
--Colorado	2	0	3	4	14
--Iowa	7	15	18	14	94
--Kansas	7	10	11	16	76
--Missouri	6	1	3	1	28
--Nebraska	7	6	9	5	49
--Oklahoma	6	1	6	1	32

SOURCE: Federation of Tax Administrators, *Sales Taxation of Services: 1996 Update*

Taxation of services

As mentioned in the discussion above, many states include services sold to consumers and businesses in their tax bases. A somewhat dated study by the Federation of Tax Administrators provides a systematic overview of service taxation as of 1996.[21] It remains the sole source of comprehensive data on state taxation of services, and so is included here as an indicator of the general pattern among states of their differing levels of service taxation.

The organization examined taxation of some 160 services, including utilities (business and household), consumer personal services, business services, and installation and repair. The study found a great deal of diversity in the extent to which states include services in the sales tax base. Of the services covered by the FTA study, some states (New Mexico) taxed almost all services, while others (California, Illinois) taxed relatively few. Among the states in the region, Iowa stood out as taxing a high number of services, including 94 services in its sales tax base (Table 4-4). Kansas also taxed a substantial number of services, but less than Iowa in the area of business and computer services. Among the states in the region, Colorado taxed the smallest number of services (14), limiting its sales tax base almost exclusively to material products.

In the United States a growing percentage of personal consumption is of services, instead of goods. Examining Gross Domestic Product (GDP) at the national level, households decreased their consumption of durable and non durable goods (except for groceries) from 39 percent of total consumption in 1970 to 33 percent in 2001. At the same time, consumption of services increased from 31 percent of total to 44 percent.[22] To keep up with these declining expenditures

[21] The study was published in 1997 and has not been updated.

[22] Bureau of Economic Analysis National Income and Product Accounts, Table 2.6, *Personal Consumption Expenditures by Type of Product, 1970-2001*.

on sales-taxable goods, states have traditionally raised sales tax rates rather than expanding the tax base itself, even though in many cases the base was defined decades ago before many modern-day services existed, for example the Internet or cellular communications. However, in light of the budget difficulties which nearly every state now faces, it is becoming more common to examine services as a potential source of sales tax revenues. A recent report by the Center on Budget and Policy Priorities [Mazerov, 2003b] attempted to quantify what additional revenues states might expect if they extended their sales tax to what they call "readily-taxable" services. These are defined as all services consumed by households except for housing, health care, education, transportation, banking, insurance, legal and funeral services. For Kansas, the estimate of revenues from sales taxes on services came to $500 million, an amount equal to nearly 30 percent of total 2001 sales tax revenues. Of course, few states could politically afford to tax all personal services, and in any case, *new* revenues would be less than the estimate listed because states (including Kansas) already tax some of those services.

Internet taxation

To fully realize the potential sales tax revenues from sales to consumers by out-of-state retailers (such as Internet merchants), states would need to possess the authority to require a merchant outside of its boundaries to collect its state and local sales taxes for any purchases a resident made from that retailer, and then remit those collections back to the given state. To do this, however, online and mail order catalogue retailers would need to have a workable system through which to determine the sales tax rate for every locality in the country. Given the complexity, extreme diversity, and sheer numbers of sales tax structures (over 7,500 across the nation), this would involve considerable expense to the merchant. For that very reason, the Supreme Court ruled in 1992 that states can only require retailers who have a physical presence in their state to collect sales taxes. In other words, an online merchant with a physical presence in Ohio can only be required to collect sales taxes on its sales to Ohio customers. When it sells to Kansas customers over the Internet, Kansas does not have the authority to require that retailer to collect Kansas sales taxes, and because of the expense it would involve, the merchant is unlikely to do so out of the goodness of its heart. Consequently, most states have laws which enjoin the consumer to calculate their own use taxes on out-of-state purchases and remit them to the state at the end of the year, but in reality most consumers are not even aware of those statutes, nor has there yet been an effective method of enforcing them. The result is that sales taxes are rarely ever collected on out-of-state sales to households.

Given the significant and steady rise in popularity of online purchasing by consumers, it comes as no surprise that states are desirous of recouping this lost revenue, and are actively lobbying for a change. Specifically, they are taking the initiative to simplify their tax codes in the hope that courts or federal legislation will reverse the 1992 ruling and grant states the authority to require out-of-state firms to take responsibility for collecting the appropriate sales taxes. To that end the Streamlined Sales Tax Project was begun in 2000 by a group of state tax officials. To date the project has seen 40 states and the District of Columbia signed on to participate, including Kansas and all the states in this study except for Colorado. In addition, most of the participating states have already approved the "Streamlined Sales and Use Tax Agreement," meaning they intend to bring their state's sales tax codes into conformance with the specific simplification guidelines spelled out in the agreement. For some states this will require relatively little alteration in the way their tax code is already structured, for others the crossover will

involve difficult and complicated legislative changes. To date, nearly 20 states have already passed legislation to begin the process of bringing them into compliance, including Kansas (which ratified legislation in the 2003 session). Since then the state has struggled to implement the new system.

The primary challenge for Kansas has been the transition from origin based sales tax sourcing to destination based sourcing. Origin based sourcing applies the sales tax rate in effect at the location the sale was made, and has been the system in use since the inception of the Kansas sales tax. Destination based sourcing charges the consumer the sales tax rate in the place where the product will be used (typically the consumer's home address), regardless of where it was purchased. Obviously, the latter will be the system firms must use if at some time in the future states are to be allowed to require them to collect sales taxes on their sales to out-of-state customers. And although that isn't the case yet, even being able to calculate the sales tax rate for all of a firm's *in-state* costumers has proved daunting in Kansas, which has hundreds of taxing jurisdictions within its boundaries. Although the new destination sourcing regulations were set to take effect on July 1, 2003, because of widespread objection from mostly small-business owners over the cost of compliance, the state has agreed for an indefinite period of time that businesses will be 'held harmless' from sanctions if they do not comply. In the meantime the state has worked to assist businesses to implement the new system, partly through the development of software and web-based tools. Kansas' continued involvement in the Streamlined Sales Tax Project is ultimately uncertain, and depends largely on how successfully the state is able to assist and convince businesses to adopt the new system. Significant progress will need to be made relatively soon or the new sales tax legislation could face repeal in the 2004 session.

There is one other taxation issue concerning the Internet, and that is taxation on Internet connection fees, which are essentially a service. Although states are perfectly within their right to tax services, Internet fees are yet another area in which the federal government has made an exception. In 1998 Congress passed a three year moratorium on Internet access taxes, and the moratorium was renewed for two more years in 2001. The purpose of the bill was to keep access as inexpensive as possible to encourage people to connect to the Internet. The bill was expected to be renewed yet again by Congress this year, but it stalled in the Senate and lapsed for the first time at the end of November 2003. The reason had little to do with support for prolonging the ban on Internet access taxes, but rather because of attempts by lobbyists to expand the ban to include taxes on other types of Internet fees, most importantly, Internet telephony. Since increasingly telecommunication technology is moving towards Internet-based systems, and since collectively states earn billions of dollars each year through telephone franchise fees, passing a ban on taxation of any of those services constituted a much larger debate. Although states are now theoretically allowed to tax internet access fees, the issue will certainly resurface soon in Congress, perhaps as early as January. Next time much more is likely to be brought into the debate, including what states want most: the right to require online retailers to collect sales taxes.

Summary

Sales taxes comprise one-fourth of state and local tax revenue. The impact of the sales tax falls on consumption, investment, and production. States differ greatly in their definitions of the sales tax base and in the exemptions they allow for various goods and services. From the point of

view of a state's competitiveness, exemptions on machinery and equipment, installation (construction) and repair, and energy stand out as providing significant cost savings to firms.

Combined state plus local sales tax rates in Kansas fall towards the high-range for the region, averaging about 7.1 percent. On the positive side from the perspective of businesses, Kansas provides generous sales tax exemptions on many investment purchases: manufacturing, warehousing, and processing equipment, original construction, and most investment-type expenditures of new and expanding firms. On the negative side, Kansas taxes more kinds of business services than do many of the surrounding states.

CHAPTER 5: PROPERTY TAX

Introduction

State and local governments rely on a triad of taxes–income, sales, and property– to provide most of their tax revenues. Each of these taxes affects a different base. Property taxes are taxes levied on wealth of households and businesses rather than on their current income or transactions. Depending on the jurisdiction, taxable assets may include land, buildings, business equipment, inventories, household durable goods, and, in a few cases, intangible assets such as cash and bonds. Taxable asset valuations react only slowly to the ups and downs of the business cycle. For this reason, policy-makers and economists generally consider property taxes to be a stable revenue source, appropriate for local government mandates such as the provision of public education.

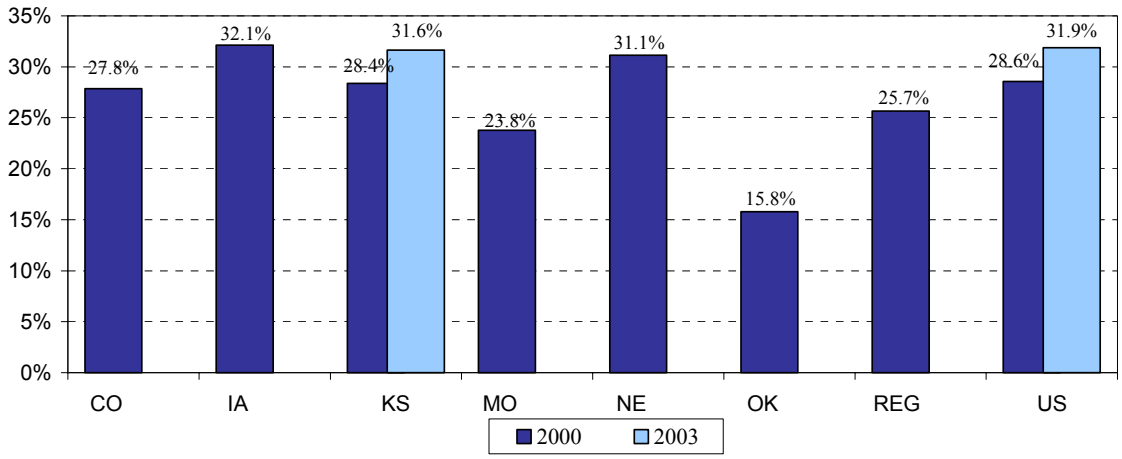
Although property taxes are levied by both state and local governments, by far the largest dollar amounts are collected at the local level. Indeed, they provide the single largest source of tax revenue for local governments in the United States. Property taxes currently (2003) provide about 74 percent of local tax revenue in Kansas. Measured another way, property taxes currently comprise about 32 percent of *combined* state and local tax revenues for Kansas and for the nation as a whole (Figure 5-1).

Figure 5-1 also compares property tax shares across the region. In 2000, the last year for which regional data are available, the states in our region demonstrated considerable variation in their reliance on the property tax. On the low end, Missouri raised only about 24 percent of state and local tax revenues from property taxes, while Oklahoma raised even less–about 16 percent. The remaining states raised between 28 and 32 percent of their tax revenues from this source.

Nationally, property taxes have comprised a fairly stable share of state and local tax revenues over the last two decades, fluctuating within the narrow range of 29 to 32 percent (Figure 5-2). In general, property tax shares rise during business downturns (see the US trend line for 1990-1991 and 2000-2002), not so much because property taxes increase, but because other tax sources decrease. Overall, property taxes averaged 30.3 percent of combined tax revenues during the 1980s and 30.6 percent during the 1990s – in essence, no nation-wide change except for normal business cycle fluctuations.

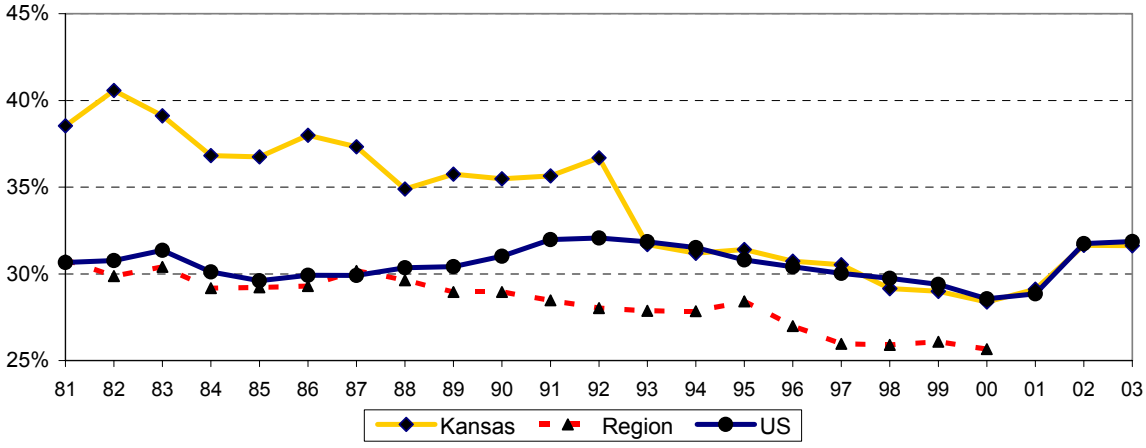
In contrast, all of the states in the region have reduced their reliance on the property tax since the beginning of the 1980s, as local governments have worked to diversified their tax bases. In Kansas, the property tax share fell by a total of about 10 percentage points over the period 1981-2000. Colorado, Iowa, Missouri, and Nebraska showed less dramatic but still significant declines.

Figure 5-1:
Share of State and Local Tax Revenue Provided by State and Local Property Taxes, 2000 (and 2003)



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances*; and PRI estimates (see Appendix 1).

Figure 5-2:
Share of State and Local Tax Revenue Provided by State and Local Property Taxes, FY1981-2003



Sources: U.S. Census Bureau, *State Government Tax Collections;* U.S. Census Bureau, *State and Local Government Finances;* and PRI estimates.

Kansas legislated several changes during the 1990s that stemmed the growth of property taxes. Property taxes were cut during the 1991 legislative session as part of school finance reform; the effects became fully apparent by 1993. These changes moved Kansas closer to the national average. Further reductions in the mandatory school mill levy in 1997 and 1998 kept Kansas in line in line with the national average share of tax revenue raised by the property tax.

Comparing property taxes across states

Aggregate measures of property taxation such as those shown in Figures 5-2 and 5-3, while interesting in their own right, provide an incomplete picture of the level of property taxation facing an individual firm or homeowner. The property tax includes two very different bases for taxation: residential property and business property. Although all taxes may ultimately be passed along to households, a homeowner's experience of directly paying the residential property tax is very different from a consumer's experience of indirectly paying business taxes in the form of increased consumer prices.

The actual tax paid by a property owner results from a complex interaction of tax rates, the types and amount of property owned, the definition of the tax base, assessment practices, and whether the property qualifies for any special tax incentives. The concept of *effective property tax rate* provides a key to understanding property taxation and to comparing taxes across states. The definition of an effective tax rate is straightforward: it is the annual tax bill divided by the true market value of a piece of property. Effective rates vary not only across states and municipalities, but also among the major categories of property: residential real estate, commercial real estate, business machinery and equipment, and inventories.

Effective tax rates for real estate

The effective tax rate depends on three components: the applicable mill levy, the statutory assessment ratio, and the actual ratio between appraised and market property values. Table 5-1 details the calculation of effective tax rates for real estate (and for inventories, which are taxed in only one state in the region). Table 5-2 provides similar calculations for machinery and equipment.

The first component of the effective rate is the mill levy, defined as the dollar amount of the property taxes due per $1,000 assessed property valuation. The total mill levy on a piece of property generally results from a combination of state taxes (in states that make use of the property tax), county taxes, city taxes, school district taxes, and taxes for special service districts such as water or hospitals.

Within a single state, mill levies vary widely from location to location. Table 5-1 shows statewide average mill rates, calculated as total tax collections divided by total assessed valuation. It also shows aggregates for metropolitan and non-metropolitan areas within the states. Property tax levies are generally lower in non-metropolitan areas because the level of government-provided services (streets, libraries, police and fire protection, etc.) is generally lower.

The second component of the effective rate is the statutory assessment ratio. The statutory ratio defines the percentage of a property's appraised value that is entered on the tax rolls. Most states in our region classify property and assess different types of property at different ratios. Kansas is among the states with a classified system. Kansas assesses residential property at 11.5 percent, commercial and industrial real estate at 25 percent, industrial and commercial machinery and equipment at 25 percent, and public utility property at 33 percent.

The states surrounding Kansas employ a variety of assessment patterns. In Iowa, new industrial equipment has a zero assessment ratio versus 100 percent for business real estate and about 51 percent for residential property. The residential ratio is adjusted annually so that the annual increase in residential property values is kept at or below four percent. A 1982 constitutional amendment in Colorado requires that residential property provide no more than 45 percent of the tax base. In order to achieve this goal, assessment ratios of all other property are set at 29 percent and the residential ratio is adjusted by the Legislature. Missouri assesses residential property at 19 percent, commercial real estate at 32 percent, and machinery and equipment at 33.3 percent. Oklahoma specifies a range of permissible rates for various property classes in Oklahoma, while the actual rates are chosen locally. Currently, rates between 11 percent and 13.5 percent apply to real property, while rates of 10 percent to 15 percent apply to personal property. In Nebraska, the Constitution sets assessment ratios at a uniform 100 percent of market value.

A final component of the effective rate is the difference between statutory and actual assessment ratios. Property appraisals often fail to indicate market property values correctly. When this occurs, actual assessment ratios vary from statutory assessment ratios. All of the states covered by this study make available statistics on discrepancies between appraised and market values for various categories of real estate. Such statistics are the result of so-called “ratio studies” that compare sales prices to appraised values for real estate transactions. In Nebraska and Iowa, valuations in local taxing districts are “equalized”—that is, adjusted for severe discrepancies in assessment ratios. Actual real estate assessment ratios, calculated by taking appraisal discrepancies into account, are shown in the fourth column of Table 5-1.

A further complication applies to residential real estate. In some states, homeowners qualify for various homestead and other exemptions that reduce property taxes on residences. In Kansas, low income homeowners and renters may claim partial refunds for property taxes (or rent representing property taxes). In addition, the first $20,000 of the appraised value of a residential property is exempt from the state-mandated school levy, currently set at 20 mills. In Oklahoma, the majority of home owners receive an exemption on the first $1,000 of assessed valuation; in Iowa, home owners receive a credit on the first $4,850 of actual value.

Effective tax rates, that is, taxes as a percent of actual market value, are calculated in the fifth column of Table 5-1. These rates incorporate the state average mill rate, statutory assessment ratios, and an approximate ratio between the true and the appraised value for each class of property. The rates measure the average property tax burden on various types of real estate and personal property; they are comparable across states. These rates do not account for the possibility that property taxes will be abated for economic development purposes. That issue is analyzed separately in a later section of this chapter.

Table 5-1:
Effective Property Tax Rates for Residential Real Estate, Commercial Real Estate, and Inventories, Tax Year 2002

State and Area	Average Mill Levy	Statutory Assessment Ratios (%)		Estimated Actual Assessment Ratios (%)[1]		Effective Tax Rates (%)[2]	
Colorado							
Statewide	72.22	Resid. Comm./Ind.	9.15 29.00	Resid. Comm./Ind.	9.08 28.71	Resid. Comm./Ind.	0.66 2.07
Metro	78.89	Resid. Comm./Ind.	9.15 29.00	Resid. Comm./Ind.	9.07 28.63	Resid. Comm./Ind.	0.72 2.26
Nonmetro	53.24	Resid. Comm./Ind.	9.15 29.00	Resid. Comm./Ind.	9.13 28.63	Resid. Comm./Ind.	0.49 1.55
Iowa							
Statewide	30.89	Resid. Comm./Ind.	51.67 97.77	Resid. Comm./Ind.	50.05 90.25	Resid.[3] Comm./Ind.	1.42 2.79
Metro	35.42	Resid. Comm./Ind.	51.67 97.77	Resid. Comm./Ind.	49.45 86.72	Resid.[3] Comm./Ind.	1.61 3.07
Nonmetro	27.57	Resid. Comm./Ind.	51.67 97.77	Resid. Comm./Ind.	50.69 96.41	Resid.[3] Comm./Ind.	1.28 2.66
Kansas							
Statewide[4]	117.10	Resid. Comm./Ind.	11.50 25.00	Resid. Comm./Ind.	11.05 22.95	Resid.[4] Comm./Ind.	1.25 2.69
Metro[4]	116.81	Resid. Comm./Ind.	11.50 25.00	Resid. Comm./Ind.	10.93 22.76	Resid.[4] Comm./Ind.	1.23 2.66
Nonmetro[4]	117.49	Resid. Comm./Ind.	11.50 25.00	Resid. Comm./Ind.	11.22 23.48	Resid.[4] Comm./Ind.	1.27 2.76
Missouri							
Statewide	55.43 Surtax[5] 10.22	Resid. Comm./Ind.	19.00 32.00	Resid. Comm./Ind.	18.82 31.37	Resid. Comm./Ind.[5]	1.04 2.06
Metro	60.04 Surtax[5] 12.59	Resid. Comm./Ind.	19.00 32.00	Resid. Comm./Ind.	18.86 31.19	Resid. Comm./Ind.[5]	1.13 2.27
Nonmetro	42.64 Surtax[5] 3.94	Resid. Comm./Ind.	19.00 32.00	Resid. Comm./Ind.	18.70 31.85	Resid. Comm./Ind.[5]	0.80 1.48
Nebraska							
Statewide	19.03	Resid. Comm./Ind.	100.00 100.00	Resid. Comm./Ind.	94.46 95.87	Resid. Comm./Ind.	1.80 1.82

Table 5-1:
Effective Property Tax Rates for Residential Real Estate, Commercial Real Estate, and Inventories, Tax Year 2002

State and Area	Average Mill Levy	Statutory Assessment Ratios (%)		Estimated Actual Assessment Ratios (%)[1]		Effective Tax Rates (%)[2]	
Oklahoma							
Statewide	94.30	Resid.	11.33	Resid.	11.29	Resid.[6]	0.97
		Comm./Ind.	11.33	Comm./Ind.	11.30	Comm./Ind.	1.07
		Inventory	12.23	Inventory	12.23	Inventory[7]	1.15
Metro	103.83	Resid.	11.27	Resid.	11.24	Resid.[6]	1.07
		Comm./Ind.	11.27	Comm./Ind.	11.23	Comm./Ind.	1.17
		Inventory	12.45	Inventory	11.19	Inventory[7]	1.29
Nonmetro	80.48	Resid.	11.45	Resid.	11.41	Resid.[6]	0.83
		Comm./Ind.	11.45	Comm./Ind.	11.44	Comm./Ind.	0.92
		Inventory	11.96	Inventory	11.49	Inventory[7]	0.96

[1] All of the states in the region conduct studies comparing sales prices to appraised or assessed valuations. The estimated actual assessment ratio is based on the results of these studies. The ratio is defined as: (assessed property value)/(true market value of property).

[2] The effective property tax rate is defined as the dollar amount of taxes as a percent of the actual market value of property. In terms of this table, the effective tax rate is estimated by [average mill levy/1000 * estimated actual assessment ratio]. In Kansas, Iowa, and Oklahoma, additional adjustments are made to residential property to reflect special exemptions and credits.

[3] In Iowa, residential property taxes are assessed at a ratio defined each year. For Iowa's 2001 assessments (used for 2002-2003 taxes), the ratio was 51.67%. The first $4,850 of a residential property's appraised value is not taxed. The exemption is equals approximately 8% of total residential property taxes. The average residential mill levies have been adjusted to reflect this exemption.

[4] In Kansas, the first $20,000 of appraised valuation of a residential property is exempt from a statewide 20 mill levy for schools. The average mill levies effective for residential property tax rates have been adjusted, based on the assumption that a typical residential property is valued at $100,000.

[5] In Missouri, a surtax applies to commercial real estate. The effective tax rates for commercial real estate reflect the addition of the surtax.

[6] In Oklahoma, the first $1,000 of a residential property's assessed value is exempt. The effective residential tax rate is based on a home valued at $100,000.

[7] Oklahoma is the only state in the region to tax inventories.

SOURCES: Calculations by PRI, based on information provided by state agencies and state statutes.

Within the region surrounding Kansas, the states show a wide range of effective rates for various classes of real property. For residential property, Colorado averages the lowest tax rate (0.66 percent) while Nebraska averages the highest (1.80 percent). In Colorado, residences are assessed at only about one-third of the ratio for businesses, accounting for the fairly low burden on residences. Kansas ranks in the mid-range of the region for residential property, with taxes averaging 1.25 percent on a property valued at $100,000. For commercial real estate, Oklahoma ranks lowest in the region (1.07 percent). Iowa (2.79 percent) and Kansas (2.69 percent) have the highest commercial real estate taxes in the region. Oklahoma is unique in the region in that it also taxes business inventories.

Effective tax rates for machinery and equipment

The concept of an effective tax rate for machinery and equipment is the same as for real estate: the tax divided by the true value of the property. However, some additional considerations figure into the case of machinery and equipment.

The "true" value of machinery and equipment is an idealized measurement. In practice, states rely on various formulas and schedules to estimate machinery and equipment values. An identical piece of machinery with an identical age will probably have a different appraisal value in each state. The following questions are among the considerations that go into valuing machinery and equipment:

- Are additional charges such as sales taxes and delivery charges counted as part of the machinery's value? In Kansas, sales taxes, delivery charges, installation costs, and other such items are excluded from the appraised value. They are included in the other states in our study.[23]
- How is depreciation estimated? Does the state use straight line depreciation formulas, accelerated depreciation formulas, estimates of the value of used equipment (called the sales-comparison approach), or some other method? In Kansas, the method is straight line of seven years or over the expected life of the equipment, if less than seven years. Other states in the region rely on a variety of methods and schedules. Often schedules show the "percent good" for a piece of machinery or equipment. Some depreciation schedules taper off fairly quickly (Missouri-Kansas City)[24] while others taper off more slowly (Colorado).
- How does the state treat inflation? Is the appraised value of machinery and equipment increased to reflect inflation, or are appraisals based on the nominal purchase price of the property? In Colorado and Oklahoma, the purchase price of machinery and equipment is "trended forward" to reflect increases in value due to inflation. In the remainder of the region, no such inflationary adjustments are made.
- Does the appraised value of an old piece of machinery or equipment taper off to zero, or is there a minimum appraisal value for any equipment still in use? In Kansas, the

[23] Iowa is excluded from the discussion of machinery and equipment valuation because it no longer taxes these types of property.

[24] In Missouri, each local assessor's office has its own depreciation schedules. Our analysis is based on schedules from Kansas City, Missouri, which, according to the assessor's office, are fairly typical of those used throughout the state.

minimum appraisal value for any property still in use is 20 percent of the nominal retail price when new. In Colorado, the minimum is 15 percent of actual replacement value. The other states in the region have no such absolute minimums.

To illustrate the level of machinery and equipment taxation in the states in our region, we rely upon three hypothetical examples. The first example is a new piece of machinery or equipment during its first year on the assessment rolls; the second example is a piece of machinery or equipment with a five-year expected life, averaged over a five-year period; the third is a piece of machinery or equipment with a ten-year asset life, averaged over a 10-year period. For the sake of comparison, we assume that sales taxes, delivery, and installation taxes amount to 10 percent of the purchase price. We also assume that the "true" physical depreciation of the property (in contrast with the depreciation used for appraisal purposes) is straight line over the life of the asset. In each case, the effective rate is calculated by taking estimated taxes on the property and dividing by the "true" remaining value. Table 5-2 shows the results of these calculations.

Taxes on machinery and equipment in Kansas are the highest or second highest within the region, depending on the region of the state and the asset life of the property. In year 1, machinery and equipment in Kansas faces an average tax rate of 2.93 percent, in contrast with 2.30 percent in Colorado, the second highest taxed state. For property with a ten-year asset life, the rankings of Colorado and Kansas are reversed: long-lived properties are treated more favorably in Kansas because their assessment quickly declines to 20 percent of purchase price, and because no adjustments are made for the cumulative inflation that might be experienced over an extended time period. Iowa, which eliminated property taxes on new machinery and equipment in 1995, clearly has the lowest rate in the region. After Iowa, Oklahoma boasts the most favorable rates for this class of property.

For several years, the high level of taxation on business machinery and equipment has caused concern in the Kansas business community. Eighty percent of manufacturers who responded to a 1997 survey said that the property tax on machinery and equipment in Kansas had a negative effect on their investment and expansion decisions [*A Kansas Vision for the 21st Century*, Kansas, Inc., 1997, p.5-3]. This tax adds to the "price" of owning machinery, and, according to the laws of supply and demand, discourages its use. In Kansas, an income tax credit for property taxes paid is one effort to remedy this perceived problem (see Chapter 3); the credit currently stands at 15 percent of taxes paid and is scheduled to rise to 25 percent in 2006. As seen in Table 5-2, the effect of the credit is to bring Kansas rates closer to alignment with those of other states in the region.

Kansas also has a program of property tax abatements for new investment in most businesses that primarily sell outside the state. This program is administered at the local level (see below). In many localities, these abatements are quite generous and do substantially offset the property tax burden on investment.

Table 5-2:
Effective Property Tax Rates for Machinery and Equipment, Tax Year 2002

State		Mill Levy	Assessment Ratio	Effective Rate, Year 1	Effective rate over asset life - 5 year asset	Effective rate over asset life, 10 year asset
Colorado						
	Statewide	72.22	29.00	2.30	2.25	2.52
	Metro	78.89	29.00	2.52	2.46	2.76
	Nonmetro	53.24	29.00	1.70	1.66	1.86
Iowa						
	Statewide	n/a	0.00	0.00	0.00	0.00
	Metro	n/a	0.00	0.00	0.00	0.00
	Nonmetro	n/a	0.00	0.00	0.00	0.00
Kansas						
	Statewide	117.10	25.00	2.93	2.61	2.28
	-adj. 15% credit			2.49	2.22	1.94
	Metro	116.81	25.00	2.92	2.60	2.27
	-adj. 15% credit			2.48	2.21	1.93
	Nonmetro	117.49	25.00	2.94	2.62	2.28
	-adj. 15% credit			2.50	2.22	1.94
Missouri						
	Statewide	55.43	33.33	2.03	1.87	1.72
	Metro	60.04	33.33	2.20	2.03	1.86
	Nonmetro	42.64	33.33	1.56	1.44	1.32
Nebraska						
	Statewide	19.03	100.00	2.09	1.87	1.82
	Metro	20.69	100.00	2.28	2.04	1.98
	Nonmetro	17.48	100.00	1.92	1.72	1.67
Oklahoma						
	Statewide	94.30	12.23	1.27	1.24	1.39
	Metro	103.83	12.45	1.42	1.39	1.56
	Nonmetro	80.48	11.96	1.06	1.03	1.16

Note: Items valued under $400 are not taxed in Kansas.
SOURCE: Calculations by PRI.

Property tax abatements and exemptions

The previous discussion of property taxes examined the usual system of rates and valuations. However, state and local governments frequently offer property tax abatements as an incentive to attract new firms and to encourage industry expansions. Arguably, property tax abatements provide the single most important tax incentive at the state and local level. Without abatements, property taxes often exceed state and local income taxes. When granted, tax abatements may amount to more than 50 percent of the tax liability. Thus, property tax abatements provide a substantial reduction in a large tax.

Theoretical issues concerning property tax abatements

Two theoretical issues arise concerning the use of property tax abatements. The first is whether tax abatements or other incentives actually attract new industry; research on this issue is mixed [Anderson and Wassmer, 2000; Bartik, 1991; Grady, 1987; Pomp, 1986; Steinnes, 1984]. Studies that examine issues of taxation and growth more broadly find a small negative relationship between the level of taxation and the level of business activity [Bartik, 1991]. Summarizing a number of previous studies, Bartik concludes that a 10 percent decrease in taxes stimulates at most about a 2 percent increase in business activity.

The second issue concerns the use of state and local discretion in granting abatements [Coffman, 1993]. In many states, abatements are not automatic but are rather the result of state and local decision-making. On one hand, the use of discretionary authority potentially avoids abatements that do not yield positive net benefits to a community. On the other hand, discretion may lead to what economists call "rent seeking" behavior. This simply means that firms will spend substantial resources in order to try to secure a favorable decision. Related to this is the potential for “threat” behavior by firms. A recent case in Maryland and Virginia illustrates the point– to prevent a major firm from relocating across the Potomac, Maryland offered a multi-million dollar incentive package, mostly in the form of property tax abatement. According to Brunori [1999, p. 649]:

> The rules of the game allow a company to hint at the possibility of relocating; in return, the home state responds by throwing money at it. The rules are designed to provide companies with incentives to move or to stay put. But they provide other, less palatable incentives as well. Hundreds of companies have taken advantage of a system that allows just the threat to leave, or the promise to come, to reduce their tax burden.

From the point of view of the economy as a whole, such activities are an inefficient use of resources.

Comparison of property tax abatements

In spite of the unresolved issues of effectiveness and efficiency, property tax abatements are common throughout the region surrounding Kansas. The widespread use of tax abatements demonstrates a point made by Youngman [1998, p. 849]:

> There is little evidence that the avalanche of serious and thoughtful economic studies has slowed or impeded interstate tax competition. Nor have warnings of a collective 'race to the bottom' demonstrably affected the political calculus of advantage to be gained from claiming a new high-profile employment site.

Perhaps some of the popularity of property tax abatements among state and local decision makers stems from their widely-touted popularity with firms. Youngman [1998] quotes the leader of (then) Coopers & Lybrand's Economics Incentives Practice, commenting on the results of a survey of firms:

> It is interesting to see that up-front incentives such as abatements or credits rank above concerns about actual tax rates. I have found that companies enjoy negotiating for and receiving special concessions....In this very mobile society, companies often look no further than the next 10 years. They find immediate benefits far more attractive than low tax rates [McIntosh, 1995, p. 411].

All states in the region except Nebraska offer significant property tax abatements. The percentage abatement allowed and the requirements for eligibility vary widely from state to state. Some state governments limit abatements to state-designated enterprise and urban redevelopment zones. Other states allow abatements to be granted at the discretion of local governments regardless of enterprise zone status. Property tax abatements may be targeted to particular industries such as manufacturing, or they may be more general, extending to services, wholesalers, and retailers. Specifics of property tax abatements are presented below.

Kansas

Kansas allows local governments to abate up to 100 percent of property tax liabilities for 10 years for new and expanding industries. These "economic development" abatements are limited to property used in manufacturing, research and development, and warehousing. Kansas law also allows most property financed with industrial revenue bonds (IRBs) to be exempt from local property taxes for up to ten years, regardless of the investing industry. Taxes may be abated on land, buildings, improvements, machinery, and equipment. In Kansas, communities must perform a benefit-cost analysis before granting abatements. However, there is no requirement that abatements be limited to situations for which the benefits exceed the costs.

In 2002, the amount of property exempted from taxation in Kansas totaled over $600 million under the economic development abatement provisions and over $2.5 billion under the industrial revenue bonds provision. The economic development exemptions alone amounted to over 2.3 percent of the commercial real estate and 2.7 percent of machinery and equipment. The IRB provisions exempted another 9 percent of commercial real estate and 12 percent of

Table 5-3:
Kansas Economic Development and IRB Exemptions,
Tax Year 2002

	Real Estate	Personal Property
Appraised Value Exemptions ($mil)		
Economic Development Exempt	430	202
IRB Exempt	1,708	899
Appraised Value Statewide Totals ($mil)		
Commercial/Ind. Real Estate	18,923	
Machinery and Equipment		7,373
Exemptions as % Statewide Value		
Economic Development Exempt	2.3%	2.7%
IRB Exempt	9.0%	12.2%

SOURCE: Kansas Department of Revenue, *Statistical Report of Property Assessment and Taxation*, 2002

machinery and equipment. It should be pointed out that owners of many of the exempted properties have agreed to make "in lieu of" payments to local governments. In addition, IRB properties may have been exempt under other Kansas property tax provisions. Nevertheless, property tax abatements in Kansas are substantial.

Colorado

Colorado makes two provisions for property tax abatements. Under the first, local governments may exempt 50 percent of the value of machinery and equipment of new and expanding businesses for four years (Table 5-5). Under the second, cities, counties, and school districts in enterprise zones may negotiate with a new or expanding firm to exempt all or part of the value added to a property over its value at the time the enterprise zone was designated. According to administrators in several of Colorado enterprise zones, the incentives are used "sometimes but not always." The quality of jobs provided is a criterion that local governments use to help make abatement decisions.

Iowa

Under 1994 legislation, Iowa offers 100 percent abatements for up to 20 years on real estate for firms that meet a strict set of "quality jobs" criteria. More generally, Iowa offers declining 5-year abatements on the construction of new industrial real estate. It should be pointed out that new industrial machinery and equipment is not subject to tax in Iowa.

Missouri

Missouri provides tax abatements as high as 100 percent for 25 years within enterprise zones and blighted areas. These abatements are limited to improvements to real estate, and do not include machinery or equipment. Almost any industry qualifies for exemption in Missouri.

Table 5-4:
Property Tax Abatements and Exemptions, Tax Year 2003

State	Extent of Tax Abatement	Eligibility Requirements
Colorado	Within enterprise zones, counties and cities may make "incentive" payments to firms based on the increase in value of real and personal property due to a new or expanding business. In no case may the incentive exceed the difference between the current property tax liability and the tax liability of the same property in the year the enterprise zone was established.	Must be a qualified new or expanding business facility located in enterprise zone. To qualify as an expanding business, the expansion must result in 10 new employees or an increase in employment of 10 percent, whichever is smaller.
	Regardless of enterprise zone location, counties, cities, and school districts may make incentive payments to firms based on their personal property tax liability, not to exceed 50 percent of the tax liability for 4 years.	Must be a qualified new or expanding business as above.
Iowa	Local governments are allowed to abate local property taxes on value added to industrial real estate. Maximum abatement: YR 1: 75% YR 2: 60% YR 3: 45% YR 4: 30% YR 5: 15%.	Local option abatement limited to new construction of industrial real estate, research service facilities, warehouses, distribution centers. Note: equipment and machinery not taxed.
	Communities may exempt 100% of value added to real property associated with job creation for up to 20 years for firms that qualify for New Jobs and Income Program.	The business must qualify under the Iowa New Jobs and Income Program (See Table 3-?). To generalize, the firm must offer high wages and substantial employee benefits. Retail firms do not qualify.
Kansas	Local option to exempt all or any portion of buildings, land, added improvements, and machinery and equipment for new or expanding firms. Exemptions last for no more than 10 years after opening of new business or completion of expansion.	Abatements limited to property of new or expanding businesses used for 1) manufacturing; 2) research and development; or 3) storing goods or commodities which are stored or traded in interstate commerce. Other qualification guidelines vary across localities.
	Property financed with economic development revenue bonds may also be exempted for up to 10 years.	Retail firms are prohibited from receiving property tax exemptions under the revenue bond provisions. Other qualification guidelines vary across localities.
Missouri	Urban Redevelopment Abatements: In order to entice development into the area, the city may grant up to, a 25-year real property tax abatement in exchange for the redevelopment of the area by the Redevelopment Corporation. For the first 10 years, the abatement is generally 100 percent. For the next 15 years it ranges from 50-100 percent.	The real property must be located within a blighted area of a Missouri city and owned by a Redevelopment Corporation. The city determines that an area is blighted based on declining property values, vacancy rates, obsolescence of structures, and other criteria. Redevelopment corporations may be organized to make improvements to the blighted area.

Table 5-4:
Property Tax Abatements and Exemptions, Tax Year 2003

State	Extent of Tax Abatement	Eligibility Requirements
	Under the Missouri Enterprise Zone program, improvements to real property may be exempt from all or part of property tax payments. No exemptions may be granted for a period of more than 25 years from the date that the enterprise zone was first approved	The firm must create and maintain at least 50 new jobs with at least 35 hours per week employment at the new or expanded facility.
	In enterprise zones, qualified improvements to real property receive a 50 percent, 10-year property tax exemption from all local governments.	The improved properties must be located in an enterprise zone, and must be used for assembling, fabricating, processing, manufacturing, mining, warehousing or distribution (no minimum job requirement for the 50 percent, 10-year exemption).
Nebraska	15-year tax abatement for turbine-powered aircraft or jets, mainframe computers, and for machinery, equipment, and other personal property (not real estate) used in agricultural processing.	The firm must qualify under the Employment and Investment Growth Act (See Table 3-6). The firm must hire 100 new full-time equivalent employees and must invest at least $10 million For the agricultural property abatement, the $10 million investment must be located at a single site.
Oklahoma	Qualifying manufacturing facilities receive a state-mandated 100 percent exemption from property tax for 5 years on new or expanded facilities. Included in the exemption are land, buildings, improvements, structures, machinery, equipment, and other personal property used in or on a manufacturing site. For expansions, the exemption applies only to the increase in property taxes attributable to the expansion.	There must be an increase of at least $250,000 in payroll or an increase of at least $2 million while maintaining payroll. Facilities must offer basic health care plans. Investments over $200 million may qualify without meeting employment criterion. “Manufacturing facilities" means : • facilities engaged in the mechanical or chemical transformation of materials or substances into new products. • aircraft repair, building, and rebuilding; • computer programming and services (SIC codes 7372 and 7373), provided at least 50% of gross revenues are from out-of-state customers; • data processing (SIC code 7374), provided 80% of gross revenues are from out-of-state.
	Local governments have the option of providing exemptions for local property taxes, provided that there is written agreement among the affected taxing units. The exemption is allowed on new investment only. Exemptions extend for 5 years, extended to 6 years in enterprise zones.	All industries except for retail, hotels, and motels may qualify. However, firms that qualify for the state-mandated manufacturing incentive described above are not eligible for the local incentive.

SOURCES: Commerce Clearing House, *Business Incentive Guide*. Information also provided by individual state agencies and individual state statutes.

Oklahoma

Oklahoma completely exempts real estate improvements, machinery, and equipment for qualified new and expanding manufacturing and selected service establishments for five years. Oklahoma stands out among the states in this study in that the abatement is an entitlement under state law rather than a local decision. The state government reimburses the localities for their tax losses. Local governments have the authority to abate property not included under the state exemption.

Effect of abatements on the general level of property taxation

Comparisons of business property taxation among the states in the region should consider two factors: 1) the effective tax rates on commercial and industrial real estate, machinery and equipment, and inventories; and 2) the probability of property tax abatement. With respect to the first factor alone, Kansas property taxes appear high, particularly for firms with a large percentage of their assets in machinery and equipment. However, Kansas offers an income tax credit for property taxes paid. In addition, property tax abatements for new and expanding firms are among the most generous in the region. Many Kansas communities favor the use of abatements, although not necessarily at the 100 percent level. This allows new or expanding Kansas industries to avoid a large percentage of the property tax burden. The net impact is to shift property taxes onto mature firms and households.

Summary

Property taxes provide an essential source of local revenues for all of the states examined by this study. Historically, Kansas has placed greater reliance on the property tax as a share of state and local tax revenue than the average for the U.S. or the region. Reliance on the property tax has declined due to changes in Kansas school finance initiated in 1991.

Kansas property tax rates per dollar market value of residential property are in the mid-range for the region. Tax rates on commercial and industrial real estate (before any special abatements are applied) are near the high end for the region. Tax rates on machinery and equipment are generally the highest or second highest in the region. However, income tax credits for property taxes paid on machinery and equipment lower the effective rate.

Property tax abatements are a frequently-used tool for economic development, despite concerns about their effectiveness and efficiency. Kansas tax abatements are very generous: Kansas allows abatements of up to 100 percent for 10 years on most types of business property and for most industries. In Kansas, as in most states, the decision to grant an abatement is made locally. While Kansas has a requirement for cost-benefit analysis of abatements, there are no absolute standards for whether the abatement should be granted.

CHAPTER 6: UNEMPLOYMENT INSURANCE AND WORKERS COMPENSATION

Introduction

For most firms, labor costs constitute the single largest operating expense. In addition to wages, which are discussed in Chapter 7, total labor costs include benefits, social security and other federal taxes, and two important state-mandated programs: unemployment insurance and worker compensation. Firms are legally obligated to participate in unemployment insurance and worker compensation; hence, this study treats them as if they were taxes. Together, these two charges add about $3.11 for every $100 in labor costs for private industry wages and salaries in the U.S.[25] The charges vary substantially by industry and by state.

Unemployment Insurance

Unemployment insurance compensates workers who are unemployed through no fault of their own, but who are willing and able to work. Employers pay both federal and state taxes to fund unemployment insurance, but the state tax is by far the larger. The federal government establishes broad regulations for the system, while the details are state- specific. Federal regulations exist to ensure that reserves are adequate to maintain the solvency of the state programs. The states define the fundamentals such as employee eligibility rules, rates, tax bases, and benefit provisions. Taxes are collected from employers and placed in a state trust fund from which benefits are drawn.

Four major factors affect the overall level of unemployment insurance rates in a state: average benefits; duration of benefits; unemployment claims; and trust fund balances. We examine the impact of each of these factors separately; that is, assuming that other factors are equal.

- The average benefits paid to an unemployed worker. If all other factors were equal, states with higher weekly benefits would have higher unemployment insurance rates.
- The duration of the benefits payments. The longer unemployed workers are eligible for benefits, the higher will be the rates necessary to support these benefits.
- The percentage of the work force making unemployment insurance claims. Again, the higher the "draw" against the insurance fund, the higher will be the rates necessary to assure solvency.
- Trust fund balances. States with a high initial balance can weather periods of high unemployment claims without dramatically increasing rates.

[25] In the second quarter of 2003, wages and salaries averaged $17.35 per hour for private sector employees. Workers' compensation averaged $0.41, while combined state and federal unemployment insurance averaged $0.31. U.S. Bureau of Labor Statistics [2003b].

The unemployment insurance tax rate assigned to an individual employer depends both on the firm's own unemployment experience record and on state conditions. Each firm accumulates a contribution-benefit balance based on what it has paid into the fund in relation to the benefits its previous employees have drawn. Firms with positive balances are charged relatively low rates in comparison to firms with negative balances. New firms with no experience are charged a "new employer's" rate which, in most states, depends on the industry in which the firm operates. Each state has a wage limit, referred to as the taxable wage base, beyond which unemployment taxes are no longer collected on behalf of an individual employee.

During the economic growth of the 1990s when unemployment was low, the Kansas unemployment insurance trust fund balance was deemed larger than strictly required. Beginning in 1995 a temporary moratorium was placed on unemployment taxes for approximately 44,000 Kansas businesses with positive unemployment compensation balances. Although the moratorium was aimed at increasing the competitiveness of Kansas' business climate, by reducing the size of the trust fund it would ultimately result in an increase in employer's UI taxes. (By Kansas law those tax rates are tied to the size of the fund balance: larger balances result in lower employer tax rates and vice-versa.) From 1995 to the end of 1999 when the moratorium expired, the Kansas unemployment insurance trust fund balance decrease by over 30 percent, from roughly $700 million to $475 million. The legislature then created a new "Size of Fund Control" schedule intended to reintroduce the exempt employers to tax payments at a lower rate than before the moratorium. However, the subsequent economic downturn and the concomitant drastic upsurge in unemployment payments required quite the opposite, a sharp increase in UI tax rates. The tax increases resulted in total UI collection growth of over 50 percent from 2000 to 2003. Tax rates would have been even higher had the state not received a one-time appropriation of $78 million from the federal government in late 2002, part of an $8 billion aid package to states known as the Reed Act. In spite of these infusions, the trust fund balance continued to shrink all the way up to the second quarter of 2003, when it posted its first gain.

These events serve to explain why a key indicator of the burden of UI taxes on employers, average tax collections per $100 of payroll, are the second highest for Kansas among the states in this study, behind Iowa. This is shown in Table 6-1. A possible explanation for Iowa's high rate involves the fact that in the recession of the early 1980s, Iowa's trust fund balance became insolvent and the state had to borrow money from the federal government, at interest, to meet its payment obligations to unemployed workers. Since that experience, and perhaps because of it, Iowa has kept its tax rates relatively high compared to other states in the region, even given the fact it also maintains a large trust fund balance. Colorado had the lowest rate of collections per payroll in 2003, but also had the lowest trust fund balance with respect to covered employment. In other words, it is not unlikely for its tax rate to increase soon.

Table 6-1:
Unemployment Insurance Benefits and Net Worth, 2003

State	Covered Empl. (1000)	Weekly Benefit ($)	Benefits Paid per Covered Empl. ($)	Collections per Covered Empl. ($)	Collections per $100 Payroll ($)	Tax per $100 Payroll ($)	Trust Fund Balance/ Covered Empl. ($)
Colorado	2,101	311	256	96	0.30	.30	144
Iowa	1,393	259	268	177	0.76	.70	492
Kansas	1,277	276	294	172	0.61	.50	305
Missouri	2,572	206	228	125	0.47	.40	676
Nebraska	858	214	147	112	0.50	.40	177
Oklahoma	1,393	233	196	100	0.43	.30	295
US Average	126,537	261	329	191	0.65	.54	239

SOURCE: U.S. Department of Labor, UI Data Summary, 2nd Quarter 2003.

Workers compensation

Workers compensation laws provide benefits to injured workers or to families in the event of a worker's death. States require that firms buy insurance to provide compensation payments. Insurance is supplied by private companies. The National Council on Compensation Insurance (NCCI), an industry group, performs actuarial work and suggests industry-specific rates for most states. In the past, rates suggested by NCCI were often approved by the states as "monopoly" rates that all insurance firms would charge. But increasingly, these NCCI rates only serve as guidelines in a market where actual rates are decided by competitive firms.

Several factors determine the workers compensation rate schedule for a state. The amount of benefits paid to injured workers, decided by state law, exerts a primary effect. So does the administration of workers compensation law: what is considered a total disability in one state might not be considered so in another. Other factors include the safety records of various industries and occupations within the state and state regulations that limit rate increases. As mentioned above, workers compensation has been increasingly deregulated. States have started to allow price competition among firms, encouraging firms to keep administrative costs low. Both Kansas and Missouri have been a part of this trend. Within a single state, the rate paid by an individual firm also depends on firm-specific factors as well as on industry and occupation. A firm's payments are modified depending on its individual safety record and on whether it qualifies for a volume discount.

The best comparative data on workers compensation systems comes from a private actuarial firm, Actuarial and Technical Solutions.[26] The firm constructs a measure of average benefits and

[26] Actuarial and Technical Solutions. *Workers Compensation State Rankings* (1992-2003).

Table 6-2:
Workers Compensation Comparative Costs, 2003

State	Index of benefits	Index of costs
Colorado	1.34	1.03
Iowa	1.08	0.82
Kansas	0.83	0.95
Missouri	0.73	1.18
Nebraska	1.05	0.82
Oklahoma	0.88	1.26
US average	1.00	1.00

SOURCE: Actuarial and Technical Solutions. Data may be reproduced by special permission only.

average costs for each state, and then indexes them to nationwide norms (Table 6-2). In other words, the data show the ratio of costs or benefits in a state to those in the nation.

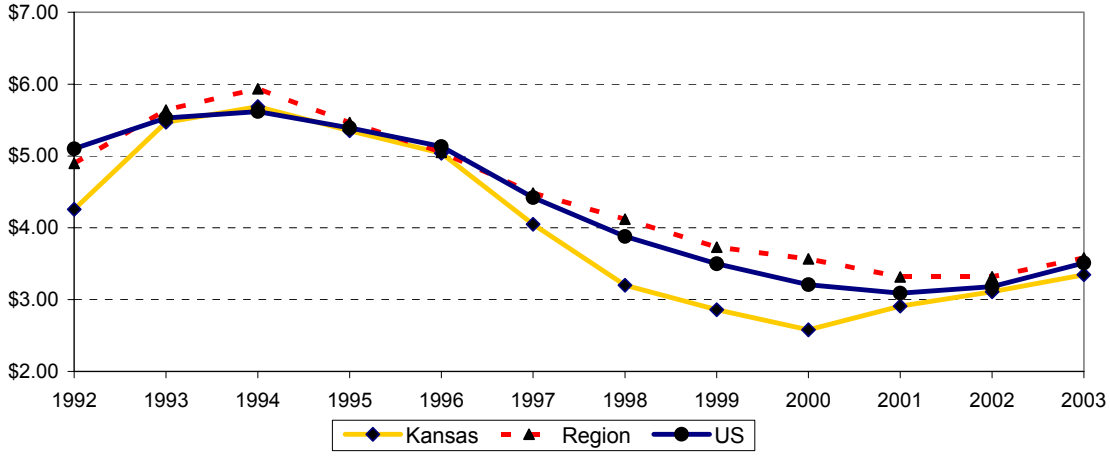
Comparisons of workers compensation benefit and cost structures across states presents a challenge. Raw data on benefits and costs co-mingle two effects: the effect of differences in state policy and the effect of differences in state industrial structure. For example, a state that has a concentration of workers in dangerous industries is likely to have very high average premiums per worker. This reflects nothing about state policy; it simply reflects the underlying risks in the industry. The data provided by Actuarial and Technical Solutions have been adjusted for industry mix and hence reflect real differences among states.

The index of benefits presented in Table 6-2 reflects differences in wage rates across states and differences in state policies determining how much a worker can recover and how long a worker can claim benefits. In 2003, benefits in Kansas were about 17 percent below the national average. In contrast, benefits in Colorado, Iowa, and Nebraska exceeded the national average.

Similarly, the index of costs compared in Table 6-2 has also been adjusted for industrial mix. It reflects the competitiveness of the workers compensation system in the state, the cost of claims, and the regulatory environment. Costs in Kansas are about the level of the national average. While not necessarily low, workers compensation costs should not present a barrier to firms wishing to locate or expand in Kansas.

In the mid-1990s, workers compensation systems came under pressure to increase their competitiveness and to lower costs. This resulted in rate structure changes in many states, including Kansas (see Figure 6-1). In 1995, the Kansas Legislature passed a comprehensive Workers Compensation Reform Act that aimed at eliminating fraud and preventing accidents. It also redefined benefit schedules for various types of injuries. In addition, the reform broke the rate monopoly in Kansas workers compensation insurance. Firms in Kansas now add their own administrative costs to the pure actuarial rates determined by NCCI in order to determine the

Figure 6-1
Workers Compensation Costs for Manufacturers, 1992-2003
(Dollars per $100 payroll)



Sources: Actuarial and Technical Solutions, *Workers Compensation and State Rankings, Manufacturing Industry Costs and Statutory Benefit Provisions*. Data reproduced with special permission from Actuarial and Technical Solutions.

final rates. Previously, administrative costs simply were built into basic regulated rates. The theory was that competition along with reforms such as accident prevention would lower costs.

Figure 6-1 traces the history of average manufacturing workers compensation rates in Kansas, the region, and the nation. Rates rose sharply in the early 1990s–more so in Kansas and the region than elsewhere. Then Kansas and the region were part of a nationwide movement to lower costs. Kansas especially was successful in this regard, as the figure indicates. From 1996—the year in which rates for Kansas, the region and the nation were the most similar— to 2000 when cost levels bottomed out, Kansas was able to reduce its costs by 49 percent, compared to 29 percent for the region and 37 percent for the U.S. Rates in Kansas are now fairly competitive in comparison with the national average: about 5 percent less in 2003, while rates for the surrounding states exceed the national average by 2 percent.

Summary

The average Kansas employer pays a UI tax rate of 0.50 percent, slightly lower than the national average of 0.54 percent but higher than all of the surrounding states save Iowa. If the Kansas economy continues to improve and unemployment to decrease, the tax rate would decrease. Additionally, it would not be unreasonable to expect some surrounding states to raise their tax rates in the near future to address shrinking trust fund balances.

While the average workers compensation rate in Kansas has fallen substantially since 1994, the costs did go up slightly in 2003. However, Kansas still had workers compensation costs that were lower than the average costs for the region by almost 7 percent and lower than the national average by about 5 percent.

CHAPTER 7: OTHER BUSINESS COSTS

Introduction

Taxes are only one of the cost factors that influence a firm's decision about where to locate; and in fact they are usually not the most important cost factor. In nearly all cases the costs of labor, energy, land, and capital greatly outweigh the costs of taxes in determining total business costs. In this chapter, we shift the focus of the discussion to these basic business costs.

Of course, it is not the average level of costs that affects locational choice, but rather variations in costs across locations. As we shall see, variations in other business costs are likely to outweigh the tax advantage or disadvantage of business locations.

Labor costs

Labor comprises the most important basic business cost considered in this report. Labor contributes a significant portion of the cost of producing goods and services. Direct wages and salaries account for about 15 percent of the value of goods produced in manufacturing; once social security, benefits, and other labor costs are added, the total comes to about 19.5 percent.[27] Of course, manufacturing also uses many processed goods as inputs, which themselves are produced using labor. The direct labor ratio is even higher in typical service industries: payments to labor (excluding benefits) comprise about one-half of the value of output in administrative service industries, and one-third of the value output in data processing and computer services. [U.S. Census Bureau, 1997 Economic Census, Core Business Statistics Series]. In industries such as manufacturing, intermediate product inputs such as services and materials may contribute a higher share of cost than labor, but these inputs are themselves produced using labor. After all direct and indirect costs of labor are accounted for, an absolute majority of costs in nearly every industry is accounted for by labor costs. Given their importance in overall costs, it is reasonable to assume that labor costs have a large influence on business location decisions.

[27] The remainder of the value of output is due to the cost of materials and purchased services, taxes, and profits.

Table 7-1:
Average Annual Wages, 1990 and 2001

	1990	2001	Percent Change
Colorado	$22,407	$37,894	69.1%
Iowa	18,795	28,007	49.0%
Kansas	20,053	30,161	50.4%
Missouri	21,335	32,208	51.0%
Nebraska	18,505	28,145	52.1%
Oklahoma	20,229	27,187	34.4%
U.S.	$23,339	$35,862	53.7%

SOURCE: U.S. Bureau of Economic Analysis web site, tables SA07 and SA27. Not adjusted for inflation.

To get a sense of how labor costs vary across states, we examine data on average wages and salaries per employee (Table 7-1). Wages per employee fall below the national average for all but one of the states in the region. Differences across the states are substantial: the gap between the highest wage state in the region (Colorado) and the lowest (Oklahoma) is over $10,000 per employee, or about 39 percent. The difference between Kansas and the lowest wage state in the region is about $3,000 per employee. The variability in wages across states is a major contributor to differentials in the total cost of doing business.

Not only does the level of wages vary across states in the region, but also the rate of wage growth differs. During the 1990s, Colorado experienced growth in excess of the national average by a wide margin. Kansas, Missouri, Nebraska, and Iowa have experienced wage growth close to the national average rate, while Oklahoma has fallen far short of the national average.

A similar pattern emerges when we confine the discussion of wages to manufacturing (Table 7-2). Average manufacturing wages for the states in our study range from a high of $47,686 in Colorado to a low of $33,414 in Nebraska, a difference of over $14,000 per employee. Colorado has manufacturing wages close to the national average; all other states in the region have manufacturing wages well below the national average. Kansas manufacturing wages rank in the middle of the region. Manufacturing wages in Colorado have grown at a much faster rate than the national average, while wages in Kansas and Missouri have grown at a rate slightly slower. The manufacturing wages in Iowa, Nebraska, and Oklahoma have lagged considerably further behind.

Table 7-2:
Average Annual Manufacturing Wages, 1990 and 2001

	1990	2001	Percent Change
Colorado	$29,865	$47,686	59.7%
Iowa	26,843	37,194	38.6%
Kansas	26,324	39,010	48.2%
Missouri	27,369	40,765	48.9%
Nebraska	23,231	33,414	43.8%
Oklahoma	26,691	34,527	29.4%
U.S.	$29,230	$44,605	52.6%

SOURCE: U.S. Bureau of Economic Analysis web site, tables SA07 and SA27. Not adjusted for inflation.

Table 7-3:
Comparison of State Average Wage to U.S. Average Wage, 2001

State	Unadjusted Ratio (%) State to U.S.	Pure Wage Ratio (%)
Colorado	105.7	105.5
Iowa	78.1	78.3
Kansas	84.1	82.5
Missouri	89.8	88.6
Nebraska	78.5	79.3
Oklahoma	75.8	77.5
U.S.	100.0	100.0

SOURCE: U.S. Bureau of Economic Analysis web site, tables SA07 and SA27.

As shown in Table 7-3, these adjustments make relatively small changes to state average wages. Column 2 in Table 7-3 shows the simple ratio of state average wages to the U.S. average wage. Column 3 isolates the pure wage effect. Take, for example, the case of Kansas. After adjusting for the composition of industries, the corrected figure for Kansas shows wages to stand at 82.5 percent rather than 84.1 percent of U.S. wages. Isolation of the pure wage effect has different impacts on different states, so that it potentially could change their competitive rankings. From the viewpoint of an employer who is considering making an investment, the pure wage effect gives a better indication of what the employer's costs might be at different locations.

For Kansas, wage rates offer a competitive advantage. Annual wages for all industries in Kansas average $30,161 per employee, significantly below the national average ($35,862) and roughly in the mid-range for states in the region. These wage comparisons hold true even after isolating the effects of industry structure.

It is important to note, however, that labor costs are affected by labor productivity as well as by wage rates. Ideally, comparative business cost studies would make adjustments for productivity. That has not been done in any studies we have reviewed. Measuring productivity appropriately would be a major research project in itself, therefore, we assume that productivity is constant across states in the region. It is known from previous research that one determinant of regional labor productivity is the quality and level of education. According the 2000 Census, Kansas ranks 17th in the nation for percent of population with a Bachelor's degree, or in other words, is well above the national average. The only other state in this study with a higher percentage was Colorado, which ranked 3rd in the nation [U.S. Census Bureau, Census 2000 Summary File 3]. In any case, ignoring productivity will tend, if anything, to understate Kansas's competitive advantage.

Energy costs

Energy is an important business input, particularly in manufacturing industries. According to the most recent data available [U.S. Census Bureau, Annual Survey of Manufactures, 2001],

Table 7-4:
State Energy Prices, 2001

State	Electricity Year-to-date through July 2003 (cents per kwh)		Natural Gas 2001 ($ per 1000 cubic ft.)	
	Commercial	Industrial	Commercial	Industrial
Colorado	6.4	4.9	7.71	4.40
Iowa	6.7	4.2	7.24	6.48
Kansas	6.5	4.7	8.52	4.97
Missouri	5.9	4.4	9.82	7.49
Nebraska	5.6	4.1	7.47	5.87
Oklahoma	6.8	4.8	8.83	8.08
Region	6.3	4.5	8.27	6.22
U.S.	8.1	4.9	8.43	5.28

Sources: U.S. Energy Information Administration, Department of Energy, "Average Revenue per Kilowatt-hour from Retail Sales to Ultimate Consumers – Estimated by Sector, by State, Year-to-Date through July" (Table 5.6.B); U.S. Energy Information Administration, Department of Energy, Natural Gas Annual 2001.

Table 7-5:
Construction Cost Indices, 2003

State	Cost Index	State	Cost Index
Colorado	.93	**Missouri**	.97
Iowa	.89	**Nebraska**	.87
Kansas	.86	**Oklahoma**	.82
U.S.	1.00	**Region**	.89

SOURCE: R.S. Means [2003].

manufacturers spent nearly $80 billion on electricity and fuel; this constituted 2 percent of the total value of output. For some industries, the ratios are much higher: the primary metals industry, for example, spent over 6 percent of the value of output on energy costs in 2001.

Energy prices show some variation across states, particularly in the area of natural gas (Table 7-4). For example, average industrial gas rates for the states in this study range from $4.40 per thousand cubic feet (Colorado) to $8.08 (Oklahoma), a ratio of over 1.8 to 1. Average industrial electricity rates range from 4.1 cents per kwh (Nebraska) to 4.9 cents per kwh (Colorado), a ratio of about 1.2 to 1.

Our discussion focuses on industrial energy prices, since they apply to manufacturing, and manufacturing tends to be more energy-intensive than service industries. Kansas ranks second lowest in the region for industrial gas prices, but somewhat higher than the regional average in terms of industrial electric prices. The Kansas price for gas is about 6 percent below the national average; the Kansas price for electricity is about 4 percent below the national average. It should be pointed out that energy prices vary within a state as well as across states; therefore, comparisons of averages may not accurately reflect the cost differentials between specific locations within the states.

Construction costs

We also investigated the cost of constructing a new facility. Data from R.S. Means [2003] show construction costs indexes for major cities in all states (See Table 7-5.) These indexes are based on local materials and construction labor prices. An index of 1 indicates construction costs equal to the national average. All of the states in the region have cost indexes below the national average. Indexes for Kansas cities range from .74 to .97, and average .86. Kansas offers construction costs well below the national average as well as below the regional average, therefore the state is quite competitive in terms of this production factor.

Land

For this study, we made use of data on land prices from a recent survey of industrial and commercial realtors [Society of Industrial and Office Realtors, 2003]. This data was collected from real estate professionals in approximately 150 markets in metropolitan areas throughout the country. A range of prices (high, low, and average) was reported for prime industrial sites in each market. Where available, data were listed separately for central city versus suburban areas.

To summarize the data, we grouped the markets into nine regions as defined by the U.S. Census Bureau. We used the mid-range value for improved industrial sites with a size of about 10 acres. We calculated the average price for each region, reported in Table 7-6 below. We also calculated a nationwide average. It should be pointed out that land is not a standard commodity, so there may be differences in the quality of the sites reported by the survey respondents.

Cities in the West North Central region, which includes Iowa, Kansas, Missouri, Nebraska, and a few other states, generally reported land prices that are at or below the national average. Land prices in this region average $1.47/sq. ft. in central city locations, compared with a national average of $3.71/sq. ft. For suburban locations, regional prices average $2.58/sq. ft., versus $4.98 for the nation. The survey includes two Kansas locations: the Kansas City metro area and Wichita. In Kansas City, improved suburban sites go for about $2.00/sq. ft., while improved suburban sites sell for about $0.88/sq. ft. in the Wichita area. The state weighted average is constructed using inventories listed in the survey as weights.

In summary, land prices in Kansas are typical for the region. They are well below the U.S. average. Land prices in Kansas should be a positive factor for firms contemplating a move or an expansion from another region. They should be a neutral factor for firms considering a move or expansion within the Midwest.

Other costs

For a significant portion of business costs, comparative data are either not available, or are hard to aggregate meaningfully. These unmeasured costs mainly cover business services and raw and finished materials. Each of these categories refers to outputs of other production and distribution processes. Raw materials prices are generally determined in national markets and do not vary much across states that are close to each other. Business services and finished materials employ processes that make use of the same input factors– labor, energy, and land–whose costs are discussed in this chapter. Moreover, under competitive conditions, the prices of services and finished materials are determined by the prices of land, labor, energy and raw materials that went into them. Therefore, the prices of basic factors described in this chapter are fairly good indicators of the total cost of business, excepting taxes and capital goods.

Table 7-6:
Industrial Land Prices by Region, 2003
(price per square foot)

State	Central City	Suburban	Weighted Average
New England	9.23	0.47	1.15
Mid-Atlantic	3.85	2.22	2.70
South Atlantic	2.57	2.61	2.61
East N. Central	2.02	2.74	2.58
West N. Central	1.47	2.58	2.23
Iowa	1.00	1.23	1.11
Kansas	2.25	1.93	2.00
Kansas City	2.25	2.00	2.07
Wichita	n/a	0.88	n/a
Missouri	3.00	3.00	3.00
Nebraska	1.75	2.25	2.11
East S. Central	2.12	1.98	2.02
West S. Central	3.29	2.25	2.45
Oklahoma	n/a	2.09	n/a
Mountain	4.14	4.04	4.08
Colorado	3.00	3.00	3.00
Pacific	10.52	10.39	10.44
U.S. average	3.71	4.98	4.06

SOURCE: Society of Industrial and Office Realtors, 2003 Comparative Statistics of Industrial and Office Real Estate Markets. Region and state averages calculated by PRI.

Summary

In general, Kansas offers a competitive business cost climate. Labor costs, the most important of the costs that we consider, are in the mid-range for the region and are much lower than for the nation as a whole. Industrial gas prices are well below the national average, while industrial electricity prices are approximately equal to the national average. Land costs in the entire region as a whole are well below the national average. For specific Kansas locations, Wichita stands out as having some of the lowest land costs in the nation.

CHAPTER 8: BUSINESS LOCATION STUDIES AND TAX AND CLIMATE INDICES

Introduction

Chapter 1 discusses several generally accepted criteria for good taxation policy. However, discussions of business taxation often focus on just two criteria: positive effects of taxation on government revenues, versus negative effects of taxation on the location of business and industry. This chapter summarizes some relevant research on business location and on the tradeoff between revenues and business location. There are a number of distinct genres of research, depending on both goals and methods. The next two sections provide a map of research methods and goals. Table 8-1 summarizes the major genres of research. Subsequent sections review in more detail three of the genres that are most relevant to the present study.

Research methods

The study of taxation and location has four important aspects:

- general theory of the firm's locational decision;
- identification of specific variables that influence that decision;
- measurement of variables; and
- statistical analysis of relationships.

Theoretical framework

In order to make any sense of massive amounts of data about taxes and costs, it is necessary to have a theoretical approach (though it might not be made explicit). Theoretical approaches vary from the formal – e.g. "firms choose locations that minimize cost" – to the informal or ad hoc – e.g. "all taxes are bad for business." There are five main approaches in this literature, but three of them are closely related.

Utility maximization. The most general theory of location assumes that business managers choose the locations that make the managers of the establishment best off. Therefore locations may depend partly on business profits, and partly on household quality of life expected for managers in that location. Quality of life depends on factors such as household taxation, government services, and local amenities. This approach is especially appropriate for business establishments owned by their managers.

Profit maximization. Publicly owned businesses are expected by shareholders to maximize profits (rather than manager's utility). Profit-maximizing locations are those which provide the best combination of sales revenues and low costs of doing business.

Cost minimization. For most "export base" firms (i.e. firms that sell to national or international markets), revenues are unrelated to location of the establishment. Because they bring in new dollars from outside the community, export base firms constitute the main kind of firm pursued by economic development programs. Therefore the location theory most widely used in economic development contexts assumes that firms locate in places which minimize all costs of operation.

Ad hoc models. Much research, especially by non-economists, is based on no formal model at all, but simply focuses on a list of factors the researcher can measure and believes to be relevant to business location. Generally speaking, most of the chosen variables are likely to be relevant to the utility maximization approach, but the variables are typically employed in an arbitrary manner (e.g. as equally weighted components of an index, or as linear explanatory variables in a multiple regression equation) rather than in any precise functional relationship dictated by theory. This is in contrast to more disciplined uses of data required, for example, by the cost minimization approach, as described below.

The step-by-step decision model. This is not really a model of firm location, but rather a model of how the location decision gets made. The firm is assumed to begin by gathering data on a large number of places. The list of places is winnowed in several rounds based on successively refined criteria, generally with additional data being gathered at each round. At a certain point, the focus may shift from general places to specific sites. This is an effective model for guiding research using interviews and surveys of firms on their locational decisions; analysis of the data so gathered is typically based on an ad hoc model, but it could also be based on more formal models.

Identification of factors influencing location

The selection of important factors or variables to be examined in a study should be guided by the theoretical approach. The present study, for example, is based on the cost minimization approach, so the relevant locational factors are generally of just two types:

- unit costs: e.g. prices or tax rates
- quantities: input amounts or other weights that show how each price affects total cost.

Ad hoc approaches, however, by definition offer no clear guidance. Variables may be selected based on common belief, or on an eclectic compilation of suggestions from various approaches. If we define "ideology" as a maintained general belief that includes no specific testable implications, then ideological preconceptions will usually suggest a large number of potentially relevant variables. Having a large number of potential variables tends to encourage "data mining," i.e. searching though many combinations of variables until one finds a set of variables that confirm the researcher's pre-existing opinion.

Data gathering

Theory alone settles nothing. Thus, almost everyone agrees that taxes can affect business location, but what really matters is the size of the effect in particular contexts – which no theory can tell us. It is important to gather appropriate data. The needed data are of four kinds: tax and

incentive law details; measurements of costs and other relevant influence factors; location decisions actually made by firms; and effects on tax revenues.

In the cost minimization approach, data are needed on unit costs and on relative input quantities. In practice, however, many costs are very hard to measure – such as costs of obtaining venture capital, costs of making connections with state-of-the-art researchers, and the amount of cost reduction due to non-tax-based incentives. These kinds of costs may be ignored entirely, or they may be treated with proxy variables rather than direct measurement. The present study measures only the simple and direct costs of taxes, tax incentives, production, and operation.

Generally speaking, data gathering is more expensive in studies based on a formal model than in ad hoc models. In ad hoc models, low data acquisition cost is an important selection factor for including variables. In formal models, the model itself helps determine data gathering methods.

Quantitative analysis

Data should be analyzed appropriately to show relationships, taking both theory and good statistical practice into account. Some of the important relationships to be examined include:

- How do total costs of production differ across location?
- How do firm startups, expansions, and relocations respond to differences in total costs?
- What is the benefit-cost ratio, or "bang per buck" of tax preference items? For example, what is the ratio of new business employment to lost revenue for each tax preference item?

The cost minimization theory has several very important implications for this analysis:

- What really matters is total cost and not any one individual tax or costs. Thus high taxes can be offset by low labor costs, and vice versa.
- Therefore each cost factors must be weighted appropriately to reflect its share of cost in actual businesses.
- Many tax preference items depend on the particular industry. Also, different industries differ in the composition of inputs, hence differ in the weights applied to different input prices. Therefore the locational effects of variables differ by industry, and as such the analysis should be disaggregated by industry.
- The analysis should also be disaggregated by stage of development. Newly established firms have different input needs (most importantly, capital investment) and face different tax preferences than established firms.

Research goals

Tax effects on business location is a large topic. Most studies focus on limited parts of the question. There are four general flavors of research, focusing respectively on:

- the locational influence factors,

- the locational decision,
- the revenue impacts, and
- the overall relationship between tax revenues and business location.

Ranking locational influences

Many studies have provided a ranking of places by their attractiveness as business locations. The rankings may use objective outside data on locational influences, or they may use subjective opinions of business managers.

Hypothetical firm studies. These studies (including the present study) measure business tax burden and business costs, and compare the total cost of business, or a portion hereof, across locations. These studies are generally based on the theory of cost minimization and are disaggregated by industry. The best recent studies are reviewed below. Within this genre, only one study we know of has provided extensive cost data on non-tax-based incentives [Fisher and Peters, 1998]; it is also discussed below.

Business or tax climate studies. These studies provide rankings between locations, based on an ad hoc or eclectic collection of variables, practically never disaggregated by industry. Some studies focus solely on taxes while others look at more general conditions. The collected variables often include business opinion data as well as data from more objective sources. Some studies focus on tax revenues per capita, including non-business taxes. Many of these studies may also include data on business growth outcomes, and hence overlap with business success rankings (as defined in the next section). Below we will review some of the studies that have been most widely reported in the Kansas and national press.

Business location analysis

A number of studies look directly at locational outcomes. Some of these merely report rankings or success measures for different places. Other studies attempt to measure the effects of various variables that influence locational outcomes.

Economic performance rankings. These studies compare business success and other outcome variables across locations. The data may or may not be disaggregated by industry. The included variables may include relocations, startups, investment, and growth in sales or employment, and also productivity, innovation, or high tech indicators such as output per worker, patents, venture capital placements, and numbers of IPOs. Many of these studies calculate ad hoc indices that combine several variables. These studies are useful; for example, they identify "success stories" that can be subjected to further analysis, and they provide a mass of detailed outcome data by location. However, because they focus more on results than on causes, they cast no direct light on the role of taxes, and so we will not review them here. (Two recent Kansas-related examples focused mainly on high tech are by Kansas Technology Enterprise Corporation [1998], and Burress, Rosenbloom, and Manzoor [2004].)

Locational opinion surveys of managers. These studies report the attitudes, beliefs, or recollections of business managers. The data are most typically organized under the step-by-step

decision model, and analyzed using an ad hoc model. They may or may not be disaggregated by industry. We review some of these studies below.

Econometric analysis of the firm's locational choice. This potentially important strand of literature attempts to measure the effect of locational influences directly using a sample of relocations or startups. Recent studies of this type have been disaggregated by industry. The models are usually rationalized in terms of cost minimization or profit maximization, but, as explained in the review below, with the exception of one study the actual specification has never been correctly based on the cost minimization model. Nevertheless, these models provide the best evidence we have on the effects of taxes on business location.

Econometric analysis of causes of local growth. This literature looks at the correlations of various factors with the growth of specific places. Tax factors are often included. The models used are generally somewhat ad hoc and are not consistent or comparable across studies. While the results are often interesting, growth is a broad aggregate process that depends not only on business location, but also on local business success, and on the impact of current market opportunities on the particular historically-given industrial mix at a given location. We will not review these studies.

Revenue impacts of tax items

A very important class of studies estimates the impact on revenues of particular changes in tax law. In the form of fiscal notes, they play a central role in legislative policy making, and are produced in large numbers in each legislative cycle in most states and by the federal government. However, revenue impact methods tend to resist any brief generalization, and we will not review them in detail. They generally are not collected in accessible form. The methods used are often specific to the particular tax item and to the specialized models and data sources available in that state. There is a substantial literature on particular methods, but little of it makes its way into refereed or periodical literature. For our purposes, the main significance of these studies is that their methods provide an important input to the evaluation studies described next.

Evaluation of incentive items

The ultimate justification for any tax or non-tax incentive must rest on in its ability to increase local business activity at a minimal cost in terms of lost revenues. Therefore the gold standard of studies is one measuring the rate of gained activity per lost revenues (for example the ratio of induced business investment to revenue cost) for each particular incentive. A set of benefit-cost ratios of this type has two potential purposes: first, to allow a reasoned choice of what tax preference items and other incentives to include in the government's portfolio of economic development tools; and second, to help answer the question of whether tax preferences and incentives as such have a substantially positive net value to the government unit that grants them.

A study of this type must join together at least two types of information:

- An estimate of governmental cost or lost revenue from the incentive item. This is based on revenue impact analysis.

- An estimate of effects on business location decisions, investment, income, and/or employment. This could be derived either from econometric locational choice studies, or from surveys of firm managers.

Ideally, such a study would also include information of a third kind:

- Estimates of the indirect or multiplier effects.

There have been a number of evaluation studies of non-tax-based economic development programs. Unfortunately, there have been relatively few good evaluations of tax incentives. Bartik [1991, p.182] summarizes studies at the local level as follows: "The range of plausible estimates is wide enough that it is impossible to say whether state and local economic development policies will generally benefit the residents of the targeted metropolitan area." A review of evaluations of several types of economic development programs is given in Burress and Oslund [1998, Chapter 8]. Both reviews agree that much more work of this kind is needed. A brief review by Buss [2001] finds that most evaluations of specific tax and non-tax incentives have found them to be relatively ineffective.

Hypothetical firm studies

In the hypothetical firm approach to modeling state tax differences (used in this report and elsewhere) a particular type of firm is modeled and subjected to the various taxes and incentives applicable in various locations, and then a measure of profitability is examined. While any modeling approach has strengths and weaknesses, most taxation economists believe the hypothetical firm method is superior to others for comparing the locational effects of specific tax structures. As argued by Fisher and Peters [1997, p. 761]:

> A carefully constructed hypothetical firm model produces by far the most satisfactory measures of the burden of business taxes or the value of investment incentives across different states and localities. Most of the criticisms of the method are either misplaced or can be nullified by the appropriate use of assumptions and model structure.

The sections below summarize several hypothetical firm models for states and localities other than Kansas. We compare their characteristics with the PRI model used in the present report.

James and Leslie Papke

This father and daughter team have apparently done more hypothetical firm simulations than any other individual or group. Their earliest study was of the Midwest region [Papke and Suyderhoud, 1979]. Others include Indiana [Papke, 1979], New York [Case, Papke, and Koenigsberg, 1983], Hawaii [Papke, 1984], Indiana [Papke and Papke, 1984].

Table 8-1:
Taxonomy of Tax and Location Studies

Type of study / Study attribute	Ranking locations by cost factors: Hypothetical firm	Ranking locations by cost factors: Business climate	Business location analysis: Economic performance rankings	Business location analysis: Survey of Managers	Business location analysis: Locational choice econometrics	Business location analysis: Causes of growth	Revenue impacts of tax items	Evaluation of tax items
Usual data types:								
Taxes paid and costs	x	x		x	x	x		
Tax revenues							x	x
Location decisions			x	x	x			x
Managers' opinions		x		x				
Other		amenities regulatory burden	growth innovation			growth amenities		indirect effects
Data unit	establishment	community	community	establishment	industry	community	varied	varied
Disaggregation	industry by community	community	community	none, or industry	industry	community	tax item, one community	tax item
Typical Model	cost minimization	ad hoc	ad hoc	step by step decision; ad hoc	partly cost minimization, partly ad hoc	ad hoc	varied	varied
Typical key finding	ranking of locations by business cost	ranking of locations by climate index	ranking of locations by growth rate	ranking of factors by importance	change in employment per tax rate	community growth per tax rate	direct revenue per item	change in employment per revenue
Statistical method	tabulation	tabulation	tabulation	tabulation	regression	regression	varied	varied

SOURCE: PRI

Their model typically includes 52 different manufacturing firms for comparison. The firms vary by specific manufacturing industry as well as asset size. Simulations assume an already-existing business whose after-tax rate of returns on investment are calculated in some original location. The firm then decides to expand: either at the same place or in a new state. The net after-tax rates of return on investment are then calculated after the expansion and compared to the original returns. Doing this for several locations allows rankings of competitiveness to be made between sites or states.

The Papkes' model does not factor in the effect of tax incentives or abatements and therefore measures tax effects in isolation, not as they would actually occur in reality. This also allows them to not concern themselves with distinguishing between new firms and established firms, who most often are treated differently when it comes to state incentive programs. Their model simply assumes all firms are already established.

Robert Tannenwald

Tannenwald, singly and in conjunction with others, has done several studies for the state of Massachusetts: Brooks, Tannenwald, Sale, and Puri [1987]; Tannenwald [1993, 1994]; and Tannenwald and Kendrick [1995].

The model he uses is primarily based on Papke's, with some revision and updating. Simulations are run for manufacturing firms in five different industries. The after-tax cash flows of each firm are measured when they expand in each of 16 sites: five selected in Massachusetts, ten in competing states (Maryland, New Hampshire, New York, North Carolina, Pennsylvania, California, Tennessee, Texas, Connecticut, and Illinois), as well as in one 'fictitious' site, where there are no taxes. All real sites were chosen because those towns relied heavily on one or more of the five manufacturing industries selected for study, as well as for their potential for competitiveness. In addition, simulations are run for two scenarios: the first assumes the expanding firm sells its products primarily in its home state, even when the expansion took place elsewhere: the goods are still returned and sold in the home state. The second scenario assumes the firm sells nearly all of its goods out of state. However, their model ignores throw-back provisions for out of state sales.

Peter Fisher and Alan Peters

Fisher and Peters [1998] is the only study which has included the effects of non-tax incentives. This study also provided data on tax costs. The study shows that non-tax incentives do have important locational effects, as compared with tax costs, but unfortunately, the study provided no data on general business costs.

Their list of representative firms totals 16: a large and small firm in each of eight manufacturing industries. They studied the tax effects in 24 states that account for the most manufacturing employment in the U.S. In addition, they compared over 100 cities with populations over 10,000 within those states. Their simulations were run for two scenarios. The first assumes the firm has operations only in the state in question and builds a new branch plant

Table 8-2:
Selected Hypothetical Firm Models

	PRI 1988, 1990, 1995, 1998,1999, 2001, 2003	Fisher and Peters 1998	Tannenwald 1987, 1993, 1994, 1995	Papke 1979, 1983, 1984
What is being measured	After-tax profits of a firm before and after it locates or expands.	Cash flows of a firm after it builds a branch facility.	Cash flows of a firm before and after expansion in current location and each of the 15 other locations.	Net after-tax rate of return on marginal investment in branch firm's alternative location, compared to rate of return for parent firm in Indiana [1984].
Geographic scope	Kansas, Missouri, Iowa, Nebraska, Oklahoma, and Colorado.	24 states accounting for the most manufacturing employment in U.S. and 112 cities in those states.	five sites within Massachusetts and ten in competing states.	Indiana compared with sites in eleven other states, mostly in the East and Midwest [1984].
Types of firms	Two types of manufacturing firm (high capital intensity-high wage and low capital intensity-low wage) plus three service firms (computer services, admin. offices, and R&D). Earlier models included up to 15 firm types.	16 hypothetical manufacturing firms, one large and small in each of 8 selected, 3-digit SIC manufacturing industries.	Five hypothetical firms, each representative of a different manufacturing industry with a significant presence in Massachusetts.	52 representative manufacturing firms: thirteen manufacturing groups, each broken down into four asset sizes.
Firm's time horizon	20 years.	20 years.	60 years.	60 years.
Incentives	Includes all possible and applicable tax incentives.	Includes all possible and applicable tax and non-tax incentives.	Not included.	Not included.
Unemploy-ment Insurance / Workers Compensation	Both included.	Not included.	Unemployment insurance only.	Not included.

Table 8-2:
Selected Hypothetical Firm Models

	PRI 1988, 1990, 1995, 1998,1999, 2001, 2003	Fisher and Peters 1998	Tannenwald 1987, 1993, 1994, 1995	Papke 1979, 1983, 1984
Corporate Income Tax Sales Factor	Manufacturing firms have in-state sales of 10% of total sales. Service firms have all sales in-state for income taxation purposes. Administrative office creates no in-state sales.	Sales are distributed by population among the 24 states and the "median" state where the firm originally resides. Median state is given a large share of total U.S. population. Hence, only a small share of sales goes to non-taxing states (they use 20%). Most of the sales will be destined for the median state, where the firm is taxed.	First scenario: all sales are within the home state both before an dafter an out of state expansion. Second scenario: sales in state of origin amount to 10 percent of its total. no sales in the state where the firm expanded.	Sales have been apportioned in varying ways with different studies. Typically, 10 percent of sales are within home state, 80 percent to outside taxing states, and 10 percent to non-taxing states.
Throwback rules	Modeled.	Modeled.	Not modeled.	Modeled.
Property Taxes	Varied costs of land.	Value of land assumed constant.	Value of land assumed constant.	Value of land assumed constant.
Non-tax cost items	Land, construction, labor, energy.	None.	None.	None.

All reviewed studies include state and local sales and property taxes and federal, state, and local corporate income taxes, including tax offsets. All studies assume Leontief (fixed coefficient) production functions. No study made adjustments for labor productivity, local risk capital, transportation cost, or government services.

SOURCE: PRI

at the same site. The second assumes the firm is initially a multi-state corporation with facilities spread throughout the 24 states in the sample, which then builds a branch plant located in one of those states. They use an interesting concept to represent the fact that this second type of firm has operations in all 24 states: for tax measurement purposes, they assume it actually resides in a mythical "median state" which has state and local tax systems representing the median of the 24.

Others

For more information on other hypothetical firm models, see Fisher and Peters [1997], which provides a comprehensive review of additional efforts.

Business climate studies

"Tax climate" or "business climate" studies compare places (usually states or metropolitan areas) by building up an index. The index items are generally chosen on an ad hoc basis lacking any strong conceptual justification, and assembled as an unweighted average. Studies of this type are generally not broken out by industry and ignore the distinction between naturally mobile firms versus businesses that produce goods and services for local consumption. Using such a relatively arbitrary approach, it may be possible to get very different results by merely choosing different (yet equally plausible) data items. Moreover the data are generally too aggregated to tell us anything about any specific industries (however Grant Thornton's annual *State Business Climates* is oriented to manufacturers, while *Inc Magazine*'s "Hot Zones" is oriented to small business.) For these and other reasons, academic reviews such as Lake, Glennon, and McCabe [1989] have not been very favorable to this line of research.

Many business climate studies include business success or outcome data as well as data on taxes and other business costs. (Climate indexes constructed at various times by magazines such as *Fortune*, *Site Selection*, and *Entrepreneur* have generally fallen into this category.) Studies that include outcome data are not of much use for scientific purposes, because they combine cause and effect in a single index. In particular, the only meaningful way to validate the usefulness of a business climate index is to check whether it actually correlates positively with business success (as we illustrate below). But if the index already contained direct measures of business success, then obtaining a positive correlation with other success measures would have no significance. Therefore we will focus on studies which predict business success purely from tax and cost conditions, not intermingled with success measures.

Perhaps the best ongoing pure index of this kind is the proprietary Cost of Doing Business Index, prepared at four month intervals by Economy.com, a locational consulting service. Their index uses a composite of indices for tax cost, labor cost, and energy cost, which is crudely consistent with the cost minimization model of business location. Their findings for our six-state region have been generally consistent with the findings in Chapter 9 below: Colorado is generally ranked as an above average cost state; Kansas and Missouri are ranked as somewhat below average; and Iowa, Oklahoma, and Nebraska are ranked as significantly below average in cost.

Two recent and widely publicized comparisons of "tax climate" were constructed by organizations that advocate for lower taxes across the board. Their indices were based on several equally weighted index items per state. Neither index takes detailed tax incentives into account. Both studies claimed, in effect, that Kansas is a high cost state: the State Business Tax Climate Index [Hodge, Moody, and Warcholik (Tax Foundation), 2003] ranked Kansas 32 among states, and the Small Business Survival Index [Keating, 2003] ranked Kansas 36. These findings directly conflict with the conclusions about Kansas taxation reached in the next chapter.

Table 8-3:
Correlations Between Employment Growth and Selected Tax Climate Indices[1]

Tax Climate Index	Employment growth to year 2002 from year: 2001	2000	1999	1998
State Business Tax Climate Index 2003	-0.006 (0.039)	0.153 (1.081)	0.212 (1.516)	0.269 (1.955)
Small Business Survival Index 2003	-0.092 (0.649)	-0.043 (0.303)	-0.025 (0.172)	0.082 (0.578)
Small Business Survival Index 2000	-0.153 (1.085)	-0.092 (0.647)	-0.099 (0.696)	0.003 (0.019)

[1] t statistics (with 49 degrees of freedom) are in parentheses.
SOURCES: Bureau of Labor Statistics; Tax Foundation (Hodge, Moody, and Warcholik, 2003); Small Business Survival Index (Keating, 2003); calculations by PRI.

The stated purpose of these indices is to predict the effect of government tax policy on business growth. Table 8-3 shows 12 measured correlation coefficients comparing both indices, as well as the year 2000 Small Business Survival index, with employment growth in 50 states plus the District of Columbia, comparing 2002 with each of four previous years.[28] The correlations are often negative rather than positive, and none of the 12 correlations are statistically significant (p=.05; one correlation is almost significant.) Evidently, neither index is an especially effective predictor of employment growth.

Locational opinion surveys of managers

There have been extensive surveys of business leaders on the relative importance of various taxes, incentives, and other costs in the location decision process. The survey findings are moderately consistent. There are two inherent shortcomings in the method:

- Firms logically would find it in their best interest to overstate the importance of tax incentives in their location decisions, and may have other distorting incentives.[29] This renders the survey findings suspect.
- The firm can indicate whether or not it considers an incentive or cost item important in their location decisions, and various cost and non-cost items can be ranked in importance.

[28] Ideally, a test of predictive ability would focus on growth in the years following the index measurement. That is obviously not possible for a recently measured index. The inclusion of the 2000 SBSI index in our comparison partly addresses this problem. It is also the case that tax structures are rather slowly changing, so a consistently constructed index of this type is rather stable over time (e.g. the correlation coefficient between the 2000 SBSI and the 2003 SBSI is .943). In any case, if tax structures were not reasonably stable, then firms making multi-year investments would have little reason to pay attention either to existing tax structures, or to tax climate indices. Hence these indices should be expected to postdict growth almost as well as they predict it.

[29] E.g. Netzer [1997] comments that managers may often report that a given locational factor is important to their industry, but then deny it was important to their own firm.

The surveys do not go so far as to quantify those influences, or in other words, tell us how valuable a particular incentive is.

The basic problem is that the idea of ranking cost factors is not really consistent with the cost minimization theory. It is the effect of all costs working together that make the difference, not any one cost. Therefore the specific details of each comparison situation make all the difference. Thus, if each cost item except tax costs were roughly constant across locations (which might happen in adjacent cities), then taxes would determine the outcome. But in comparisons of locations not close together, it is often the case that variations in wages are much larger than variations in taxes. Therefore in many cases, taxes would make no difference at all. Survey results presumably give some kind of an average over extremely heterogeneous rankings, which is rather difficult to interpret.[30]

For this reason, it is hard to derive any strong policy recommendations from the survey results. Nevertheless, surveys are widely cited in the literature. The aggregate result of these surveys is what one might expect: a fair percentage of firms claim incentives are important factors in their location decision, and their importance increases when the decision comes down to similar locations in the same geographical area. Here are a few examples based on a summary by Bartik [1991, pp 26-27]:

- Schmenner [1982] surveyed Fortune 500 companies and observed that incentives become much more important the further along in the location decision process the firm was. Specifically, only 1 percent of respondents indicated that taxes were a "must" factor when considering regions or a state for a new plant, but 35 percent of respondents claimed that low taxes were desirable when comparing particular sites.
- A survey of hi-tech companies by Premus [1982] found that 67 percent consider taxes "significant" or "very significant" in influencing their growth decisions.
- Walker and Greenstreet [1989] found that 37 percent of Appalachian manufacturing plants which had received an incentive offer considered them to be decisive in their final location decision.
- In a survey of New Jersey firms located in enterprise zones conducted by Rubin [1991], only 32 percent of respondents said the enterprise zone incentives were their "primary" or "only" reason for locating or expanding in the zone.

Many other surveys have been conducted, but all with the same general results. They point out that firms report tax incentives as being important when making their location decisions. In general, however, the incentives are ranked as substantially less important than labor market conditions.

Econometric analysis of the firm's locational choice

A number of studies have analyzed the average effect of taxes on business location using regression analysis of a sample of locational decisions. In principle, economists would view this as the best way to measure locational effects. Perhaps surprisingly, given the sheer quantity of

[30] In principle, these shortcomings could be overcome by asking firms to attach specific dollar figures to different tax and cost differences. (The analysis would also have to be disaggregated.) As far as we are aware this has never been done.

this kind of work, the findings have remained inconsistent and varied. Even some recent reviews of the literature appear to disagree on what can be concluded from the work [Fisher and Peters,1998]. Perhaps the most well known researcher in this area, Timothy Bartik, has called the "fragile results" of empirical research on business location decisions a recurring theme in literature reviews [Bartik, 1997]. Nevertheless, a majority of researchers now seem to agree that incentives can affect business location decisions to some degree. There are some dissenting voices, but for the most part the debate has turned to how much taxes affect business location decisions, not if they affect them.

What has caused much of the skepticism about tax effects is the methodological shortcomings inherent in the approach. Perhaps the most formidable problem, yet to be fully overcome, is the "endogeneity" of many of the explanatory variables in the regression analysis. In other words, it very hard for researchers to determine the direction of cause and effect. Suppose a researcher is trying to explain why economic growth has occurred. He may have several explanatory variables, such as taxes, wages, and land prices. These all affect growth, but so might some other variables which he might have omitted. Assume a new firm comes to town and causes growth, but also an increase in wages and land prices. The researcher may incorrectly conclude that an increase in wages and land prices caused the growth, when in fact it was the other way around. Other econometric problems include the lack of data on important variables such as labor quality and levels of public service; this causes the researchers to use questionable proxies. Furthermore, in national studies there is a daunting task of comparing the tremendous variety of state and local tax differences. These difficulties tend to bias the results to such a degree that the findings often vary greatly even between studies using the "exact same" methodologies.

Bartik [1991] provides the most extensive review of empirical studies, summarizing every published and extensive unpublished work in the twelve years from 1979 to 1991. Out of a total of 123 studies he found that 73 percent had at least one statistically significant negative tax effect on business location. Out of 100 studies which were roughly comparable in method, he found the average mean elasticity of business activity with respect to taxes to be –0.88. In other words, a one percent increase in taxes would cause business activity to decrease by .88 percent, or vice-versa. He also concluded that the negative effect of taxes on business location grew more pronounced as the focus of the study moved from interstate decision areas to intrametropolitan areas. This is what we would expect, since intuitively tax effects are likely to be factors more important to business location decisions when choosing between two areas near each other with similar characteristics than when choosing between two broad geographic regions such as states. Based on the studies which focused on different scales of decision making, he estimated that the long run elasticity of business activity with respect to taxes to be in the range of –0.1 to –0.6 for intermetropolitan and interstate location decisions and between –1.0 and –3.0 for intrametropolitan decisions [Bartik, 1991, pp. 40-43]. From these findings he concludes that "…most business location studies have found some evidence of significant negative effects of state and local taxes on regional business growth," and hence, "state and local policies can significantly affect the long-run level of business activity in a local economy"[Bartik, 1991, pp. 38, 57].

A review by Wasylenko [1997] that included Bartik's studies as well as more recent efforts found much smaller elasticities in the 0.0 to –0.26 range for interstate location decisions. Wasylenko concluded that his results are more "similar than they are different" from Bartik's, but he also noted that the range of elasticities remains very wide. This, he concludes, is mostly explained by "variations in data, time periods, and other variables used in the estimation equation. In effect, the results are not very reliable." [Wasylenko, 1997, p.38]. Muddying the waters even further, he notes, "Several carefully done studies by respected researchers find tax elasticities larger than the -0.6 upper bound of Bartik's range… But at least an equal number of researchers using similar care and sophistication in their approaches find small or statistically insignificant tax effects." [Wasylenko, 1997, p. 45].

On the strongly skeptical side, in a recent journal issue dedicated to this discussion, and which included an article by Bartik, Professor Netzer wrote under the heading of 'Some Studies Should Be Trashed' that Bartik's well known elasticity estimates reside in a class best described as a "field of dreams" [Netzer, 1997].

Therefore, in spite of great effort over decades, there is no bottom-line consensus on how much economic development practices can affect business location decisions. Nevertheless, there appear to be more limited statements on which there is some consensus: if state and local taxes do have a noticeable effect on business location decisions, they are likely to be mildly negative, and to become more influential in affecting the decision between two similar locations within the same, relatively small geographical region.

In our opinion, nearly all of these studies have shared a serious weakness: taxes were treated as separable influences, rather than as simply one component of total cost. In other words, the studies uniformly suffer from specification error. Instead of measuring the elasticity of firm location with respect to taxation, what should be measured is the elasticity of location with respect to total measured cost.[31]

Summary

Several genres of research aim to cast light on the tradeoff between tax revenues and local business growth. Unfortunately, this research hasn't given policymakers all the information they need for making informed choices. There is very extensive and reasonably reliable information on the revenue cost of particular tax items (fiscal notes). There is also a relatively large body of research attempting to measure effects of tax rates on business location in general (locational choice econometrics, surveys of managers), but unfortunately that research has not led to consensus on the *sizes* of the effects.

There is a regrettably small body of incentive evaluation that puts the two sides together and measures jobs or income gained per lost revenue, i.e. the bang per buck, of particular tax items. In our opinion, evaluation (especially benefit-cost analysis) of tax incentives is an extremely important line of research that deserves much greater support. Since tax incentives are

[31] The tax effect could then be estimated as (Δ cost/Δ tax)*(Δ firm locations/Δ cost). Note that both terms, but especially (Δ cost/Δ tax), could differ substantially across particular industries and locations.

not a federal concern, and since local governments generally lack adequate resources to fund these studies, the logical source of funding would appear to be state legislatures.

There is also much research that is too aggregated to give any useful information where it is really needed, at the level of individual taxes and industries. In addition, this research is typically rather ad hoc in its conceptual approach, leaving one with little confidence in the methods used. Conventional tax and business climate rankings, for example, are viewed by most taxation economists as lacking much merit. Rankings of locations by economic success are interesting, but in themselves provide no information about what actually causes differences in success. Econometric studies of the causes of regional growth are also interesting, but the genre has not matured to the point of approaching a consensus, and is too aggregated to provide any information on particular industries or tax incentives.

A recurring theme is that very few studies of any type have taken the cost minimization model (or any other model) with complete seriousness. This is understandable because of the high costs of gathering comparable data on the total cost of business by industry and location. Indeed, all existing efforts, including our own, have restricted their attention within a somewhat limited range of cost items that are deemed to be measurable.

The consequence is that our information on the effects of taxes on location is not highly accurate. Nevertheless, there is a general consensus among economists that effects of taxes are, at most, considerably smaller on average than effects of labor costs, simply because both level and variations in tax costs are much smaller than level and variations in labor costs.

The role that hypothetical firm studies play is unique. They are rigorously based on the cost minimization model. And they provide the only reliable information we have on actual differences in the cost of doing business across locations. Moreover, the information is broken down by industry, and it can be examined for changes in assumptions about the firms goals (such as its internal discount rate). Hypothetical firm information is important because it directly shows objective information in a form that makes clear sense, both to managers making locational decisions, and to policymakers attempting to influence those decisions. And it provides clear rankings of locations, at least with respect to measurable costs.

However this information is limited in important respects. It does not show the effects of unmeasured items such as labor availability, skills, and productivity; risk capital availability; and other items related to economies of agglomeration. And it not does not show factors that enter into the non-financial objectives of business decision-makers, such as regional amenities and quality of life. And, as noted, it provides no information on the relative importance of measurable costs, as compared with non-measurable locational factors.

CHAPTER 9: TOTAL COST OF DOING BUSINESS

Introduction

Since 1987, the Policy Research Institute or its predecessor (the Institute for Public Policy and Business Research) has worked with Kansas, Inc. to develop and apply a tax and cost of business simulation model. This model provides a flexible method for comparing costs of doing business across states. It produces estimates of key variables that might affect a new firm's location decision: the cost of inputs such as labor and energy, the cost of assets such as land and buildings, and the amount of a firm's federal, state, and local taxes. In addition, the model provides a means to evaluate the cost and tax climate facing existing Kansas businesses.

It is important for Kansas to be able to track relative costs and taxes within the region and nation, particularly in view of the goals of its economic development plan. The 1997 version of the Kansas economic development strategy included the following goal:

> Create a positive, competitive business climate that encourages investment and growth [Kansas, Inc., 1997, section 3, p. 6].

The narrative then stated:

> The 1986 and 1993 economic development strategies explicitly rejected the goal of making Kansas a low tax state. Kansas business leaders and economic development advocates have recognized the vital importance of quality public services and the need for adequate funding for the public sector. Rather, the goal has been to achieve tax competitiveness within the region; in other words, a level of taxation that would neutralize this issue as a locational factor. The 1997 strategy re-affirms the goal of tax neutrality [section 3, p. 6].

The 2001 strategy update [Kansas, Inc., 2001, p. 5-8] agrees that the desired outcome is: "Neutralize tax impacts on Kansas." Research on the relative costs of doing business in Kansas, and on taxation in particular, provides a way for the state to assess its progress towards this goal and to identify areas in which policy adjustments could improve the business environment.

However, the 2001 Kansas strategy also calls for "more competitive business taxes, and improved attraction and retention incentives, based on [PRI's 1999 business cost and tax study]." The 2001 strategy does not call for making Kansas a low tax state, but does express concern that mature firms and exporting service firms are suffering from a competitive disadvantage due to taxation. According to PRI's 2001 tax study (completed after the strategic plan was formulated) as well as the cost of business model results presented below, this concern was misplaced. Kansas has fully achieved the goal of tax neutrality.

Methodology

The PRI tax and cost of business model takes a "hypothetical firm" approach (see Chapter 8 for a comparison of hypothetical firm models used in various states). Profiles of firms in several industries are developed based on industry average costs for capital, labor, and other inputs. The firms are then "placed" in each of several states, where they become subject to 1) the state's business tax rates, and 2) the prevailing costs for labor, energy, land, and other factors in the state.

The model is structured to allow two different types of scenarios. The first type, referred to as the "full model," allows taxes and other business costs to vary simultaneously across states. This situation gives a picture of the overall business climate in a state. The other type of scenario, referred to as the "partial model," isolates the impact of business taxes by holding other costs constant (at their regional average levels). The partial model scenarios are useful for distinguishing the effects of the particular tax structures of the states from overall effects of taxes plus business costs.

The model distinguishes between the situations of a new firm and an on-going establishment or "mature firm." The new firm is eligible for numerous tax incentives from state and local governments that are available for creating new jobs or making new investments. The ongoing concern does not receive tax incentives, and hence faces the full impact of the state's tax structure. Note that an expanding firm could be modeled as a combination of a new and a mature firm.

Industries examined by the PRI model

The model includes five industry types: two manufacturers and three service firms. The first manufacturer is an aggregate of industries that pay low wages and use low-to-moderate amounts of capital equipment. Examples would include furniture manufacturing, bakery products, and poultry processing. The second manufacturer is an aggregate of high wage, highly-capital-intensive industries. Examples are pharmaceuticals and aircraft engines. Most other manufacturing industries can be viewed as being intermediate between these two cases.[32]

The service industries include computer services, administrative back offices, and research and development (R&D) firms. The R&D industry is moderately capital intensive, while the other industries are less so. Estimates of capital intensity and average wages for the five industry types are shown in Table 9-1.

[32] Previous versions of the model included a much more detailed breakout of manufacturing industries. However, analysis showed that almost all variation between manufacturers was determined by the level of capital intensity, partly because wages and capital are the most important determinants of taxes and cost, and partly because wage rates in manufacturing industries are highly correlated with capital intensity.

Table 9-1:
Average Wages and Capital per Employee by Industry[1]

Industry Description	Wages	Value of Structures	Value of Equipment	Total Depreciable Capital
Low Wage, Low Capital Intensity Manufacturing	$26,600	$18,000	$19,000	$37,000
High Wage, High Capital Intensity Manufacturing	51,800	90,000	136,000	226,000
Computer Services	57,200	16,800	24,200	41,000
Administrative Offices	40,500	26,300	9,700	36,000
Research and Development	58,700	44,100	25,900	70,000

[1] U.S. Averages, year 2000 dollars

SOURCE: Calculations by PRI.

Our major data sources for estimating capital, wages, and other costs were:

- U.S. Census Bureau, 1999 Annual Survey of Manufactures (for employment, value added, and wages);
- U.S. Bureau of Economic Analysis, Fixed Reproducible Tangible Wealth, data on CD ROM, 1999 (historical and current cost by two-digit SIC code for machinery and structures);
- U.S. Census Bureau, 1997 Economic Census Core Business Statistics Series, Advance (for data on service industries including employment, wages, value added, and sales);
- U.S. Bureau of Economic Analysis, Input Output Tables of the United States, 1997.

Table 9-2:
Sales, Costs, and Assets for a
High Capital Intensity High Wage Manufacturer

Sales, Costs, Assets	Annual Amount per Employee
AVERAGE ANNUAL SALES	$466,897
AVERAGE ANNUAL COSTS	$381,154
Payroll	41,923
Production	24,337
Other	17,586
Employer's Soc. Sec. Payments	3,207
Employee Benefits	5,182
Intermediate Goods and Services	316,662
Materials	207,525
Transportation	13,481
Utilities	18,161
Electricity	7,162
Gas	5,472
Water	2,779
Communications	1,184
Other	1,565
Business Services inc. Advertising	23,970
Other	53,525
Depreciation (annual average)	25,510
Repair and Rental Payments	2,543
Other Costs or Revenue (-)	-13,873
ASSET COSTS (excluding sales taxes)	
Land	10,416
Buildings	80,100
Machinery	136,000
Inventory	42,021

SOURCE: Calculations by PRI.

Representative firm profiles

The basic structure of the simulation model is fairly straightforward. A profile is developed for a representative firm in each industry listing sales, costs, and assets. The profile is based on industry averages for the U.S. Once the firm profile is in place, the model proceeds to calculate the federal, state, and local taxes the typical firm would incur.

Table 9-2 shows an example of such a profile, constructed for a high wage, high capital intensity manufacturer. All dollar amounts are shown in per-employee terms. Costs are in annual terms, and both costs and assets are adjusted to real 2000 prices. The costs in the sample profile reflect U.S. average prices for labor, land, and other purchases. However, the actual scenarios below incorporate local cost adjustment factors for each state. The adjustments for local costs in the scenarios assume that the firms use the same quantity of each input (labor, energy, etc.) regardless of price.[33]

Tax and cost data and calculations

The cost of business model uses information from the cost and asset profiles to calculate the taxes that would be paid by typical firms in each state. The model relies on a database of state and local tax rates and a complete description of the tax base to which each tax applies. The model is based on the most up-to-date information available about state tax rates and incentives. All sales tax and corporate tax rates are for 2003. For the most part, statewide estimates of property tax rates are based on 2002 data.

In essence, the model fills out federal, state, and local tax forms for each representative firm and calculates the firm's liability for each type of business tax. The model is careful to account for the feedback effects among taxes. For example, the model incorporates the "federal offset" which occurs when state and local taxes are deducted from federal taxable income. Similarly, there is a state offset for local taxes.

All calculations are carried out for a 20 year period. Valid cross-state comparisons of state tax structures require the examination of a fairly long time period. Reasons for this include state-by-state differences in the length of time for which incentives are offered and in the length of time for which unused credits can be carried over. In order to summarize the 20 year time period, present value calculations are made. The model assumes a discount rate of 10 percent for capitalizing profit profiles into a present value. An annualized average is then calculated.

Alternative scenarios

The cost of business model is designed to allow the user to make alternative assumptions about the situations of the representative firms. Major assumptions are of two types, concerning:

[33] This assumption is known as "Leontief technology." An alternative assumption, known as "Cobb-Douglas technology," which would allow for substitution in the input mix as prices vary, may theoretically be more appropriate. However, other business cost studies have uniformly used the simpler Leontief technology.

- the degree to which the firm receives tax incentives (new versus mature firms); and
- the importance of tax differentials versus other differential costs.

Eligibility for incentives: new versus mature firms

Whether a firm receives tax incentives can make a large difference in its bottom-line tax bill. The tax situation faced by a new firm in a particular state may share little with the situation of a mature firm. Furthermore, the situation of the new firm may bear little relation to the underlying tax rates that prevail in a state. Hence the results presented in this report contrast two alternative sets of assumptions.

In one scenario (the "new firm" scenario), a firm is assumed to qualify for all incentives allowed for new firms in their respective industries. The firm is assumed to locate in an enterprise zone in the states where enterprise zone credits exist. In states which allow local governments to grant varying percentages for property tax abatements, the firm is assumed to receive 75 percent of the maximum tax break. This scenario approximates the situation of a "footloose" firm which can shop for the best incentive package available in the region.

In the alternative scenario (the "mature firm" scenario), the firm is offered no special tax credits or abatements. This scenario is intended to represent the situation of a mature, established firm which is currently neither expanding nor changing locations. The mature firm pays taxes in line with the basic tax structure of the state in which it is located.

Non-tax effects: partial versus full model

The second set of assumptions concerns the extent to which differences in non-tax costs are built into the model. The appropriate set of assumptions depends on the type of question the user is trying to address. If the user is interested in broader issues of cost competitiveness, an extended model which builds in local cost adjustment factors for labor, utilities, and other key inputs is more valid (see Tables 9-3 and 9-4). This approach provides an estimate of taxes and costs as they exist in the “real world.”

On the other hand, if the user is interested in distinguishing differences in state tax structures, a model which holds all other costs constant across locations is suitable (see Tables 9-5 and 9-6). This approach uses a pure simulation contrary to fact, intended to provide a particular decomposition of tax effects. (The costs are held at regional average levels.)[34]

Results from both approaches are presented in this report. It should be noted that the first approach reflects actual-world feedback effects between costs and taxes. For example, suppose that a firm locates in an area where land is expensive in comparison to other states. Then the full version of the model will indicate high property taxes for the firm, since the property tax level

[34] This decomposition, however, should be viewed with caution, partly for reasons explained in the next paragraph. For example, a state could have low real estate taxes either because its tax rates are low, or because its real estate prices are low. The partial model includes the tax rate effect, but omits the real estate price effect. Note further that, when real estate values fall, some jurisdictions may raise tax rates in order to maintain the level of tax revenues.

reflects not only the tax rate, but also the land value. Similarly, income taxes in the full model reflect the impact of costs on the taxable income base.

Detailed modeling assumptions

The situations of representative new and mature firms are defined by a detailed set of assumptions. Some assumptions are shared in common, while others distinguish the two alternative firm types.

Assumptions applying to all firms

1. Firms in each industry are assumed to hire competitively 100 full-time employees.
2. Manufacturing firms are export-oriented, selling 90 percent of their product outside the state. Hence states using a using a three-factor apportionment formula will tax 70 percent of the firm's income, while states using a sales-only formula will tax 10 percent.[35]
3. Computer services and R&D firms serve regional and national markets, but for the purposes of taxation, their income is assumed to be entirely in the state where the firm is located, and hence entirely taxable.
4. Administrative offices serve national firms. Consequently, in some cases the state income tax will apportion additional amounts of the firm's nation-wide income to the state where the office locates. However, the additional amount of income apportioned will be zero in states where the firm is able to use a single-factor sales formula.
5. Prices of the firm's output are determined in national markets, so that the firm cannot pass increases in state and local taxes along to its customers.
6. Output prices are set so that, as a national average, firms earn a return of 30 percent on their investment, before all taxes. State-to-state variations in taxes and costs affect the actual before- and after-tax returns on investment in each state.
7. All scenarios are calculated as annual averages over a 20-year period. During that time period, the firm's initial investment is assumed to depreciate and replacement investment is assumed to take place. Physical depreciation of machinery and equipment occurs based on a straight-line basis with a 10 year horizon in manufacturing industries, and a five year horizon in service industries. Depreciation is continuously offset by sufficient replacement investment to hold capacity constant. Buildings and land do not depreciate, although there may be maintenance costs.
8. The model incorporates the federal income tax offset. In other words, increases in state and local taxes generally reduce federal taxable income, and hence reduce the federal income tax liability.
9. No adjustments are made for differences across locations in labor productivity.
10. Materials prices are assumed to be the same in all locations.

[35] Suppose that a firm has 100 percent of its property, 100 percent of its payroll, and 10 percent of its sales in a single state. Then 70 percent of its income will be taxable in that state under a three-factor formula (100/3+ 100/3+ 10/3). But only 10 percent of its income will be taxable in that same state under a sales only formula.

The firm may also be liable for additional income taxes in other states on the basis of its out-of-state property, payroll, and sales. Those taxes do not change if the firm relocates into an unrelated state, so they are omitted from the model.

11. Firms are assumed to locate in metropolitan areas. Where data are available, we have used average metro area average prices rather than pure statewide averages.
12. Results are presented in terms of profits. The 20 year stream of profits is annualized using a net present value calculation with a 10 percent real discount rate (comparable to long-run returns on stock markets).
13. Firms faced with a choice of incentives choose the most advantageous package of incentives.

Assumptions applying to new firms only

14. Firms purchase a new structure and new machinery and equipment in the first year.
15. In states which allow variable local property tax abatements, firms generally receive 75 percent of the maximum property tax abatement allowed by state law.
16. Firms qualify for job and investment tax credits in states where these are applicable. In states that enhance benefits in enterprise zones, the enhanced credit level is incorporated into the model.
17. Firms qualify for enterprise zone reductions in sales taxes where applicable.
18. Replacement investment is assumed eligible for tax incentives.

Assumptions applying to mature firms only

19. Firms receive no property tax abatement.
20. Firms operate from buildings that were purchased previous to the period under analysis. They replace some of their machinery and equipment each year. 21. Firms do not qualify for job and investment tax credits or for special enterprise zone benefits.
22. Replacement investment is assumed not eligible for tax incentives.
23. Firms make a relatively large replacement investment in the first year. Thereafter, the firm's level of physical capital is in a "steady state"– i.e., replacement investment each year is constant.

Sources of error in the model

As is the case for any economic model, the PRI tax and cost of business model contains a number of sources of potential error. It should be emphasized that "error" does not mean "mistake." By "error," we simply mean that there is unavoidable variability in the model, or that the model by its nature is not a perfect replica of the real world.

Because of the potential for error in the model, the interstate profit differences reported in the tables should be interpreted with caution. Moreover, profit differentials are affected by detailed profiling assumptions made about the hypothetical firms; changing the profiles would change the outcomes somewhat. Therefore, small profit differentials in Tables 9-3 to 9-6 (say, on the order of two or three percent) are not significant.

It is also important to note that model estimates refer to complicated state-wide averages for metropolitan areas. There is a great deal of variability of costs within each state; in fact, variations within states are generally greater than variations across states. Therefore, the model

estimates are not intended as a guide to detailed business location decisions. Instead, they are a guide to average state-wide conditions, which may be helpful to state-level policymakers.

Modeling errors stem from four possible sources:

Imperfect state-level data sources

State-level data sources are responsible for the interstate variations in total costs reported by the model. As an example of error, it is likely that the data used to create state-specific measures of wages may not exactly represent the occupation mix employed by a specific industry.

Imperfect national-level data sources

National-level data are used to construct the firm profiles. The data are taken from a variety of sources, and inconsistencies across the data sources can be observed. We employ standard methods to resolve these inconsistencies, but errors due to the data remain.

Missing data

This may be the most important source of error in the model. Some data are unavailable at the state or local level. Included in our list of missing data are state-specific measures of many types of materials costs, state-specific measures of transportation costs, and, most critically, state-specific adjustments of labor productivity.

Modeling specification

The assumptions of the model can never be completely realistic. Our model assumes, for example, that differences in taxes and other costs across states cannot be "shifted" to the ultimate customers, and that firms cannot substitute between different inputs when prices change. Both of these assumptions are known to be false, although the practical effects may not be very important.

Table 9-3:
Profits per Employee: Full Model Including Cost Variations
New Firms Receiving Tax Credits and Abatements

Location	Low Wage-Low Capital Intensity	High Wage-High Capital Intensity	Computer Services	Administrative Back Ofiices	Research and Development
Colorado	$6,147	$41,190	$2,798	$3,298	$10,272
Iowa	12,194	55,129	15,509	13,501	20,389
Kansas	11,101	52,362	14,688	11,950	19,979
Missouri	9,812	47,383	12,801	10,513	17,656
Nebraska	12,055	53,453	16,705	13,461	22,091
Oklahoma	12,108	52,627	17,651	14,059	22,613
Reg. Av. (Co, Ia, Mo, Ne, Ok)	$10,463	$49,957	$13,093	$10,966	$18,604
Kansas as % of Reg. Av.	106.1%	104.8%	112.2%	109.0%	107.4%

NOTE: Under the assumptions of the full model, costs such as labor, land, and energy vary by state.
Source: Calculated by PRI.

Table 9-4:
Profits per Employee: Full Model Including Cost Variations
Established Firms Receiving No Tax Credits or Abatements

Location	Low Wage-Low Capital Intensity	High Wage-High Capital Intensity	Computer Services	Administrative Back Ofiices	Research and Development
Colorado	$6,026	$40,576	$2,632	$3,150	$10,028
Iowa	12,055	53,406	15,422	13,501	20,303
Kansas	10,650	50,523	14,584	11,768	19,647
Missouri	9,354	45,394	12,106	9,881	16,480
Nebraska	11,800	51,911	15,441	13,296	20,473
Oklahoma	11,673	51,263	16,543	13,271	21,565
Reg. Av. (Co, Ia, Mo, Ne, Ok)	$10,182	$48,510	$12,429	$10,620	$17,770
Kansas as % of Reg. Av.	104.6%	104.1%	117.3%	110.8%	110.6%

NOTE: Under the assumptions of the full model, costs such as labor, land, and energy vary by state.
Source: Calculated by PRI.

Table 9-5:
Profits per Employee: Partial Model with No Cost Variations
New Firms Receiving Tax Credits and Abatements

Location	Low Wage-Low Capital Intensity	High Wage-High Capital Intensity	Computer Services	Administrative Back Ofiices	Research and Development
Colorado	$10,948	$49,913	$13,354	$10,957	$20,540
Iowa	11,625	53,958	14,534	12,730	19,344
Kansas	11,347	52,175	15,275	12,373	20,561
Missouri	11,414	51,435	15,942	12,861	21,092
Nebraska	11,624	52,135	16,046	12,964	21,357
Oklahoma	11,587	52,646	16,359	13,020	21,183
Reg. Av. (Co, Ia, Mo, Ne, Ok)	$11,440	$52,017	$15,247	$12,506	$20,703
Kansas as % of Reg. Av.	99.2%	100.3%	100.2%	98.9%	99.3%

NOTE: Under the assumptions of the partial model, costs such as labor are held constant across states.
Source: Calculated by PRI.

Table 9-6:
Profits per Employee: Partial Model with No Cost Variations
Established Firms Receiving No Tax Credits or Abatements

Location	Low Wage-Low Capital Intensity	High Wage-High Capital Intensity	Computer Services	Administrative Back Ofiices	Research and Development
Colorado	$10,812	$49,284	$13,155	$10,807	$20,251
Iowa	11,490	52,243	14,447	12,730	19,257
Kansas	10,888	50,277	15,187	12,177	20,228
Missouri	10,929	49,414	15,111	12,240	19,787
Nebraska	11,370	50,591	14,796	12,797	19,746
Oklahoma	11,124	51,192	15,201	12,193	20,081
Reg. Av. (Co, Ia, Mo, Ne, Ok)	$11,145	$50,545	$14,542	$12,153	$19,824
Kansas as % of Reg. Av.	97.7%	99.5%	104.4%	100.2%	102.0%

NOTE: Under the assumptions of the partial model, costs such as labor are held constant across states.
Source: Calculated by PRI

Applications of the model

The PRI model compares business costs and taxes in Kansas with those in five other states: Colorado, Iowa, Missouri, Nebraska, and Oklahoma. First, the model is run under "full model" assumptions, with varying non-tax costs. Next, the model is run under "partial model" assumptions, with non-tax costs held constant.

The model compares states by looking at the present value of after-tax profits. All impacts are calculated in per-employee terms. Note that profits per employee are equal to sales minus total costs (including costs of taxes). In the "full model," low profits per employee translates into high total costs per employee, and vice versa. In the "partial model" with costs held constant, low profits per employee translate into high taxes per employee and vice versa.

Results of Scenario 1 (Table 9-3; full model, new firms)

The competitiveness of the Kansas business climate is best measured under a scenario that examines total business costs for new and expanding firms (the kind of firms that are most likely to be making locational choices). For new firms receiving credits and abatements, Kansas appears to be a moderately-attractive business location relative to the region. Kansas profits per employee exceed the regional average for all industries in Table 9-3. Profits per employee are substantially higher in Kansas than in Colorado or Missouri, which have considerably higher labor costs. Kansas profits lag behind Nebraska, Oklahoma, and Iowa.

The purpose of the model is to capture the full interaction of various kinds of costs and taxes. Because of this, it is usually not possible to trace the model results back to any single factor. However, we can discuss factors which have a large influence on the results. In this scenario, the conclusion that Kansas is a moderately attractive business location is especially influenced by:

- moderate labor costs.
- the wide availability of property tax abatements, so that industries that use substantial amount of machinery and equipment are not placed at a disadvantage compared with other states in the region.
- the availability of competitive job and investment credits. Several states in the region have attractive credits; the availability of such credits in Kansas "keeps Kansas in the running."

Since this region is relatively low in costs compared to the nation, Kansas appears to be an attractive location from a nation-wide as well as regional point of view.

Results of Scenario 2 (Table 9-4; full model, mature firms)

This scenario looks at "mature" firms that do not receive any special abatements, credits, or other economic development incentives. When all costs (labor, energy, land, and construction as well as taxes) are taken into account, the model estimates that profits per employee in established Kansas firms fall above regional averages in all industries.

As was the case for new firms, after-tax profits per employee in Kansas are above those that might be earned by similar firms in Colorado or Missouri and below those available in Oklahoma, Iowa, or Nebraska. Oklahoma's advantages over Kansas in this scenario are overall low wages and low taxes. Iowa's advantages are exemptions for property taxes on machinery and equipment and a single factor income tax formula which provides advantages for firms that ship goods out of state (manufacturing) and for the administrative office firm. Nebraska also has the single factor advantage.

Results of Scenario 3 (Table 9-5; partial model, new firms)

This scenario isolates the impact of taxes by holding all other business costs constant across states. Since in this scenario there is no variation in costs except for the tax component, lower profits mean higher combined federal, state, and local taxes, and vice-versa.

Consider a new firm that locates in Kansas and takes advantage of all available credits and incentives. Such a firm would have profits per employee very near the regional average. Since all other costs are held constant, this is equivalent to saying combined federal, state, and local taxes for the firm are about the same in Kansas as they would be, on average, for similar firms locating elsewhere in the region. When we rank the states by after-tax profits, we find that Kansas generally falls in the mid-range. However, for some industries (especially manufacturing), the gap between the high state and the low state is quite small; in such cases, given modeling uncertainties, the rankings are not significant.

The Kansas tax structure has advantages and disadvantages for new firms. The availability of 100 percent, 10 year property tax abatements, provides a significant tax saving to new firms. In addition, Kansas has substantial sales tax exemptions for machinery and equipment and job and investment incentives that are as generous as those available elsewhere. On the other hand, the three-factor income tax formula results in higher taxable income than in states with an alternative apportionment formula (see Assumptions 2-4 above). That Kansas profits per employee are average for the region indicates that the advantages of the tax structure for new firms generally balance out any disadvantages.

Results of Scenario 4 (Table 9-6; partial model, mature firms)

For mature firms that receive no tax credits or abatements, with other costs held constant, profits-per-employee are (depending somewhat on industry) about the same in Kansas as in the region on average. In other words, Kansas overall tax rates are average for the region.

Kansas does in fact have a relatively-high property tax, particularly on business machinery and equipment. Kansas business is also placed at some disadvantage by the three-factor formula used for income apportionment. (Note that Nebraska and Iowa apply a sales-only formula, providing an advantage for the administrative office establishment -- which does not sell anything in-state, but which brings payroll and property into the state -- and for manufacturers.) However, these disadvantages are balanced by rapid depreciation for property tax purposes, relatively low payroll taxes, and sales tax exemptions for machinery and equipment.

Table 9-7:
Breakdown of Taxes for a High Capital Intensity Manufacturer
Established Firms, Partial Model with Standardized Costs

Tax Item	Kansas	Colorado	Iowa	Region	Kansas as % of Region
Federal Taxable Income	$76,509	$75,101	$79,285	$76,937	99.4%
Federal Income Tax	26,013	25,534	26,957	26,159	99.4%
State Income Tax	2,006	1,957	788	2,030	98.8%
Unemploy. and Workers' Comp.	1,062	2,419	1,046	1,405	75.6%
Property	5,065	5,321	2,891	3,665	138.2%
Franchise	50	0	25	116	43.1%
Sales	1,271	1,227	1,794	1,824	69.7%
On Machinery and Structures	838	720	700	1,029	81.4%
Total Including Federal	$35,467	$36,458	$33,501	$35,199	100.8%
Total State and Local	$9,454	$10,924	$6,544	$9,040	104.6%

Source: Calculations by PRI.

In addition, cost differences between states are always moderated by the deductibility of costs from the federal income tax, leading to an offset of around 35 percent.

Comparing Scenarios 3 and 4, the Kansas tax climate ranking is about the same for new as for mature firms. There are two factors at work:

- other states advantage new firms over mature firms, to roughly the same degree as does Kansas; and
- the difference in tax load between new and mature firms is surprisingly small.

Tax load differences between new and mature firms are small because the tax load itself is a relatively small share of costs, and again because the federal offset due to deductibility of taxes moderates any differences.

Detailed breakdown of taxes

Table 9-7 distinguishes the particular taxes responsible for the overall level of taxation for Kansas firms, looking specifically at the case of high capital-intensity manufacturing. (Data for the other four firm types are not shown because they lead to essentially the same conclusions.) We compare taxes in Kansas with Iowa (an example of a relatively low cost state), Colorado (an example of a relatively high cost state), and the regional average. And we dissect out the individual taxes for all four of the scenarios described above.

For the new Kansas manufacturing firm, the state income tax imposes a higher burden than any other tax. State income taxes are about three times the regional average, and are almost 10 times those found in Iowa, a "sales-only" apportionment state. Kansas taxes a greater portion of a firm's overall income than is the case in some other states in the region. The manufacturing firm is assumed to be export-oriented. Kansas typically bases the income tax for multi-state firms on in-state percentages of three factors: payroll, property, and sales.[36] By contrast, several other states in the region base their income tax allocations on sales only, or on a combination of sales and property. For firms with most of their sales out-of-state, the single- and two- factor formulas generally result in a lower state tax liability.[37]

For the new firm, all other Kansas taxes are well below regional averages. The property tax imposes the second largest burden among Kansas taxes, but it is only about half of the average regional level. Indeed, the low level of other taxes (which are deductible from state and federal income taxes) is an additional cause for the high income tax.

For the mature Kansas manufacturing firm, the property tax imposes a higher burden than any other tax. The Kansas property tax is about a third higher than the regional average, and close to twice as high as the Iowa tax, but only some 80 percent of the Colorado tax. The current Kansas property tax structure creates a large differential between residential and business property (both real estate and machinery), and taxes business property at relatively high rates. For mature capital intensive firms that are ineligible for property tax abatements, this tax can be substantial.

For the mature firm, the second highest tax is the state income tax. This tax is 15 to 20 percent higher than the regional average, for some of the same reasons that were discussed above. However, that is a far cry from the 200 percent differential experienced by the new firm. And yet, the Kansas income tax on the mature firm is only a little lower than the tax on the new firm. The reasons for this discrepancy are interesting: in other states in the region, income taxes tend to be considerably higher on mature firms because of the loss of income tax incentives.

Changes over time

PRI and Kansas, Inc. first developed the Cost and Tax Simulation Model in 1987. The model previously was updated in 1990, 1992 (partial update), 1994, 1997, 1999, and 2001; this report reflects 2003 updates. The model has undergone many developments since 1987, but its general structure has remained the same. That is, the model develops profiles of costs and assets for a set of representative firms, and then calculates costs and taxes based on the profiles. The set of industries analyzed and the assumed characteristics of these industries has changed over time,

[36] In Kansas, firms with a payroll factor exceeding the sum of the property factor and the sales factor may elect to use a two-factor formula. The alternative two-factor formula is based 50 percent on sales and 50 percent on property.

[37] Suppose that a firm has 90 percent of its property, 90 percent of its payroll, and 15 percent of its sales in a single state. Then 65 percent of its income will be taxable in that state under a three-factor formula (90/3+ 90/3+ 15/3). But only 15 percent of its income will be taxable in that same state under a sales only formula. The firm may be liable for additional income taxes in other states on the basis of its out-of-state property, payroll, and sales.

so direct comparisons of model results from year to year are problematic. However, we are able to pick out some industries (highly capital-intensive manufacturers and less capital-intensive manufacturers) that are crudely comparable over the time period 1990-2003.

A consistent pattern in all of our reports has been that new Kansas manufacturing firms receive amounts of profit a few percent higher than regional averages. That remains true in the current report. On the other hand, measured profits in mature manufacturing firms have previously been somewhat below the regional average. That finding has been reversed. That is, measured profits in mature manufacturers are now about average. One main reason for this change, however, is not that the business climate has changed, but rather that we have switched from looking at statewide to metropolitan area property tax rates. (We believe that metropolitan areas are more reflective of interstate competition than non-metropolitan areas.) In Kansas, this makes little difference, because the average metro and nonmetro rates are relatively close. However in many competitor states, the rates in nonmetro areas are substantially lower than they are statewide (especially in Colorado, Missouri, and Oklahoma).

Between 1997 and 1999, two changes occurred in Kansas property taxes and income taxes that should have improved the situation for Kansas capital intensive manufacturers. First, Kansas began using income tax credits to rebate part of the property taxes paid on machinery and equipment. Second, average property tax rates in Kansas fell as the state lowered the mandatory school mill levy (rates fell about 14 percent between 1996 and 1998). However, other states in the region also experienced lower effective property tax rates. Also, one state in the region, Colorado, lowered its corporate tax rates. So while business taxes were falling in Kansas they were falling in competitive states as well.

Summary

Is Kansas a low or high cost state for doing business? In principle, that depends on one's perspective: whether one is concerned with new firms or mature firms, and whether the firms are capital-intensive manufacturers or less capital-intensive service firms. It also depends on whether one compares Kansas with the immediate region, or with the entire U.S. In practice, however, our data showed fairly consistent results for all industries and both stages of maturity.

The overall Kansas cost and tax climate appears competitive with other states in the region. Estimated profits per employee equaled or exceeded the regional average in all five industries, for both new and mature firms. Since this is a relatively low-cost region, Kansas should be also viewed as fairly competitive among states in the nation. In terms of rankings, Kansas generally ranked as more profitable than Colorado and Missouri, and less profitable than Iowa, Nebraska, and Oklahoma.

Just as we found in previous studies, mature firms tended to be somewhat less profitable than new firms. However, the differences were smaller than they had been in the past. These differences mainly result from high basic property tax rates on industrial property and machinery and equipment, which are abated for new firms but not for mature firms. However, the differences are rather small. Similar differences show up for all states in the region.

This study focused on firms disaggregated at approximately a two-digit industry code level. It found that no good case can be made for across-the-board tax relief, or for other preferences intended to reduce business costs, either at that level or at any higher level of aggregation. That does not preclude the possibility that Kansas costs could be significantly out of line for more narrowly defined industries. In such a case, highly targeted preferences could have positive economic development effects. In such a case, however, we believe the burden of proof should rest on the industry seeking cost relief, and should be based on interstate comparisons of the total cost of business, rather than on isolated cost items. Also, it is important to tailor the preferences narrowly to the industry that seeks relief.

Some clear patterns emerge when look back at our previous studies and examine over time the relative advantages of Kansas business locations for manufacturers. First, Kansas has consistently had lower than average total costs of business for new and expanding manufacturers, as compared with the region. Second, the Kansas tax structure leads to tax impacts that are around the average for the region. Third, the Kansas tax and incentive structure is more favorable to new and expanding firms than to mature firms.

In the policy context, we believe these are quite positive findings. First, it is a highly defensible policy choice to use tax incentives especially designed to reduce the tax load on new and expanding firms. These firms are in a better position to make locational choices than are mature and established firms. If the goal of tax incentives is to attract new jobs and expanded investment into Kansas, then its incentives have been appropriately targeted.

Second, it is important to understand that being the lowest cost location is usually not desirable as a policy goal. It is significant that the highest cost location in most of our scenarios is Colorado—yet Colorado has the fastest growing and arguably the wealthiest economy in the region. Conversely, Oklahoma has both the lowest business costs, and also the lowest average incomes in the region. Of course, there are many important locational factors that are not considered in this report—factors such as distance to markets, industrial dynamism, local risk capital, productivity, and quality of life.

In any case, low business costs generally translate into low wages and low tax revenues. Low wages generally translate into low incomes, and low tax revenues generally translate into low levels of educational expenditure and other government services. And low income and low services generally translate into a low quality of life.

A much more desirable policy goal than being low cost is being competitive in costs without having the lowest costs. And, indeed, that is exactly what the Kansas Strategic Economic Development Plan calls for. According to our data, that is what Kansas has achieved. The pressing challenge for Kansas therefore is to improve its competitiveness in terms other than the cost of doing business.

APPENDIX 1: TAX REVENUE SOURCES AND DATA ESTIMATES

Two U.S. Census Bureau data series provide the core of information for our review of state and local finances (primarily Chapter 1; also beginning sections of Chapters 2-5). The first series includes the Census estimates of state and local government expenditures and revenues. It is available in printed format through 1992 as *Government Finances* and is available on the Census web site in electronic format for 1992 through 2001 as *State and Local Government Finances*. Although this series has national estimates of state and local revenue and expenditures current through 2001, the individual state data are current only through 2000. According to Census staff, data for 2001 will never be published.

The second main series includes state-level tax data only. It is available in printed format as *State Government Tax Collections* through 1991, and is available electronically from the U.S. Census Bureau as *State Government Tax Collections* for 1992 through 2002. The data in all of these Census publications are compiled in a consistent manner for all fifty states.

Our report supplements these data with population and personal income numbers from the U.S. Bureau of Economic Analysis, *State Personal Income* series. Inflation-adjusted values were calculated using the consumer price index for all urban consumers, published by the U.S. Bureau of Labor Statistics.

As mentioned above, data on local tax revenues and expenditures were not available for years after 2000 for most states. However, local tax data specific to Kansas were available from Kansas-specific sources (Kansas Legislative Research, *Kansas Tax Facts, 2003 Supplement* and earlier additions). These data contain subtle differences in definitions and methods from the Census data source. Hence, they generally are not the best source for various interstate and national comparisons. However, for years up to and including 2000, parallel data on Kansas local tax revenues were available from both sources. By chaining the two data sources, we were able to form estimates for 2001-2003 that are roughly consistent with Census definitions. In particular, we used the 2000 Census data as the base and then assumed annual growth rates calculated from the Kansas source data.

For local sales tax data, we discovered an error of considerable size in the Census series that extended over several years; the existence of this error was confirmed by Census staff. Therefore, we substituted the data series from *Kansas Tax Facts* for the Census numbers for local sales tax data only, despite potential problems of comparability with other states.

One final data source contributed to our discussion. For years beyond 2000, we found national totals of local finance data in the Census web publication *Quarterly Summary of State and Local Government Tax Revenue*. We chained together estimates from this source and the earlier-cited sources to form estimates of U.S. totals for local tax revenues for 2001-2003.

APPENDIX 2: METRO AND NON-METRO AREAS

Metropolitan areas are defined by the U.S. Office of Management and Budget (OMB) according to published standards that are applied to Census Bureau data. The general concept of a metropolitan area (MA) is that of a core area containing a large population nucleus, together with adjacent communities having a high degree of economic and social integration with that core. Metropolitan areas include metropolitan statistical areas (MSAs), consolidated metropolitan statistical areas (CMSAs), and primary metropolitan statistical areas (PMSAs).

The current standards provide that each newly qualifying MSA must include at least: one city with 50,000 or more inhabitants or a Census Bureau-defined urbanized area of at least 50,000, and a total metropolitan population of at least 100,000. As of the June 30, 1999, OMB announcement, there were 258 MSAs in the United States. Below is a list of all the MSAs in the six states studied in this report.

Colorado

Colorado Springs MSA
- El Paso County

Denver-Boulder-Greely CMSA
- Adams County
- Arapahoe County
- Boulder County
- Denver County
- Douglas County
- Jefferson County
- Weld County

Fort Collins-Loveland MSA
- Larimer County

Grand Junction MSA
- Mesa County

Pueblo MSA
- Pueblo County

Iowa

Cedar Rapids MSA
- Linn County

Des Moines MSA
- Dallas County
- Polk County
- Warren County

Dubuque MSA
- Dubuque County

Iowa City MSA
Johnson County
Sioux City MSA
Woodbury County
Waterloo-Cedar Falls MSA
Black Hawk County

Kansas

Kansas City, KS MSA
Johnson County
Leavenworth County
Miami County
Wyandotte County
Lawrence MSA
Douglas County
Topeka MSA
Shawnee County
Wichita MSA
Butler County
Harvey County
Sedgwick County

Missouri

Columbia MSA
Boone County
Joplin MSA
Jasper County
Newton County
Kansas City, MO MSA
Cass County
Clay County
Clinton County
Jackson County
Lafayette County
Platte County
Ray County
St. Joseph MSA
Andrew County
Buchanan County
St. Louis MSA
Franklin County
Jefferson County
Lincoln County
St. Louis County

St. Charles County
Warren County
Springfield MSA
Christian County
Greene County
Webster County

Nebraska

Lincoln MSA
Lancaster County
Omaha MSA
Cass County
Douglas County
Sarpy County
Washington County

Oklahoma

Lawton MSA
Comanche County
Oklahoma City MSA
Canadian County
Cleveland County
Logan County
McClain County
Oklahoma County
Pottawatomie County
Tulsa MSA
Creek County
Osage County
Rogers County
Tulsa County
Wagoner County

Source: U.S. Census Bureau, *Statistical Abstract of the United States, 2000.*

DATA SOURCES

Actuarial & Technical Solutions, Inc. [2003]. *Workers Compensation State Rankings, Manufacturing Industry Costs and Statutory Benefits.* Ronkonkoma, NY: Actuarial & Technical Solutions, Inc. [Note that we used data from this same source dating back to 1992. Use of the data was licensed through an agreement with Actuarial & Technical Solutions, Inc.]

Centers for Medicare & Medicaid Services [2004]. "Quarterly Medicaid Statement of Expenditures for the Medical Assistance Program CMS-64." http://www.cms.gov/medicaid/mbes/ofs-64.asp, accessed January 30, 2004.

Colorado Department of Local Affairs, Division of Property Taxation [2003]. *Thirty-Second Annual Report to the Governor and the General Assembly, 2002.* http://www.dola.state.co.us/PropertyTax/Publications/2002%20Annual%20Report%20Intro.htm, accessed January 31, 2004.

Colorado Department of Revenue [2003]. *2002 Annual Report.* January. http://www.revenue.state.co.us/stats_dir/anlrpt02.pdf, accessed December 8, 2003.

Colorado Department of Revenue [2003]. *Retail Sales and Sales Tax Summaries by County and by City, 2003.* http://www.revenue.state.co.us/stats_dir/salesrpts.html, accessed December 8, 2003.

Colorado Department of Revenue [2002]. *Colorado Sales and Use Tax: General Information and Reference Guide*. November. http://www.revenue.state.co.us/PDF/drp0099.pdf, accessed December 8, 2003.

Commerce Clearing House [2003]. *Business Incentives Guide.* CCH Incorporated: Chicago. Updated continuously.

Federation of Tax Administrators [1997]. *Sales Taxation of Services: 1996 Update.* Washington: Federation of Tax Administrators.

Internal Revenue Service [2003]. "How To Depreciate Property." Publication 946. http://www.irs.gov/pub/irs-pdf/p946.pdf , accessed January 31, 2004.

Internal Revenue Service [Undated]. "Individual Income and Tax Data, By State and Size of Adjusted Gross Income." http://www.irs.gov/taxstats/article/0,,id=103106,00.html, accessed January 30, 2004.

Iowa Department of Revenue and Finance [2003]. *2002 Iowa Comprehensive Annual Financial Report.* http://www.state.ia.us/tax/educate/cafr02.pdf, accessed December 8, 2003.

Iowa Department of Revenue and Finance [2003]. "2003 Final Equalization Adjustments." October. http://www.state.ia.us/tax/locgov/locgov.html#Property%20Tax, accessed January 31, 2004.

Iowa Department of Revenue and Finance [2003]. *Annual 2003 Iowa Retail Sales and Use Tax Report.* http://www.state.ia.us/tax/educate/suta03.pdf, accessed December 8, 2003.

Iowa Department of Revenue and Finance [2003]. "Certification of the Percentages of 2003 Actual Value." October. http://www.state.ia.us/tax/locgov/03CertActValue.doc, accessed January 31, 2004.

Iowa Department of Revenue and Finance [2003]. *An Introduction to the Iowa Property Tax.* http://www.state.ia.us/tax/educate/78573.html, accessed January 31, 2004.

Iowa Department of Revenue and Finance [2003]. *Iowa Department of Revenue and Finance Annual Report 2002.* http://www.state.ia.us/tax/educate/0278508.pdf, accessed December 8, 2003.

Iowa Department of Revenue and Finance [2003]. *Iowa Sales and Use Tax Booklet (78-539).* http://www.state.ia.us/tax/educate/78539.html, accessed December 8, 2003.

Jackson County, Missouri, Division of Property Assessment Department [2001]. "Business Personal Property & Manufacturing Equipment Declaration 2001." August.

Jenny, Nicolas W. [2003]. "The Personal Income Tax, Once Strong Source of State Revenue Growth, Is Now Source of Budget Problems" *State Fiscal News* 3(3). The Rockefeller Institute of Government. April. http://stateandlocalgateway.rockinst.org/fiscal_pub/state_news/sn_reports/SFN_3-3.pdf, accessed January 31, 2004.

Kansas Department of Revenue [2003]. *2002 Department of Revenue Annual Statistical Report.* http://www.ksrevenue.org/pdf/forms/02arcomplete.pdf, accessed December 8, 2003.

Kansas Department of Revenue [2003]. 2002 *Kansas Real Estate Appraisal / Sales Ratio Study.* http://ksrevenue.org/pdf/2002ors.pdf, accessed January 31, 2004.

Kansas Department of Revenue [2003]. *Publication 1510–Kansas Sales Tax and Compensating Use Tax, July 2003.* http://www.ksrevenue.org/pdf/forms/pub1510.pdf, accessed December 8, 2003.

Kansas Department of Revenue [2003]. *Publication 1520–Kansas Tax Exemption Certificates, March 2003.* http://www.ksrevenue.org/pdf/forms/pub1520.pdf, accessed December 8, 2003.

Kansas Department of Revenue [2003]. *Sales Tax Jurisdiction Code Booklet, September 2003.* http://www.ksrevenue.org/pdf/forms/pub1700.pdf, accessed December 8, 2003.

Kansas Department of Revenue [2003]. *Statistical Report of Property Assessment And Taxation, 2002.* March. http://ksrevenue.org/pdf/2002StatisticalBook.pdf, accessed January 31, 2004.

Kansas Legislative Research Department [2003]. *Kansas Tax Facts, 2003 Supplement to Seventh Edition.* October. http://skyways.lib.ks.us/ksleg/KLRD/TaxFactsSupp_2003.pdf, accessed January 31, 2004.

Kansas Legislative Research Department [2000]. *Kansas Tax Facts, Seventh Edition.* December.

Kansas Legislative Research Department [1995]. *Kansas Tax Facts: 1995 Supplement to the Sixth Edition.* October.

Missouri Department of Revenue [2003]. *Comprehensive Annual Financial Report, Fiscal Year 2002.* http://www.dor.mo.gov/cafr/pdffiles/CAFR2002.pdf, accessed December 8, 2003.

Missouri Department of Revenue [2003]. "Sales and Use Tax Rate Tables, October through December 2003." http://www.dor.state.mo.us/tax/business/sales/rates/OCT2003.pdf, accessed December 8, 2003.

Missouri State Tax Commission [2001*]. The Property Tax in Missouri.* April. http://www.dor.state.mo.us/stc/proptax.pdf, accessed January 31, 2004.

National Association of Realtors [2003]. *Survey of Median Home Values.* http://www.realtor.org/Research.nsf/files/REL03Q2T.pdf/$FILE/REL03Q2T.pdf, accessed November 5, 2003.

National Bureau of Economic Research [2000]. *NBER-CES Manufacturing Industry Database.* June. http://www.nber.org/nberces, accessed January 31, 2004.

Nebraska Department of Revenue [2003]. *2002 Nebraska Department of Revenue Annual Report.* http://www.revenue.state.ne.us/ann_rept/02an_rep/2002ann_rep.pdf, accessed January 31, 2004.

Nebraska Department of Revenue [2003]. *Consumer's Use Tax, August 2002.* http://www.revenue.state.ne.us/info/6-317.pdf, accessed December 8, 2003.

Nebraska Department of Revenue [2003]. *Nebraska Department Of Revenue Regulations*. Title 316, Chapter 1 – Sales and Use Tax. http://www.revenue.state.ne.us/legal/regs/slstaxregs.htm, accessed December 8, 2003.

Nebraska Department of Revenue [2003]. *Nebraska and Local Sales Tax, August 2002.* http://www.revenue.state.ne.us/info/6-352.pdf, accessed December 8, 2003.

Nebraska Department of Revenue [2003]. *Nebraska Taxation of Contractors General Information, October 2003.* http://www.revenue.state.ne.us/info/6-346.pdf, accessed December 8, 2003.

Nebraska Department of Revenue [2003]. *Summary of General Provisions of Nebraska Tax Incentive Program, 2003.* http://www.revenue.state.ne.us/incentiv/summary.htm, accessed December 8, 2003.

Oklahoma State University, Department of Agricultural Economics, Oklahoma Cooperative Extension Service, statistics compiled by Notie H. Lansford, Jr. [2002]. *Oklahoma Ad Valorem Mill Levies, Fiscal Year 2001.* http://www.rd.okstate.edu/resource/ae01056.htm, accessed January 31, 2004.

Oklahoma Tax Commission [2003]. *2002 Equalization Study*.

Oklahoma Tax Commission [2003]. *Annual Report of the Oklahoma Tax Commission, Fiscal Year 2002.* http://www.oktax.state.ok.us/oktax/publicat/ar2002.pdf, accessed December 8, 2003.

Oklahoma Tax Commission [2003]. "City and County Rates and Codes for Sales and Use Tax." October. http://www.oktax.state.ok.us/publicat/copo1003.pdf, accessed December 8, 2003.

Oklahoma Tax Commission [2003]. "City Sales Tax Collections Returned to Cities and Towns in Fiscal 2003." October.

Oklahoma Tax Commission [2003]. "County Sales Tax Collections Returned to Counties in Fiscal 2003." October.

Rockefeller Institute of Government [2003]. "Growth in Quarterly Tax revenue (1991–2003), Adjusted for Legislated Tax Changes and Inflation." http://stateandlocalgateway.rockinst.org/fiscal_trends/revenues/SRR/. Accessed Jan. 30, 2004.

R.S. Means [2003]. *Square Foot Costs. 24th Annual Edition.* Kingston, M.A.: R.S. Means Co.

Sales Tax Institute [2003]. "Sales and Use Tax Rates." November 1, 2003. http://www.salestaxinstitute.com/sales_tax_rates.html, accessed December 8, 2003.

Society of Industrial and Office Realtors [2003]. *Comparative Statistics of Industrial and Office Real Estate Markets.*

U.S. Bureau of Economic Analysis [2003]. *Annual State Personal Income.* http://www.bea.gov/bea/regional/spi/, accessed January 31, 2004.

U.S. Bureau of Economic Analysis [2003]. *Annual State Personal Income Table SA-07,* W*age and Salary Disbursements by Industry, 1958-2001.* April. http://www.bea.doc.gov/bea/regional/spi/, accessed November 25, 2003.

U.S. Bureau of Economic Analysis [2003]. *Annual State Personal Income Table SA-27, Full-Time and Part-Time Wage and Salary Employment by Industry, 1958-2001.* April. http://www.bea.doc.gov/bea/regional/spi/, accessed November 25, 2003.

U.S. Bureau of Economic Analysis [2003]. *National Income and Product Accounts, Table 2.6, Personal Consumption Expenditures by Type of Product, 1970-2001.* August.

U.S. Bureau of Economic Analysis [1999]. *Fixed Reproducible Tangible Wealth of The United States, 1925-97.* CD ROM.

U.S. Bureau of Labor Statistics [2003a]. *Consumer Price Index-All Urban Consumers.* http://www.bls.gov/cpi/home.htm#data, accessed January 31, 2004.

U.S. Bureau of Labor Statistics [2003b]. *Employer Costs for Employee Compensation.* June. http://www.bls.gov/news.release/ecec.toc.htm, accessed November 26, 2003.

U.S. Census Bureau [2003a]. "Median Income for 4-person Families, by State." http://www.census.gov/hhes/income/4person.html, accessed January 31, 2004.

U.S. Census Bureau [2003]. *Quarterly Summary of State and Local Government Tax Revenue.* Http://Www.Census.Gov/Govs/Www/Statetax.Html, Accessed January 31, 2004.

U.S. Census Bureau [2003]. *State Government Tax Collections.* http://www.census.gov/govs/www/statetax.html, accessed November 24, 2003.

U.S. Census Bureau [2003]. *State and Local Government Finances*. http://www.census.gov/govs/www/estimate.html, accessed November 24, 2003.

U.S. Census Bureau [2002]. *Statistical Abstract of the United States 2002.*

U.S. Census Bureau [2001]. *Annual Survey of Manufactures, Purchased Fuels and Electric Energy Used for Heat and Power by Industry Group and Industry.*

U.S. Census Bureau [2001]. *Annual Survey of Manufactures, Statistics for All Manufacturing Establishments.*

U.S. Census Bureau [2001]. *Annual Survey of Manufactures, Statistics for Industry Groups and Industries.*

U.S. Census Bureau [2000]. "Census 2000 Summary File 3, Table P37: Educational Attainment by Sex."

U.S. Census Bureau [2000]. *1997 Census of Governments, Volume 1, Government Organization.*

U.S. Census Bureau [1999]. *1997 Economic Census Core Business Statistics Series.*

U.S. Census Bureau [1992]. *1992 Census of Service Industries: Capital Expenditures and Acquisition Value of Depreciable Assets by Kind of Business.*

U.S. Census Bureau [1992]. *1992 Census of Service Industries: Capital Expenditures, Depreciable Assets, and Operating Expenses.*

U.S. Census Bureau [1992]. *Government Finances in 1990-91.* [Note that data was used from this printed source going back to 1980-81].

U.S. Census Bureau [1992]. *State Government Finances in 1990.* [Note that data from earlier years of this publication also were used].

U.S. Census Bureau [1990]. *State Government Tax Collections in 1988.* [Note that data were used from this printed source going back to 1981].

U.S. Department of Labor Employment & Training Administration [2003]. *Unemployment Insurance Data Summary, 2nd Quarter 2003.* http://atlas.doleta.gov/unemploy/content/data_stats/datasum03/2ndqtr/home.asp, accessed November 24, 2003.

U.S. Energy Information Administration [2003]. "Average Revenue per Kilowatthour from Retail Sales to Ultimate Consumers – Estimated by Sector, by State, Year-to-Date through July 2003." http://www.eia.doe.gov/cneaf/electricity/epm/table5_6_b.html, accessed November 26, 2003.

U.S. Energy Information Administration, U.S. Department of Energy, Office of Oil and Gas [2003]. *Natural Gas Annual 2001*.

Willett, Dolores A. [undated]. *The Oklahoma Property Tax System.* Oklahoma State University, Extension Facts, F-754.

REFERENCES

Aaron, Henry J. [1975]. *Who Pays the Property Tax? A New View.* Washington, D.C.: The Brookings Institution.

Anderson, John E. and Robert W. Wassmer [2000]. *Bidding for Business.* Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research.

Bartik, Timothy J. [1997]. Discussion as part of "Proceedings of a Symposium: On the Effects of State and Local Public Policies on Economic Development." *New England Economic Review*, March/April, p. 67.

Bartik, Timothy J. [1991]. *Who Benefits from State and Local Economic Development Policies?* Kalamazoo, Michigan: W. E. Upjohn Institute for Employment Research.

Boyd, Donald J. [2000]. S*tate Fiscal Issues and Risks at the Start of a New Century*. Albany NY: The Nelson A Rockefeller Institute of Government. http://www.rockinst.org/publications/fiscal_studies/state_fiscal_new_century.pdf, accessed October 31, 2003.

Brooks, Stephen, Robert Tannenwald, Hillary Sale, and Sandeep Puri [1987]. *The Competitiveness of the Massachusetts Tax System*. Prepared for the Massachusetts Special Commission on Tax Reform. Published as E*ighth Interim Report of the Special Commission Relative to the Competitiveness of the Massachusetts Tax System in the Development of a Tax Reform Program for the Commonwealth*, Boston: The Commonwealth of Massachusetts, 1987.

Bruce, Donald and William Fox. 2001. "State and Local Tax Revenue Losses from E-Commerce: Updated Estimates." *State Tax Notes* 22, October, 203-14.

Brunori, David [2001]. *State Tax Policy: A Political Perspective.* Washington, DC: Urban Institute Press.

Brunori, David [1999]. "Targeted Incentives: An Unstable Staple." *State Tax Notes* 16, March, p. 649-651.

Burress, David and Patricia Oslund [1998]. *KTEC Outcomes, 1989-1995: An Evaluation of the Kansas Technology Enterprise Corporation Using the ROPI Methodology.* Lawrence KS: University of Kansas, Institute for Public Policy and Business Research Report 225, August 1998.

Burress, David; Joshua Rosenbloom; and Sonia Manzoor; with Mark Dollard and Gregory Gilpin [2004]. *The Kansas City Economy: Performance, Innovation, and Resources for*

Future Economic Progress. Lawrence KS: University of Kansas, Policy Research Institute Report 270A, January.

Buss, Terry F. [2001]. "Review Essay – The Effect of State Tax Incentives on Economic Growth and Business Location Decisions: An Overview of the Literature." *Economic Development Quarterly* 15(1), February, pp. 90-105.

Case, Karl E., Papke, Leslie E., and Koenigsberg, Susan [1983]. *Taxes and Business Location: A Simulation of the Effects of State and Local Taxes on the Profits of Manufacturing Firms in New York and Competing Jurisdictions and a Review of Research on the Impact of Taxes on Business Location Decisions.* Report submitted to the Legislative Tax Study Commission of the State of New York, March.

Coffman, Richard B. [1993]. "Tax Abatements and Rent-Seeking." *Urban Studies* 30(3), April, pp. 593-98.

Commerce Clearing House [2003a]. *Business Incentive Guide*, CCH Incorporated: Chicago, updated continuously.

Commerce Clearing House [2003b]. "Federal Bonus Depreciation Conformity." http://tax.cchgroup.com/news/federal.pdf, accessed November 23, 2003.

Fagan, Mark [2004]. "Session puts City, County on Edge." *Lawrence (Kansas) Journal World.* Jan. 6.

Fisher, Peter S. and Alan H Peters [1998]. *Industrial Incentives: Competition Among American States and Cities.* Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research.

Fisher, Peter S. and Alan H. Peters [1997]. "Measuring Tax and Incentive Competition: What is the Best Yardstick?" *Regional Studies* 31(8), Nov., pp. 751-764.

Fox, William F. [2003]. "Three Characteristics of Tax Structures Have Contributed to the Current State Fiscal Crisis." *State Tax Notes* 29, August, pp 375-383.

Fox, William F. and LeAnn Luna [2002]. "State Corporate Tax Revenue Trends: Causes and Possible Solutions." *National Tax Journal* 55(3), pp. 491-508.

Governor's Budget Report, Volume 1, Fiscal Year 2004 [2003]. Topeka: Kansas Division of the Budget. http://da.state.ks.us/budget/gbr.htm, accessed January 31, 2004.

Grady, Dennis O. [1987]. "State Economic Development Incentives: Why Do States Compete?" *State and Local Government Review*, 19(3), Fall, pp. 86-94.

Hodge, Scott A; J. Scott Moody; and Wendy P. Warcholik [2003]. *State Business Tax Climate Index.* Washington, DC: Tax Foundation. Background paper # 41, May.

Kansas, Inc. [2001]. *Making the Knowledge Economy Work for All Kansans--Kansas Comprehensive Strategic Plan Update.* Topeka, KS: Kansas, Inc., January. http://www.kansasinc.org/strategy.html, accessed January 31, 2004.

Kansas, Inc. [1997]. *A Kansas Vision for the 21st Century: The Strategic Plan for Economic Development.* Topeka, KS: Kansas, Inc., January.

Kansas Technology Enterprise Corporation [1998]. *Kansas Innovation Index 1999*. Topeka, KS: KTEC, December.

Keating, Raymond J. [2003]. *Small Business Survival Index 2003: Ranking the Policy Environment for Entrepreneurship Across the Nation.* Washington, D.C.: Small Business Survival Committee. http://www.sbsc.org/Media/pdf/SBSI2003.pdf , accessed February 3, 2004.

Lane, J.; D. Glennon; and J. McCabe [1989]. "Measures of Local Business Climate: Alternative Approaches." *Regional Science Perspectives* 19(1), pp. 89-106.

McIntosh, Betty [1995]. "Economic Incentives Key in Relocation Decisions, Says Coopers & Lybrand," *State Tax Notes*, Aug. 7, p. 411

Mazerov, Michael [2003a]. *Closing Three Common Corporate Income Tax Loopholes Could Raise Additional Revenue for Many States.* Washington DC: Center on Budget and Policy Priorities. http://www.cbpp.org/4-9-02sfp.pdf, accessed November 11, 2003.

Mazerov, Michael [2003b]. *Expanding Sales Taxation of Services: Options and Issues*, Washington, DC: Center on Budget and Policy Priorities.

Mazerov, Michael [2001]. *The "Single Sales Factor" Formula for State Corporate Taxes: A Boon to Economic Development, or a Costly Giveaway?* Washington, D.C.: The Center on Budget and Policy Priorities, revised September 17. http://www.cbpp.org/3-27-01sfp.pdf , accessed January 31, 2004.

Mieszkowski, Pete; and George R. Zodrow [1989]. "Taxation and The Tiebout Model: The Differential Effects of Head Taxes, Taxes on Land, Rents, and Property Taxes." *Journal of Economic Literature* 27(3), Sept. 1989, pp. 1098-1146.

Multistate Tax Commission [2003]. *Corporate Tax Sheltering and the Impact on State Corporate Income Tax Revenue Collections.* Washington, DC: Multistate Tax Commission. July. http://www.mtc.gov/TaxShelterRpt.pdf, accessed January 30, 2004.

National Governors Association and National Association of State Budget Officers [2003]. *The Fiscal Survey of the States.* June.

Netzer, Dick [1997]. Discussion as part of "Proceedings of a Symposium on: The Effects of State and Local Public Policies on Economic Development" *New England Economic Review*, March/April, page 134.

Oslund, Patricia; David Burress; and Luke Middleton [2001]. *Business Taxes and Costs in Kansas and Nearby States: 2001 Update*, Policy Research Institute Report No. 265, prepared for Kansas, Inc., November, http://www.kansasinc.org/pubs/PRI/Tax/Tax2001.pdf.

Oslund, Patricia; and Brian Harris [1999]. *Business Taxes and Costs: A Cross-State Comparison, 1999 Update*, Topeka KS: Kansas, Inc., http://www.kansasinc.org/pubs/PRI/Tax/Tax1999.pdf.

Oslund, Patricia with Alice Fetisova [1998]. *Business Taxes and Costs: A Cross-State Comparison.* Policy Institute Report No. 244, prepared for Kansas, Inc.

Oslund, Patricia with David Burress [1995]. *Kansas Business Costs and Taxes: A Comparison with Other States, 1994 Update.* Lawrence KS: University of Kansas: Institute for Public Policy and Business Research Report 221, prepared for Kansas, Inc., June.

Oslund, Patricia [1990]. *Business Taxes in Kansas and Nearby States,* Lawrence KS: University of Kansas: Institute for Public Policy and Business Research Report 179, prepared for Kansas, Inc., August.

Oslund, Patricia with Darwin Daicoff [1988]. *How Well Does Kansas Compete? A Comparison of the Business Tax Structures of Kansas and Nearby States.* Lawrence KS: University of Kansas: Institute for Public Policy and Business Research Reports 130 and 131, prepared for Kansas, Inc., January.

Painter, Steve [2003]. "SRS proposal doesn't cover gaps." *Wichita (Kansas) Eagle*, Oct 1, p. 1B.

Papke, James A. [1984]. *Business Taxation in Hawaii: A Comparative Analysis with Policy Simulations. Hawaii:* State of Hawaii Tax Review Commission, Aug.

Papke, James A. [1979]. *Measurement of the Comparative Impact of State and Local Taxes on Investment.* Indianapolis: State of Indiana, report submitted to the State of Indiana, Commission on State Tax and Financing Policy, May.

Papke, James A. and Leslie E. Papke [1984]. "State Tax Incentives and Investment Location Decisions: Microanalytic Simulations", in James A. Papke, editor, *Indiana's Revenue Structure: Major Components and Issues, Part II*. Lafayette: Purdue University, Center for Tax Policy Studies, March 1984.

Papke, James A. and Leslie E. Papke [1983]. "State Tax Incentives and Investment Location Decisions: Microanalytic Simulations", in James A. Papke, editor, *Indiana's Revenue*

Structure: Major Components and Issues, Part I. Lafayette: Purdue University, Center for Tax Policy Studies, March 1983.

Papke, James A. and Jack P. Suyderhoud [1979]. "Small Business Taxation in Region V: A Comparative Study." *The Regional Environment for Small Business and Entrepreneurship, Region V,* Small Business Administration, Fall.

Pechman, Joseph A. [1985]. *Who Paid the Taxes, 1966-85?* Washington, D.C.: The Brookings Institution.

Pechman, Joseph A., and Benjamin A. Okner [1974].*Who Bears the Tax Burden?* Washington, D.C.: The Brookings Institution.

Phares, Donald. [2003]. *Examining Missouri's Tax System: Tax Expenditures—A First Step.* St. Louis, Missouri: Missouri Department of Revenue.

Phares, Donald [1980]. *Who Pays State and Local Taxes?* Cambridge, M.A.: Oelgeschlager, Gunn and Hain, Publishers, Inc.

Pomp, Richard D. [1986]. "The Role of State Tax Incentives in Attracting and Retaining Business." *Economic Development Review* 6(2), Spring, pp. 53-62.

Premus, Robert. 1982. "Location of High Technology Firms in Regional Economic Development." A staff study prepared for use by the Subcommittee on Monetary and Fiscal Policy of the Joint Economic Committee, Congress of the United States, June 1. As cited in Bartik, 1991.

Quigley, John M. and Daniel L. Rubinfeld [1996]."Federalism and Reductions in the Federal Budget," *National Tax Journal* 49, June, pp. 289-302.

Rubin, Marilyn Marks. 1991. "Urban Enterprise Zones in New Jersey: Have They Made A Difference?" In Enterprise Zones, ed. Roy E. Green. Newbury Park, CA: Sage Publications, 105-121. As cited in Bartik, 1991.

Russell, Faith. 2001. *Individual Income Tax Provisions in the States*. Wisconsin Legislative Fiscal Bureau Informational Paper #4, January. http://www.legis.state.wi.us/lfb/informationalpapers/2001/4.pdf, accessed October 10, 2003

Schmenner, Roger W. [1982]. Making Business Location Decisions. Englewood Cliffs, NJ: Prentice Hall. As cited in Bartik, 1991.

Sjoquist, David; and Sally Wallace [2003]. "Capital Gains: Its Recent, Varied, and Growing (?) Impact on State Revenues." Presented at a conference titled *State Fiscal Crises: Causes, Consequences, & Solutions*, Thursday, April 3, 2003, The Urban Institute, Washington, D.C. Slides available at

http://www.taxpolicycenter.org/sfc2003/pdf/sjoquist_wallaceSLIDEs.pdf, accessed 10/31/03.

Steinnes, Donald N. [1984]. "Business Climate, Tax Incentives, and Regional Economic Development." *Growth and Change* 15(2), pp. 38-47.

Streamlined Sales Tax Project. [2004]. *SSTP Home Page.* http://www.streamlinedsalestax.org/, accessed February 3, 2004.

Tannenwald, Robert. [1994]. "Massachusetts' Tax Competitiveness." *New England Economic Review,* Jan./Feb., pp. 31-49.

Tannenwald, Robert. [1993]. *Massachusetts Tax Competitiveness.* Massachusetts Special Commission on Business Tax Policy, 1993.

Tannenwald, Robert and Christine Kendrick [1995]. "Taxes and Capital Spending: Some New Evidence." *Papers and Proceedings of the Eighty-Seventh Annual Conference on Taxation-Charleston, South Carolina.* Columbus, Ohio: National Tax Association.

Vandenbush, Denise A. and Richard C. Worcester [1990]. "Controversial Interpretations: UDITPA-Section 16." *Journal of State Taxation* 9(2), pp. 3-29.

Walker, Robert and David Greenstreet [1989]. "Public Policy and Job Growth in Manufacturing: An Analysis of Incentive and Assistance Programs." Paper presented at the 36th North American meetings of the Regional Science Association, Santa Barbara, CA, November 10-12. As cited in Bartik, 1991.

Wasylenko, Michael. 1997. "Taxation and Economic Development: The State of the Economic Literature." *New England Economic Review*, March/April, p. 38.

White, Fred C. 1983. "Trade-off in Growth and Stability of State Taxes," *National Tax Journal* 36(1), March, pp.103-114.

Wichita (Kansas) Eagle [2003]. "Legislators: More School Aid Unlikely." Feb. 20, p 1B.

Youngman, Joan M. [1998]. "Tax Incentives and Tax Policy: A Property Tax Perspective." *State Tax Notes* 14, March, pp. 849-853.