
STATE POLICY & ECONOMIC DEVELOPMENT IN OKLAHOMA: 2004

A Report to



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STATE POLICY AND ECONOMIC DEVELOPMENT IN OKLAHOMA: 2004

**A Report to
OKLAHOMA 21st CENTURY, INC.
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Chapter 1***Two Oklahoma Incentives for Economic Development: Introduction to Ad Valorem Tax Exemption and Quality Jobs Act***

Larkin Warner and Robert Dauffenbach provide an overview of two of Oklahoma's leading economic development incentives in Chapter one. The first is a five-year property (ad valorem) tax exemption for new and expanding manufacturing firms and firms in other industries doing specified levels of out-of-state business. The second is the "Quality Jobs Act" which provides cash payments to selected firms for up to five percent of newly created gross taxable payroll. To be eligible for this program, a firm must meet several criteria with respect to type of industry, number of jobs, wage level, and health insurance coverage. Each of these measures provides significant incentives for eligible firms to locate or expand in Oklahoma. The cost to the state of the two programs has been rising rapidly in recent years and stood at \$92.7 million in 2003.

Direct payments are made by the state to local jurisdictions to make up for property tax revenues foregone as a result of the ad valorem exemption, while the Quality Jobs Act involves direct payments to eligible firms. The property tax exemption must be viewed, however, within the context of a system in which property taxes are treated as an expense in determining state and federal income tax liability. Reducing a firm's property taxes by \$100 also increases its taxable income by \$100. Given a 40 percent state-plus-federal tax rate, the actual value to the firm of the \$100 exemption is thus only around \$60. In contrast, the direct cash payments from the Quality Jobs program have no effect on a firm's income tax liability. Thus, a dollar's worth of state outlays on Quality Jobs should have a significantly greater impact on business behavior than the same amount used for the property tax exemption.

Sixty-nine percent of the total ad valorem incentive of \$38.4 million went to establishments in five industries: electric, gas, and sanitary services (i.e. merchant electric power plants);

transportation equipment; paper and allied products; food and kindred products; and electrical equipment. Most of the exemptions have been payments for the expansion of existing firms, rather than the advent of new firms. They have been concentrated in the counties comprising the state's Metropolitan Statistical Areas (MSAs).

The money used to reimburse local jurisdictions for ad valorem exemptions comes from an automatic allocation of 1 percent of the state's receipts of personal and corporate income tax revenue. Funds must be reallocated to this purpose if the 1 percent levy is not sufficient.

Unlike the ad valorem exemption that was initially focused on traditional manufacturing, the Quality Jobs program targets the economist's "basic industries." A basic industry is one that sells a significant share of goods or services to out-of-state customers. With such an industry, the money flowing into Oklahoma circulates throughout the state's economy with multiplier effects generating more income and employment than is the case with industries primarily serving in-state customers.

The income and expenditures attributable directly and indirectly to the projects funded by the Quality Jobs program must generate tax revenues (benefits) at least equal to the payments they receive (costs). This is a much more stringent benefit-cost test than that recommended by public sector economists for application to public expenditures.

Business incentives normally attract both praise and criticism. As jurisdictions experience static to declining employment and tax collections, elected officials and business leaders become supportive of using incentives to attract new firms and to encourage the expansion of existing firms. The same factors inducing this support also cause other groups to question and even to oppose them. Because incentives often involve government outlays or revenues foregone, they are a special focus of policy discussion when weak economic conditions result in reduced legislative appropriations.

Supporters of public education have been particularly critical of incentives, probably because property tax exemptions are a frequent means of providing incentives, and the property tax is an important local source of revenue for public schools.

Prior to the 1990s, research on the effectiveness of economic development incentives generally failed to identify significant impacts on patterns of development.

Since then, however, several studies have appeared that have reversed this verdict. The authors argue that, as a relatively small state in the midst of much more powerful jurisdictions, Oklahoma cannot adopt a go-it-alone policy of rejecting tax incentives for economic development. They conclude by citing a passage from a recent study by the Federal Reserve Bank of Minneapolis:

“No state can stop using development incentives in a world of fierce domestic and international competition. To do so would be politically and economically suicidal.”

Chapter 2

Oklahoma's Ad Valorem Tax Exemption and the Quality Jobs Act: Analysis of Economic Impacts and Tests for Differential Growth

As noted, the income and expenditures attributable directly and indirectly to the projects funded by the Quality Jobs program must, according to law, generate state tax revenues (benefits) at least equal to the payments they receive (costs). Robert Dauffenbach and Larkin Warner apply this test to these programs in Chapter two, using a well-known regional Input/Output model of the Oklahoma economy to capture all of the impacts associated with the payments from this program. They also apply the same test to the payments from the ad valorem tax incentive.

They find that the property tax exemption barely passes this test when the impacts from the full amount of the exemption are counted and it is assumed that all investments credited to this program took place only because of the program. They argue, as above, however, that only about 60 percent of the exemption should be counted since it has the effect of increasing state and federal

corporate income tax liabilities. When benefits are adjusted for this factor they clearly fall short of program costs. Assuming, again, that the investments credited to the program would not have been made without the ad valorem exemption, the program can be credited, however, with generating 11,370 new jobs and \$364.7 million in new labor income.

The story for the Quality Jobs program is quite different. They find that it generates benefits substantially in excess of program costs. Tax revenues generated are estimated to increase an average of \$264 million per year, assuming that jobs and payroll associated with this program would not have existed in the state otherwise. The cost of the program averaged about \$40.0 million from FY 1996 through FY 2003. Thus, the benefits to cost ratio is around 6.6. Even if the actual jobs in Oklahoma attributed to the program were only 1/6th of those reported, the benefit/cost ratio would still be greater than one. The authors also credit the program with creating an additional 73,400 jobs and nearly \$2 billion in additional payroll, again assuming that the jobs attributable to the Quality Jobs program would not have otherwise existed in the state without the program.

Payroll reimbursements under the Quality Jobs program have been concentrated in six two-digit SIC industries, accounting for seven of every eight reimbursement dollars. This concentration of expenditures provides a basis for a jobs and earnings test: Those industries that received concentrated payments would be expected to achieve larger percentage gains in employment and earnings relative to their national counterparts. Statistical results support such a hypothesis, especially for employment, and somewhat less so for earnings. The Quality Jobs program appears to have made important contributions to Oklahoma's employment base, beyond what would have occurred naturally.

The authors' investigation of state incentive programs reveals few other states that have adopted the Quality Jobs program device of direct payroll reimbursement. Only about four programs out of 1,106 reported in the latest National Association of State Development Agencies' survey have features that strongly resemble Oklahoma's program. In some of these instances, there are

restrictions that even further distinguish these programs from Oklahoma's. In Arkansas, for example, the incentive only applies if that state is in direct competition with another state for a business prospect.

This chapter closes with an appeal for further examination of the Quality Jobs program to determine how, in spite of its apparent success, it might be further improved to even better serve the interests of economic development in Oklahoma.

Chapter 3

Oklahoma's General Sales Tax: Toward Fundamental Reform

The general sales tax provided over \$1.4 billion in state tax revenues in 2002, second only to the individual income tax. In principle, general sales taxes are intended to be taxes on total household expenditures for final (retail) goods and services. In practice, they fall short of this principle because (a) they are often levied on business purchases of intermediate goods (goods used in the production of final goods and services) in addition to household purchases of final goods, and (b) most household expenditures for services are statutorily exempt from sales taxation, making the general sales tax somewhat less than "general." Oklahoma's general sales tax also exhibits these flaws. We do not currently know very much, however, about how important these defects are, or about the economic consequences of fixing them.

In this chapter, Kent Olson: (1) examines the rationales for exempting business purchases of intermediate goods and services (business inputs) and for taxing household purchases of services, (2) provides estimates for Oklahoma of the revenues that would be lost by exempting business inputs and the revenues that would be gained by taxing household purchases of services, (3) compares these estimates to determine the net effect on state tax revenues, (4) estimates the effects on the distribution of the tax burden, and (5) examines the feasibility of using additional tax revenues to provide tax relief for low-income families harmed by the addition of more household purchases of services to the sales tax base.

The general consensus among economists is that the sales tax can be improved by exempting

business purchases of inputs and by including household purchases of services. Economists believe, and Olson concurs, that eliminating the sales tax on business purchases of inputs would: (1) increase business investment, (2) eliminate tax pyramiding, (3) reduce inefficient vertical integration of business enterprises, and (4) make the true cost of government more transparent.

Taxes on business inputs raise the cost of producing goods and services. Such cost increases can be expected to impair the competitiveness of Oklahoma businesses and impede state economic development. This appears to be the case for Oklahoma. Even though it imposes the sales tax on fewer inputs than many other states, it can improve its competitive position by eliminating sales taxes on business purchases.

There is no doubt that the imposition of sales taxes on business inputs produces tax

"pyramiding." Pyramiding occurs when an input is taxed when purchased originally by a business firm and the cost of the tax is passed on to other businesses and/or consumers. This increases the effective tax rate (total tax paid as a percent of the sale price) on final goods and services and increases the likelihood that sales taxes on business inputs will adversely affect business investment. Tax pyramiding also obscures the true cost of government, making it more likely that government will be expanded beyond the level that taxpayers would want if they actually knew the price that they were paying.

The taxation of business inputs that are major cost items can also induce a business to produce the inputs in-house using its own employees, whose services are exempt from the sales tax, even when an independent producer could provide the inputs at lower cost in the absence of the tax.

Oklahoma does have a large number of sales tax exemptions for business, but they go almost exclusively to manufacturing firms and not to services firms. The appropriate cure for this imbalance is to exempt business purchases of services rather than to remove the exemptions currently granted to manufacturers. Economists do not endorse the exemption of business purchases of inputs, however, that are not used in producing income.

Economists generally endorse levying the sales tax on a broad array of household purchases of services in order to: (1) more adequately fund the long-run costs of government services, (2) reduce cyclical revenue stability, and (3) increase efficiency in the allocation of household expenditures.

Most states, Oklahoma included, have sales taxes that are not able to generate revenues that grow as fast as costs in the public sector, a problem that would be partially solved, at least, by broadening the sales tax base to include household purchases of services. A sales tax base expanded by the addition of household purchases of services would also be somewhat more cyclically stable because purchases of services tend to be less sensitive to the business cycle than purchases of goods, especially consumer durables. The evidence also indicates that a reduction in allocative efficiency would follow from the imposition of a sales tax on household purchases of services and may help to reduce out-of-state shopping if broadening the base allows for a sales tax rate reduction.

The arguments one normally hears against taxing household purchases of services are that: (1) it would be particularly hard on firms in the services sector, many of which are small businesses, and (2) it would worsen the distribution of the tax burden. The first of these arguments is not very persuasive, provided that the state adequately compensates small vendors for serving as tax collectors. The second argument is valid in the sense that a sales tax on household purchases of services may make the tax more regressive with respect to current income and certainly will increase the *absolute* tax burden of lower-income households; they will end up paying *more* taxes because they do buy some (actually quite a lot of) services.

Olson uses the IMPLAN model referred to in Chapter 2 to estimate the sales taxes currently paid by business firms. He finds that they paid \$350.7 million or 24.9 percent of the general sales tax in 2002. This is a substantial tax burden, from 2-3 times larger than the corporate income tax, and probably surpassed among taxes on business only by the property tax.

The 1999 version of IMPLAN is also used to estimate the sales taxes that could be collected in Oklahoma if the sales tax were levied on household purchases of services. This is not the first estimate of potential sales taxes on services for Oklahoma, but it differs from all previous estimates in that it explicitly includes only household purchases of services and explicitly excludes business purchases of services (previous estimates have failed to distinguish between purchases by businesses and households). If the state's 4.5 percent sales tax rate had been levied on all household services except those already taxed in 2002, it would have yielded an additional \$1.035 billion in sales tax revenues. This is \$684 million more than the \$350.7 million reduction in sales tax revenue attributable to the sales tax exemption of business inputs.

Olson poses three uses for the new revenues: (1) to replenish the state's Constitutional Reserve or "Rainy Day" Fund, (2) to fund further tax reform, and (3) increase government spending. He argues for the need to address the depletion of the Rainy Day Fund and reminds the reader that its demise may be indicative of a structural deficit, but spends most of his effort on the option of further tax reform to alleviate the extra burden that would be imposed on low-income families by imposition of a sales tax on household purchases of services.

Estimates of the burden of the sales tax on household purchases of services indicate that it would make lower income households both absolutely and relatively worse off. This impact could be offset entirely, however, by providing low-income households with a sales tax rebate. The net effect would be to leave the tax burden unchanged for the lowest income group but to increase it for every other group. There would also be a net increase in total taxes collected of \$453.064 million that could be used to address some of the state's other budget priorities.

Chapter 4

A Lottery For Oklahoma?

In this chapter, Alexander Holmes describes and evaluates the case for and against a state

lottery for Oklahoma. The Oklahoma electorate will go to the polls in November 2004 to once again vote on a state lottery; this time as specified in State Questions 705 and 706. The people soundly rejected the lottery once before with a 60 percent “no” vote on State Question 658 in 1994, but the proposal was revived in the midst of the most recent recession and proposed as a cure for the budget woes of the state.

In 2000, the 35 states with lotteries recorded total sales of \$42.4 billion. State governments realized 32.4 percent of gross sales, they paid 54.6 percent of gross sales as prizes, and incurred 13 percent of gross sales in administrative costs, including commissions paid to retailers. While significant in total magnitude, taken alone, lottery revenues constitute a very small part of state budgets, ranging from 0.36 percent in Nebraska to 8.22 percent in Delaware.

The distribution of revenues from an Oklahoma lottery is specified in the proposed legislation. While a newly established commission would set the percentage that will be returned to ticket holders, by law the state must realize no less than 45 percent of gross proceeds. The commission is directed to pay no less than 2 percent in commission to retailers, far below the average effective commission in other states, and to transfer to the Oklahoma Lottery Education Trust Fund at least 35 percent of gross proceeds. This allows 18 percent of gross proceeds for administration, well above the national average but perhaps in line with the experience in states with smaller populations. By comparison to the national average, Oklahoma’s lottery would pay less to gamblers, cost more to administer, and fund government services at about the same percentage level.

In order to estimate the potential gross sales of a lottery for Oklahoma, a regression analysis was conducted using cross-section data on states with lotteries in 2002. The estimate indicates revenues of \$277 Million, \$97.1 million of which would go to state coffers – much less than lottery proponents have guesstimated. If these estimates indeed prove true, assuming that Oklahoma approved a lottery, lottery revenues would constitute only 2.2 percent of the General Revenue Fund and an even smaller part of total state spending.

Holmes evaluates the lottery as one would evaluate a tax - on the basis of five fundamental characteristics: effects on economic efficiency, impacts on equity, exportability, stability, and administrative costs and ease of compliance.

Virtually every study of lottery participation has determined that it is regressive. That is, lottery revenues to the state come disproportionately from low-income households. Because lotteries exist in all surrounding states except Arkansas, Oklahoma will probably also have little possibility to export much of the burden of the tax.

Studies have found that the variation in lottery revenues is significantly greater than traditional forms of taxation. This characteristic of lottery revenues is particularly troublesome for the Oklahoma lottery because some of the planned expenditures funded by lottery revenues are multi-year commitments.

The average administrative cost of all state revenues is less than one cent while the average cost of a dollar raised through lotteries nationwide is 11 cents, more than ten times the average cost of raising revenues from traditional tax sources. In addition, previous research has largely demonstrated that lottery revenues earmarked for education displace state spending for education, resulting in a negligible net increase in education financing. That is, the net increase in education funding is likely to be much less than the \$97 million mentioned above.

Holmes also addresses the ethical aspects of a state lottery. He argues that it places a government in the awkward position of punishing its citizens for private actions that are both legal and *promoted* by the government if taken by a monopoly they have established for that purpose. In his view, no ethical foundation exists for punishing private entrepreneurial gambling, such as numbers games, when millions of state dollars are spent in promoting the same activity.

Finally, he argues that lotteries promote a culture of getting something for nothing; that is, a present-oriented culture. He observes that such a cultural perspective is contrary to policies fostering economic growth.

Chapter 5
*The Civil Justice System and State Economic
Development*

Two Oklahoma Incentives for Economic Development: Introduction to Ad Valorem Tax Exemption and the Quality Jobs Act

This chapter and the next examine two of Oklahoma state government's leading economic development incentives. The first program involves the provision of a five-year property tax exemption for qualifying new and expanding manufacturing firms. Also eligible for the exemption are several other industry classes doing specified levels of out-of-state business. The second program examined is the "Quality Jobs Act" which provides cash payments by the state up to five percent of newly created gross taxable payroll. To be eligible for this program, a firm must meet several criteria with respect to type of industry, number of jobs, wage level, and health insurance coverage. The cost to the state of the two programs has been rising rapidly in recent years and stood at \$92.7 million in 2003.

This chapter begins with an overview of the types of economic incentives currently in use throughout the United States. The statutory features of the ad valorem exemption and the Quality Jobs Act illustrate the actual format of the two important Oklahoma incentives that are being examined herein. The discussion then takes a look at why recent changes in the nation's economic performance have tended to intensify both the support for and the opposition to incentives. Controversy over economic development incentives has a long history that is illustrated by further discussion of policy issues and empirical results of research in the field. The unavoidable conclusion is that interstate competition means that states such as Oklahoma have no choice but to pursue a mix of incentives while continuing to assess their effectiveness.

The following chapter reports on operating characteristics of the two programs, together with an assessment of their current impact on Oklahoma's economy and on the budget of state government.

State Incentives for Economic Development

By the late 1950s and early 1960s, states throughout the nation had begun to use several types of fiscal incentives to attract new industry and to stimulate expansion of existing establishments. For a history and review of current characteristics of Oklahoma's economic development policies, see the 2002 issue of *Oklahoma 21st Century's State Policy & Economic Development in Oklahoma*.¹ In the '50s and '60s the focus was largely on manufacturing, and involved four broad classes of incentive.²

- Adjustments to overall tax systems to make the state more "business friendly."
- Specific tax incentives to lower operating costs and other measures to increase the net receipts of specific new or expanded plants.
- Assistance in financing new establishments through the provision of tax-exempt bonds and, in some cases, through guaranteeing repayment with the "full faith and credit" of government.
- Special provision of infrastructure including roads and utilities, and, in some instances, the provision of subsidized specialized worker training.

By the 1980s there was also a variety of what one author labeled "new wave" economic development policies. Included are policies that emphasize entrepreneurship, high-tech sectors, commercialization of research results, global marketing, business incubators, and equity as well

as debt finance.³ Many of the new wave functions are found in the Oklahoma Center for the Advancement of Science and Technology that was created in 1987.

The Ad Valorem Tax Exemption and the Quality Jobs Act

Along with a variety of programs assisting in business finance, these two measures are the heavy artillery of Oklahoma state government's economic development incentive system. Each of the two measures provides significant incentives for eligible firms to locate or expand in Oklahoma.⁴ For an enterprise requiring large capital investment, a five-year property tax exemption can provide a significant cut in tax liability. And for a firm that meets the requirements of Quality Jobs, a state incentive payment of up to 5 percent of new gross taxable payroll for up to ten years could enhance profitability. Moreover, a firm meeting all the requirements can take advantage of both programs at the same time.

The ad valorem exemption and Quality Jobs programs might be viewed as examples of "tax expenditures" because they certainly involve adjustments within the state's tax system. Oklahoma defines the term "tax expenditure" as referring to "each exclusion, deduction, credit, exemption, deferral or other preferential tax treatment allowed by law."⁵ Often, the political attractiveness of a tax expenditure results from the ability to provide financial benefits to businesses without the benefits being an explicit part of an appropriations bill. As will be seen, from state government's point of view, both programs involve ordinary direct outlays rather than tax expenditures—though not as a result of specific appropriations legislation. For the ad valorem exemption, direct payments are made by the state to local jurisdictions to make up for property tax revenues foregone as a result of the incentive, while the Quality Jobs Act involves direct incentive payments to eligible business firms. State government's payments for these two programs have been rising rapidly—from \$17.2 million in 1995 to \$92.7 million in 2003 (Table 1.1).

The essential fiscal effect of the payments is the same as if money was appropriated from the state's General Revenue Fund. As will be seen below, the payments are relatively concentrated in the state's metropolitan areas, and a significant number of counties do not participate in the programs at all. Thus both programs represent a transfer from nonmetropolitan to metropolitan areas.

Both of these incentives should be viewed within the context of the state's overall tax system and the system of state/federal taxation. The ad valorem exemption is applied to a property tax rate that, at around 1 percent of taxable value, is among the nation's lowest. Thus a property tax exemption in a state with a relatively high property tax rate would be more valuable than the same exemption would be in Oklahoma. Moreover, the property tax exemption must be viewed within the context of a system in which property taxes are treated as an expense in determining state and federal income tax liability. Reducing a firm's property taxes by \$100 would mean an increase in taxable income of \$100. Since corporate tax rates are around 34 percent at the federal level and 6 percent at the state level, the actual value to the firm of the \$100 exemption is perhaps around \$60.

In contrast, 100 percent of the direct cash payments of the Quality Jobs Act program can be used for ordinary business expenses with no implications for income tax liability. For example, a \$100 increase in revenue from this source could be used for \$100 of expenses with no impact on taxable income. Thus it is expected that a dollar's worth of state outlays on Quality Jobs has a significantly greater impact on business behavior than the same amount used for the property tax exemption.

Implicit in the following analysis of the two programs is that they may be categorized as *entitlements* as opposed to programs with administrative discretion concerning conditions in which the incentives will or will not be offered. If firms meet certain requirements spelled out by law, then they are entitled to the incentives. Over time, however, the statutory provisions have been changed by the Legislature in response to specific opportunities for attracting or expanding firms not previously eligible for, or stimulated by, the incentives.

Table 1.1

Value of Ad Valorem Manufacturing Exemptions and Quality Jobs Act Payments, 1987-2003 (\$000)

<i>Year</i>	<i>Ad Valorem Exemption Payments to Local Jurisdiction</i>	<i>Quality Jobs Act Payments to Business Firms</i>	<i>Total</i>
1987	143	0	143
1988	2,346	0	2,346
1989	3,671	0	3,671
1990	5,565	0	5,565
1991	9,573	0	9,573
1992	12,584	0	12,584
1993	13,725	0	13,725
1994	13,556	239	13,795
1995	13,975	3,246	17,221
1996	13,874	8,941	22,815
1997	12,765	15,729	28,494
1998	14,936	27,656	42,592
1999	15,065	32,055	47,120
2000	15,265	42,750	58,015
2001	18,978	51,585	70,563
2002	20,544	61,398	81,942
2003	38,435	54,216	92,651

Source: Oklahoma Tax Commission, Ad Valorem Division, *Exempt Manufacturing Reimbursements, 2003*, p. 8, and Oklahoma Tax Commission, Tax Policy and Research Division

Ad Valorem Exemption for Qualifying Manufacturing Concerns

Oklahoma does not have a state property tax; all authority to levy property taxes rests with various local jurisdictions. Thus this incentive is an example of state control of local public finance. Because of an unfavorable court ruling, it was necessary to amend the Oklahoma Constitution in 1985 so that the state could continue to grant this exemption. Further detail was added with an amendment in 1988 permitting the Legislature to define what is covered by the term “manufacturing facility.”

Art. 10, Sec. 6B of the state’s constitution provides for a five-year property tax exemption for “qualifying manufacturing concerns.” The exemption applies to both new facilities and to

expansions of old facilities. Since property taxes are all local, there was a natural concern over the state requiring that local jurisdictions forego potentially significant sources of revenue. To assuage the local jurisdictions, the Constitution requires that the state implement procedures to provide reimbursement for revenues lost as a result of the exemption.

The 1985 legislation implementing the new constitutional provision was relatively simple (H.B.1459). Manufacturing was specified to be the manufacturing components of the federal Standard Industrial Classification code. This involved Division D of the code and applied to activities generally understood to be manufacturing. Also eligible were research and development activities. The Oklahoma Tax Commission’s Ad Valorem Tax Division administers the program.

As might be expected with a program of great interest to communities seeking new and expanded business firms, each year there has been a tendency for the Oklahoma Legislature to add new provisions to the ad valorem exemption statute. The contemporary result is a statute much more complex than that of 1985. The term “manufacturing” currently also includes large-scale wholesale trade and warehousing (with wages at least 175 percent of the federal minimum), prepackaged software and computer integrated system design (with at least 50 percent of sales out-of-state), computer processing and data preparation and processing services (with at least 80 percent of sales out-of-state), and aircraft repair. To be eligible for the exemption, the new facility or expansion of old facility must involve a capital cost of at least \$250,000 and new payroll of at least \$250,000 in counties with less than 50,000 population or at least \$1 million in larger counties. Basic health benefits must be provided to full-time employees. Additional special provisions apply to repair work at the Oklahoma City General Motors plant damaged by a May 8, 2003 tornado and for a shopping mall damaged in a May 3, 1999 tornado.

Generally excluded from the opportunity to use the ad valorem exemption are eating and drinking establishments, retail establishments, and public utilities centrally assessed by the Oklahoma Tax Commission.

Considerable establishment-level detail about the recipients of the exemption is published each year by the Ad Valorem Tax Division of the Oklahoma Tax Commission (OTC).⁶ including the firm name, county, year of eligibility to which the exemption applies (1-5), and the amount of exemption for each year. Since assets depreciate, successive annual issues of the OTC publication show decreasing amounts for the value of the exemption from years 1 to 5. These data provided the basis for identifying more detail about recipient firms from directories of manufacturers, including the year the establishment was located at its current site, number of employees, and industry classification.⁷ Where no directory data were available, it was possible to obtain the industry code from the OTC; no data on when the establishment was established at its present

location or the employment level were available from the OTC. The resulting summary of number of establishments, industry code, and employment, where available, is contained in Table 1.2.

The data in Table 1.2 are arranged by SIC code from high to low based on the aggregate value of the exemption for each industry. Sixty-nine percent of the total incentive of \$38.4 million went to establishments in the top five industries: electric, gas, and sanitary services (i.e. merchant electric power plants); transportation equipment; paper and allied products; food and kindred products; and electrical equipment.

It was possible to identify year of plant start-up for 151 of the firms in Table 1.2 receiving the exemption. The bulk of the establishments were located at their present sites long before they began to receive their current exemption, i.e. well before the last five years. Here is percent of the 151 establishments by year located.

<u>Period</u>	<u>Percent</u>
Before 1960	20.5
1960-69	11.3
1970-79	21.2
1980-89	21.8
1990-97	17.9
1998-02	7.3

There is no doubt that the ad valorem tax exemption is primarily a program benefiting establishments *already located* at their present sites. There are, of course, instances in which a firm would determine to shut down or not to upgrade a facility without the property tax incentive.

Since the exemption lasts five years, it is possible for a facility to appear in the OTC report as using the exemption each of the five years. Data on years of exemption claimed were available for all 196 establishments. Fifty-eight of the firms had used the incentive three years or more out of the last five. About half had used the program only one year.

The ad valorem tax exemptions tend to be concentrated in the state’s Metropolitan Statistical Area (MSA) counties.⁸ Three quarters of the exemption by value and two-thirds of the establishments for the 2002 tax year were located in the

Table 1.2

**Ad Valorem Tax Exemptions by Industry Class,
Oklahoma, 2002**

<i>SIC Industry Class</i>	<i>Number of establishments</i>	<i>Number of Amount of tax exemption (dollars)</i>	<i>establishments with employment data</i>	<i>Number of employees</i>
49 Electric, gas, and sanitary services	3	8,468,354	0	Na
37 Transportation equipment	13	7,312,880	12	8,363
26 Paper and allied products	10	6,036,969	8	3,615
20 Food and kindred products	25	2,430,876	24	10,906
36 Electrical and electronic equipment	12	2,222,554	10	3,832
30 Rubber and misc. plastic products	15	1,777,590	14	6,083
42 Motor freight transportation & warehousing	3	1,688,149	0	Na
34 Fabricated metal products	25	1,490,890	21	4,380
35 Machinery, except electrical	25	1,236,097	22	7,148
28 Chemicals and allied products	7	1,154,568	6	452
32 Stone, clay, glass, and concrete products	13	1,058,713	11	1,948
33 Primary metal industries	12	1,045,476	11	1,783
27 Printing, publishing and allied industries	8	801,778	8	2,808
39 Miscellaneous manufacturing industries	1	350,584	1	212
73 Business services	6	300,865	0	Na
25 Furniture and fixtures	3	287,113	3	1,050
51 Wholesale trade	2	183,992	0	Na
29 Petroleum refining and related industries	4	173,824	3	300
38 Instruments and related products	2	144,989	2	690
13 Field crops except cash grains	3	142,498	2	400
87 Engineering and management services	1	67,489	0	Na
24 Lumber and wood products, except furniture	2	41,489	0	Na
21 Tobacco products	1	16,772	1	13
Total	196	38,434,509	159	53,983

Oklahoma City, Tulsa, Lawton, and Ft. Smith (Sequoyah, Leflore Counties) MSAs. In 30 of the state’s 77 counties, no establishments participated in the ad valorem tax exemption program.

The Legislature established an Ad Valorem Reimbursement Fund from which to pay compensation to local jurisdictions for property tax revenues foregone as a result of the tax exemption. This fund is financed by an automatic allocation of 1 percent of the state’s receipts of personal and corporate income tax revenue. There appears to be a possible inconsistency between the constitutional and statutory requirements of local jurisdiction reimbursement. The State Constitution requires the Legislature to “enact laws . . . to provide for the reimbursement of [local jurisdic-

tions] for revenues lost to such entities as a result of the exemption provided by this section.” (Art. 10, Sec. 6B. 2). The statute, however, states that if the funds available in the Ad Valorem Reimbursement fund are insufficient to pay all the claims of local jurisdictions, then the “available funds shall be distributed proportionally among counties making claims . . .” An Oklahoma Attorney General’s opinion in April, 2003 indicates that the state is definitely liable to reimburse local jurisdictions for the full amount of the exemption even if the resources of the Ad Valorem Reimbursement Fund are insufficient. The reimbursement is “an appropriation made by the people in the Constitution.”⁹

The 2003 session of the Oklahoma Legislature faced a situation in which the amount of money in the Ad Valorem Reimbursement Fund was not adequate to make the required offsetting payments to counties. At the close of the session, the Legislature passed S.B. 201 allocating to the Reimbursement Fund \$4.8 million each from two special revolving funds of the Oklahoma State Regents for Higher Education, and one such fund of the State Board of Education.¹⁰ Inadequate resources for the Reimbursement Fund are likely to recur in the future.

Before leaving this topic, mention should be made of another type of economic development related ad valorem tax exemption in Oklahoma. The state's "Local Development Act" provides for various incentives for enterprise zones and blighted urban areas (62. O.S. 2001, Secs. 850-69). Sec. 860 of that legislation allows local governing bodies to grant tax exemptions applicable to new projects in "reinvestment areas, historic preservation areas or enterprise areas." This is unlikely to be applied very often.

The Oklahoma Quality Jobs Program

Unlike the ad valorem exemption that was initially focused on traditional manufacturing, this program targets the economist's concept of "basic industry." A basic industry is one for which a significant share of sales of goods or services is made to out-of-state customers. The money flowing into Oklahoma circulates throughout the state's economy with multiplier effects generating more income and employment than is the case with local-service industries serving in-state customers. It is useful to contrast the two classes of industry as "income-generating" and "income-circulating." The economic impact analysis used in the following chapter examines the multiplier effects of industries participating in both the Quality Jobs and ad valorem tax exemption programs.

For basic industry firms locating or expanding in Oklahoma that meet certain requirements, the state makes quarterly cash payments up to 5 percent of newly created gross taxable payroll. The economic reasoning behind these requirements is to ensure that state government at least

breaks even on the arrangements, while multiplier effects guarantee substantial additional benefits throughout Oklahoma's economy. The application of the requirements begins with the Oklahoma Department of Commerce measuring the "new direct jobs" associated with the location or expansion of the qualifying firm.¹¹ New direct jobs generate a certain payroll. Workers receiving the new income will pay additional state personal income taxes and the firm will pay additional state corporate income taxes out of expanded profits. Other tax revenues that state government will receive are from the state sales and use taxes, various excise taxes, and taxes and fees associated with owning an automobile. The additional state government revenues expected as a result of the new jobs are referred to as "estimated direct state benefits."

Assuming the new direct jobs involve people moving into Oklahoma, there is also a resulting increase in the cost of services supplied by state government. These "estimated direct state costs," computed by ODOC, include the following:

- "the costs of education of new state resident children,
- the costs of public health, public safety and transportation services to be provided to new state residents,
- the costs of other state services to be provided to new state residents, and
- the costs of other state services."

Net benefits are calculated as the estimated direct state benefits minus estimated direct state costs. The "net benefit rate" for an eligible project, stated as a percentage, is calculated by dividing net benefits by gross payroll of the new workers and multiplying by 100. When the state applies that percentage to the gross payroll, it arrives at an amount of cash payments which the state can make directly to the eligible firm without there being any negative effect on the state budget in comparison with what the budget would have been without the new jobs at all. The state budget is "held harmless", the firm receives the incentive, and the general economy of the state benefits through the multiplier effects flowing from an

expanded basic industry. In actual application, typical net benefit rates are around 4 percent.

Payments to qualifying employers are made by the Oklahoma Tax Commission from the Quality Jobs Program Incentive Payment Fund. The Tax Commission is authorized to take a portion of revenues collected for the personal and corporate income taxes and deposit an amount into the Fund sufficient to make cash payments to the Quality Jobs program establishments. Since the bulk of the revenues from the two tax sources normally flows into the state's General Revenue Fund, the effect of this procedure is essentially the same as if the Legislature had made appropriations from general revenues to service the program.

To qualify for the payments, an establishment's annual payroll for new employees must generally attain an annual rate of \$2.5 million within a specified amount of time. Basic health benefits must be provided. Eighty percent of the workers must be working at least 25 hours per week. Firms must pay at least the county-wide average wage level if less than \$25,000 or at least \$25,000 if the wage level is \$25,000 or more.

A wide range of industry classes is eligible for Quality Jobs incentives for as long as ten years. These industry classes are spelled out in detail in the statute and will only be summarized here. Eligible are manufacturing establishments; central administrative offices; research, development and testing laboratories; and many other classes of establishment subject to various constraints regarding out-of-state sales. Included in these other classes are activities ranging from warehousing and distribution to air transportation, insurance carriers, personnel supply services, and electric wholesale generators. More detail on the industry class of program recipients is presented in Chapter 2.

A business opting to participate in the Quality Jobs program is not eligible for several other state economic development incentive programs, such as the investment tax credits for new jobs. Participating firms may take advantage of the ad valorem tax exemption.

There are a number of provisions embedded in the Quality Jobs Act providing special treatment for establishments in opportunity zones,

other low income settings, sites with environmental problems, and firms involved in defense contracts.

As is the case with the ad valorem tax exemptions, the Quality Jobs incentives tend to be concentrated in the state's Metropolitan Statistical Area (MSA) counties. Nearly four-fifths of the actual jobs claimed, and by implication a similar share of cash payments, are in the MSA counties. Two-thirds of the contracts in place in 2003 were in the MSAs. In 34 of the state's 77 counties, no establishments were using the Quality Jobs program.

Recent Economic Change and Controversy over Incentives

From their very beginning, programs such as property tax exemptions and tax breaks for job development have pitted economic development activities against other functions of state governments for scarce budget funds. In recent years throughout the nation, globalization and deregulation have created an extremely competitive environment for American business. Many of today's firms are understandably keen to take advantage of any type of government largesse that is available to them—both on the regulatory front and for economic development incentives. The quest for survival has emphasized cost saving in a variety of functions. As productivity has grown rapidly, businesses have been able to get along with fewer workers. Moreover, the shifting of manufacturing and even service activities to lower cost foreign locations has also dampened employment expansion.

These long-term productivity and international trade trends were exacerbated by a relatively short-lived national recession in 2001, followed by a relatively anemic and "jobless" recovery. The manufacturing sector, which has been the historic focus of economic development incentives, was particularly hard hit, both in Oklahoma and nationally. For example, between September 2000 and September 2003, manufacturing employment in the state fell from 178,100 to 148,600—a drop of 16.6 percent.

As many jurisdictions experience static to declining employment, elected officials and business leaders become even more supportive of using incentives to attract new firms and to encourage the expansion of existing firms. In Oklahoma, this has typically taken the form of expanding the domain of firms eligible for the two incentives under discussion (as, for example, by including warehousing and oil refinery air pollution control equipment) or of increasing the value of the incentive (as in an unsuccessful 2002 proposal to extend the property tax exemption from five to ten years.)

The same factors causing business leaders and politicians to be more intensely supportive of incentives are also causing other groups to question and even to oppose them. Incentives often involve government outlays or revenues foregone. Revenue adequacy is a special focus of policy discussion when weak economic conditions result in reduced legislative appropriations. In Oklahoma, for example, after rising steadily throughout much of the 1990s and reaching a peak of \$5.6 billion in FY 2002, legislative appropriations dropped to \$5.1 billion in FY 2004.¹² Similar fiscal stress was occurring throughout the nation.¹³

Supporters of public education have been particularly critical of incentives. This is probably because property tax exemptions are a frequent means for providing incentives, and this tax is an important local source of revenue for public schools. At the national level, the National Education Association took a strong position against incentives in, *Protecting Public Education From Tax Giveaways to Corporations*.¹⁴ At the state level, in late 2003, the Oklahoma State School Boards Association was seeking support from local boards of education for a legal challenge of a recently expanded ad valorem tax exemption for oil refineries.¹⁵ And a more comprehensive attack on economic development incentives appeared in *The Oklahoma Observer's* lead article under the headline "\$1.4 Billion Off State Tax Rolls, Corporate Blackmail."¹⁶

Another source of criticism of economic development incentives involves part of the business community. While many business leaders support economic incentives, others are

critical. It is easy to see why utilities, banks, retail establishments, and developers usually favor measures generating growth. However, serious equity problems arise when a new firm attracted by an incentive arrives on the scene and begins competing with firms in the same industry which have been in place generating jobs and income for many years. Today, these firms are facing such intense competition that they resent even more the competition that is subsidized by government. This equity problem is overcome partially when incentive programs are available for expansions of existing firms as well as when new establishments are located. Nevertheless, this problem is particularly onerous to those who believe that the incentives were unnecessary in the first place.

Empirical Findings

Given such controversy and conflicts over budget allocations, there naturally arose the question of whether economic development incentives represent a wise use of public funds. Driven by this question, there has been a substantial volume of research and related literature attempting to examine the extent to which specific incentives have had desirable effects on state and local economic development. It is not surprising that research has generated conflicting conclusions. This is a challenging field in which to undertake research because of the fact that government incentives are only one factor among many influencing business decisions about location and expansion.

Prior to the 1990s, research on the effectiveness of economic development incentives generally failed to identify significant impacts on patterns of development. This was consistent with another body of research that concluded that taxes generally did not affect economic growth. A major and often accepted conclusion about incentives was that they involved a "zero-sum game" and therefore were undesirable from a nationwide viewpoint. This even led to proposals to have the federal government impose limitations on the states' use of economic development incentives.¹⁷

A revisionist view of the efficacy of incentives is prominent in two significant books published by the W.E. Upjohn Institute for Employment Research. Those with major concerns about policy in this field are well-advised to review the 1991 study by Timothy Bartik, *Who Benefits from State and Local Economic Development Policies?* and the 1998 study by Peter S. Fisher and Alan H. Peters, *Industrial Incentives, Competition Among American States and Cities*.¹⁸

After surveying an extensive range of research in the field, and after undertaking their own analysis of the impact of incentives on the financials of hypothetical firms, Fisher and Peters conclude the following:

Those who have reviewed the very extensive literature on the effectiveness of tax policy or of incentive competition have concluded that the bulk of the evidence now appears to support the thesis that differences in tax levels do measurably affect rates of economic growth.¹⁹

Both Bartik and Fisher and Peters reject the zero-sum argument against economic development incentives. Bartik points out that states with relatively high levels of unemployment are likely to be particularly aggressive with their incentive programs. This will have the effect of reducing the overall volume of unemployment and increase national output.²⁰ Fisher and Peters remind observers that as the United States becomes increasingly involved in the global economy, states and localities target foreign direct investment that also increases national output.

Assuming that the revisionist research on economic development incentives is valid, there remains a nagging question with respect to specific new locations or expansions—a question that is virtually unavoidable and very difficult to answer; namely, Would the firm have located or expanded anyway without the incentive? To the extent that the answer to this question is affirmative, it can be argued that government resources have been wasted and that the economic development programs are inefficient. There surely is a continuum of sensitivity by business firms to incentives, with incentives having a very strong positive effect on some business investment, a

lesser effect on other business investment, and no effect at all on still other investment. It is, however, hard to identify empirically the dimensions of this continuum. Clearly, the researcher should not hope to learn much by surveying business decision-makers – that is, by asking them whether the incentive made a difference. Managers' responses would be irrational if they did not claim that the incentive was important. About the best that can be done to deal with this problem is to examine the structure of various incentives and firm responses with a view to avoiding relatively obvious situations in which firms simply take advantage of the program without changing their behavior.

Incentives are Irresistible

No matter how one assesses the empirical findings with respect to the effectiveness of economic development incentives, it is important to point out two factors that suggest that these policies are a permanent part of the state policy scene in Oklahoma. These two factors involve benefits to politicians and interstate incentive competition.

Political Benefits

The political dimension of the permanence of incentives was set forth by the authors of a 1995 analysis of property tax incentives who stated: "Regardless of the lack of consensus among researchers on the impact of tax incentives on economic development, politicians and policy makers apparently believe that they work, and anecdotal evidence of their success abounds."²¹ An even more Machiavellian view was set forth in 2001 in a review essay in the *Economic Development Quarterly*.

Tax incentives are good politics. Tax incentives are not part of most state budget processes, so they are not as subject to political interference. All political factions use tax codes to benefit favored projects or sectors. Businesses receiving them are most supportive,

whereas taxpayers funding them are largely unaware or indifferent. There is little risk to politicians when incentives fail because failure can be blamed on economics, market forces, or dysfunctional corporate behavior. Political dividends during economic good times are great because policy makers can claim credit for intervening.²²

Interstate Incentive Competition

If other competing states implement various economic development incentives, then Oklahoma may wish to meet and even try to beat this policy competition—even though it might do so with reluctance.²³ Moreover, the competition is now international rather than interstate as Oklahoma competes for foreign direct investment.

Tax incentives are ubiquitous. For example, the 2003 issue of *All States Tax Handbook* reports that all states with a state income tax, but three (Hawaii, Minnesota, Missouri), have tax credits of one sort or another for the creation of new jobs.²⁴ It appears that the use of job-related credits against the state income tax is much more common than the use of cash payments, as in Oklahoma's Quality Jobs program. The use of job-related cash payments in other states is examined further in the following chapter. Most states provide some form of economic development related property tax abatement, though it often involves decisions by local jurisdictions and sometimes is associated with facilities financed with industrial revenue bonds. Here are some selected incentive provisions used by states close to Oklahoma.

- Arkansas has a program of discretionary incentives that are negotiated by the state's Department of Economic development in competitive situations. This can include its Create Rebate Program of payroll rebates similar to Oklahoma's Quality Jobs program.
- Colorado permits local jurisdictions to negotiate "Business Incentive Agreements" for businesses with new or expanding facilities. Agreements may be

for up to 50 percent of the personal property tax for up to ten years.

- Kansas local jurisdictions can offer negotiated property tax exemptions of up to ten years either by financing projects through industrial revenue bonds or through a special constitutional provision that is apparently similar to that used in Oklahoma. A 10 percent credit is offered for qualified capital investment for firms in eligible businesses that pay above average wages and invest in employee training programs.
- Louisiana has a "Quality Jobs Program" that is similar to that of Oklahoma. This program even includes an optional requirement that the eligible firm must have a direct state employment multiplier of 2.0 or above as defined by an input-output system maintained by the U.S. Department of Commerce's Bureau of Economic Analysis.
- New Mexico has a Rural Job Tax Credit program of 6.25 percent of the first \$16,000 wages paid in a qualifying new job in rural areas where employers have been approved for the state's Job Training Incentive Program.
- Texas has implemented an Economic Development Sales Tax program with cities levying a sales and use tax rate of 1/8, 1/4, 3/8, or 1/2 of 1 percent. Cities must create a corporation to administer the resulting sales and use tax funds. The funds are to be used for manufacturing and industrial development, and can include financing of facilities, infrastructure, and even project maintenance and operating costs.

As a relatively small state in the midst of much more powerful jurisdictions, Oklahoma cannot adopt a go-it-alone policy of rejecting tax incentives for economic development. A recent study by the Federal Reserve Bank of Minneapolis emphasized the need to meet competition with the following observation: "No state can stop using development incentives in a world of fierce

domestic and international competition. To do so would be politically and economically suicidal.”²⁵

The Challenge

Economic development incentives are clearly a permanent part of state governments’ policies. With an awareness of the extensive methodological difficulties of distinguishing the impact of incentives on actual business behavior, states are nevertheless challenged to organize their incentives in as cost-effective manner as possible. The following chapter will provide detail on how the ad valorem exemption and Quality Jobs Act operate. It will be seen that it is possible to use data from Oklahoma’s ad valorem tax exemption and Quality Jobs programs to get an idea of impacts on employment and personal income. Such an effort results in a measure of the maximum impact of the incentives assuming that 100 percent of the location or expansion decisions were specifically due to the incentive. In effect, it permits a rough benefit-cost analysis under conditions most favorable to maintaining incentives.

Endnotes

¹Larkin Warner, *The Administration of State Government Promotion of Economic Development: An Historical Perspective Through 1986*,” and “The Administration of State Government Promotion of Economic Development: 1987-2001, pp. 25-50; Kent W. Olson, “Tax Incentives for Oklahoma Business Firms: Issues in Accountability, Targeting, and Evaluation, Oklahoma City: Oklahoma 21st Century, *State Policy & Economic Development in Oklahoma: 2002*, 2002, pp. 67-80. See also Sheppard F. Miers, Jr., “Tax Incentives for Economic Development in Oklahoma,” *The Oklahoma Bar Journal*, Vol. 65, No. 41, Oct. 29, 1994, pp. 3537-3546.

²Gary C. Cornia, William A. Testa, and Fredrick D. Stocker, *State-Local Fiscal Incentives and Economic Development*, Columbus, OH: Academy for Contemporary Problems, 1978, p. iii.

³Timothy J. Bartik, *Who Benefits From State and Local Economic Development Policies*, Kalamazoo

MI: W. E. Upjohn Institute for Employment Research, 1991, pp. 5-6.

⁴A summary of these and other incentives may be found in the current issue of the Oklahoma Department of Commerce, Office of Business Location, *Oklahoma Business Incentives and Tax Information Guide, 2001-2002*, Nov. 2001. A new edition of this publication is in process.

⁵Oklahoma Tax Commission, *State of Oklahoma Tax Expenditure Report, 2001-2002*, p. 3.

⁶Ad Valorem Tax Division, *State of Oklahoma Annual Report to the Oklahoma Tax Commission, Exempt Manufacturing Reimbursements*.

⁷*2004 Oklahoma Manufacturers Register*, Evanston, IL: MNI Manufacturers’ News, Inc., 2003; *2004 Oklahoma Directory of Manufacturers and Processors*, Twinsburg, OH: Harris Infosource, 2003.

⁸The federal government recently redefined Metropolitan Statistical Areas. In Oklahoma, the Oklahoma City MSA includes Canadian, Cleveland, Grady, Lincoln, Logan, McClain, and Oklahoma Counties. The Tulsa MSA includes Creek, Okmulgee, Osage, Pawnee, Rogers, Tulsa, and Wagoner Counties. The Lawton MSA consists only of Comanche County, while the Oklahoma part of the Fort Smith MSA includes Sequoyah and Leflore Counties.

⁹Office of Attorney General, State of Oklahoma, Attorney General Opinion 03-16, April 16, 2003.

¹⁰S.B. 201, *2003 Oklahoma Session Laws*.

¹¹68 O.S. Supp. 2002, Sec. 3603.

¹²Oklahoma House of Representatives, Research, Legal and Fiscal Divisions, *Session Highlights 2003*, 2003, p. 93.

¹³Nicholas W. Jenny, “Underlying State Revenue Picture Remains Bleak,” *The Rockefeller Institute State Fiscal News*, Vol. 3, No. 6, August 2003.

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¹⁵Bobby Anderson, “Schools asked to challenge law,” *The Oklahoman*, Nov. 13, 2003.

¹⁶Frosty Troy, “\$1.4 Billion Off State Tax Rolls, Corporate Blackmail,” *The Oklahoma Observer*, Nov. 10, 2003.

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¹⁸Bartik, 1991, and Peter S. Fisher and Alan H. Peters, *Industrial Incentives, Competition Among American States and Cities*, Kalamazoo MI: W. E. Upjohn Institute for Employment Research, 1998.

¹⁹Fisher/Peters, p. 213.

²⁰Bartik, pp. 12-14.

²¹Marilyn Rubin, "Business Property Tax Incentives and Economic Development," in John H. Bowman, ed., *Taxation of Business Property*, Westport, CT: Praeger, 1995, p. 122.

²²Terry F. Buss, "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions: an Overview of the Literature," *Economic Development Quarterly*, Vol. 15, No. 1, Feb. 2001, p. 92.

²³For additional detail see Alexander Holmes, "Economic Development Incentives in Competing States," *State Policy & Economic Development in Oklahoma: 2002*, Oklahoma City: Oklahoma 21st Century, Inc., 2002, pp. 59-65.

²⁴2003 *All States Tax Handbook*, New York: Thompson RIA, 2003, p. 151.

²⁵Gary Stern, "Presidents Message," Federal Reserve Bank of Minneapolis, *The Region*, Vol. 10, No. 2, June 1996, p. 7.

Oklahoma's Ad Valorem Tax Exemptions and the Quality Jobs Act: Analysis of Economic Impacts and Tests for Differential Growth

This chapter explores the economic impacts of the two major industrial incentive programs in the State of Oklahoma, the ad valorem or property tax exemption, and the Quality Jobs program. As noted in the previous chapter, these two programs presently cost about \$93 million per year. Since inception of the Quality Jobs Act in Fiscal Year 1994, \$305 million in direct payments have been made to businesses. Up to now, we have lacked even the most rudimentary understanding of what these programs contribute to the state in benefits relative to these costs. This chapter provides the first analysis we know of that provides estimates of the level of benefits in relation to costs.

Regional Input/Output, or I/O, analysis is the primary tool used for program assessment in this study.¹ Since its invention by Wassily Leontief in the 1930's, who eventually was awarded the Nobel Prize in Economics for this work, I/O empirical frameworks have advanced considerably. Regional economic analysis has been a primary recipient of these advances. Simultaneous with these advances has been expanding capabilities and capacities of microcomputers. Now, rather large-scale and comprehensive regional I/O systems are available for use on personal computers. We make use of one of these systems in this research, the IMPLAN Professional Model, considered by many economists to be the *gold standard* for regional economic impact modeling.²

This chapter is divided into the following sections. The first section lists the major findings. Some technical language is used. Readers not acquainted with economic impact analysis are urged to read Section II prior to reviewing the key findings. Section II provides a basic discussion of what Input/Output analysis actually does. In Section III, more detail is given on the nature of,

and necessary assumptions associated with, I/O analysis. Also discussed are some specific features of the IMPLAN Professional system. We then launch in Section IV into the detailed empirical results of the I/O analysis, including state revenue implications of the programs. These results will be presented in aggregate form and by two-digit industry detail. This section also examines the question of whether there has been differential growth in those industries where expenditures on the two incentives have been high. The final section examines the extent to which other states have followed Oklahoma's lead in providing quality jobs incentives. This is done by exploring through *content analysis* (key word search) the detailed descriptions of the incentive programs. Concluding remarks are then provided.

I. Major Findings

The following are the principal findings of this study:

- According to the IMPLAN modeling system as implemented by the authors, the Quality Jobs program generates benefits to the State of Oklahoma substantially in excess of the costs of the program. Tax revenues are estimated to have expanded by \$264 million, assuming that jobs and payroll associated with this program would not have existed in the state otherwise. The cost of the program averaged about \$40.0 million from FY 1996 through FY 2003. Thus, the benefits to cost ratio is estimated to be 6.6. If the actual jobs in Oklahoma in consequence of the program were only 1/6th of those reported, the benefit/cost ratio would still be greater than unity. The Quality Jobs program appears to be within the parameters of the original legislative

intent, i.e., paying for itself through the direct employment effects.

- Economic impact analysis reveals the property tax exemption to be weak in jobs, labor income, and tax revenue generation, even when the full amount of the exemption is used in the analysis. Use of the full value of the exemption is, however, invalid. As an exemption, the full amount of the tax benefit to firms is not realized. Federal tax liability is increased because property tax payments are a deduction on corporate tax forms. With a 40 percent marginal tax rate (combined federal and state), only 60 percent of the value of the exemption is appropriate to use in impact modeling. The property tax exemption clearly does not generate benefits to state coffers that justify the cost of the program, although, as noted below, benefits in increased jobs and labor incomes are not trivial. Still, alternatives to this program clearly need to be explored.
 - Quality Jobs program economic impact estimates show that direct employment in qualifying industries expanded by 33,500, according to the model. Indirect employment in Oklahoma in supporting industries rose by 19,200. Increased spending by households resulted in an additional 20,700 jobs. This is the so-called induced effect. Total jobs rose by 73,400, again assuming that the jobs would not have otherwise existed in the state without the program. Labor income (employee compensation and proprietor's income) increased by nearly \$2.0 billion in consequence of the Quality Jobs program. About one-half of this gain was attributable to the direct effect in qualifying industries.
 - The property tax exemption has increased direct employment by an estimated 3,960 jobs and total employment by 11,370 jobs. Labor income has expanded by \$365 million while tax revenue has increased by an estimated \$48 million. Because property taxes increase deductions on federal and state corporate tax returns, it is likely that these impacts are overestimated by as much as 40 percent, the combined marginal federal and state tax rates.
 - Payroll reimbursements under the Quality Jobs program have been concentrated in six two-digit SIC industries. Indeed, seven of every eight reimbursement dollars flowed to these six industries. This concentration of expenditures provides a basis for a jobs and earnings test: Those industries that received concentrated payments would be expected to achieve outsized gains in employment and earnings relative to the nation. Statistical results support such a hypothesis, especially for employment and less so for earnings. The Quality Jobs program is seen as having made important contributions to Oklahoma's employment base, beyond what would have occurred naturally.
 - Investigation of state incentive programs reveals surprisingly few other states that have adopted Oklahoma's Quality Jobs features, when one takes direct payroll reimbursement as a key program feature. Only about four programs out of 1,106 listed in the NASDA compendium have features that strongly resemble Oklahoma's program. In many instances, there are various restrictions that even distinguish these programs from practice in Oklahoma. In Arkansas, for example, the incentive only applies if that state is in direct competition with another state.
 - The paper closes with an appeal to go back to the roots of the Quality Jobs program and examine how closely the intent of the program has been followed. Stricter enforcement of the qualifications of this costly program may be necessary. After 10 years of life, these restrictions may have been weakened inappropriately. The Quality Jobs program shows well in a variety of contexts. That doesn't mean that it cannot be made to better serve the interests of economic development in Oklahoma.
- The authors wish to emphasize that the research contained in this study makes no claim as

to the merits of any given project. This research represents a macro approach that is, essentially, a product of application of the IMPLAN I/O system.

II. I/O Analysis Basics and Other Study Elements

Reference materials on techniques of I/O analysis are many and readily available to interested readers.³ No time is spent detailing the mathematics of this technique. Rather we seek to simply describe some of the basic tenets and standard assumptions of I/O analysis to further the reader's understanding of how I/O analysis is used in this study.

The fundamental tenet of I/O analysis is that firms buy from other firms to produce products that will eventually be sold as final demand to households for consumption, to businesses for investment, to government for program activities, or to foreign buyers as exports. If one industry seeks to expand output, it must purchase more inputs from supplier industries and labor from households. For example, the production of, say, a million more cars for final demand involves purchases by the auto industry of more tires, more glass, more steel, more electronics, and more plastic and fabric from supplier industries and more labor from households. The purchase of more labor inputs by the expanding industry shows up in the I/O framework as *direct demand*. In turn, the supplier industries to the expanding industry must, in turn, expand production and purchase more inputs from their suppliers and from households to provide the necessary intermediate-goods output to the auto industry. This produces *indirect demand* generated by the primary industry; in this case, the auto industry.

This is not the end of the story, however. If auto production then stays at the higher level of one million more autos produced for final demand per year, there is a continuing higher level of both direct and indirect employment, incomes are higher, and with these higher incomes households increase their consumption. Increased consumption then generates even more production, including auto production, with its attendant increases in inter-industry transactions and labor demand consequences. This type of demand is called

induced demand, that is, demand generated by the spending associated with the now new higher levels of employment and incomes for households. In this manner, total demand, comprised of direct, indirect, and induced demand, rises by a multiple of the initial stimulus, the dollars associated with the final demand purchase of one million additional cars per year.

This new higher level of total demand has various economic effects; for example, more jobs, higher employee compensation, increased proprietors' earnings, higher value-added, and larger output. Each of these effects is measured by the IMPLAN system, for each industry and for each of the components of total demand: direct, indirect, and induced. In addition, the IMPLAN system includes a series of non-market accounts, called Social Accounting Matrices (SAM), that allow tax implications to be examined, along with a broad spectrum of other non-market transfers. This is important for this investigation, owing to the need to assess, in a broad sense, the benefit/cost implications of the two incentive programs.

A two-digit Standard Industrial Classification of Industries is utilized in this study.⁴ The SIC definitional base includes up to four digits to identify individual industries. We are limited to the two-digit summary because of restrictions on availability of detailed information from the Oklahoma Department of Commerce, which administers the Quality Jobs program. Few complications result from this restriction.

In examining the impacts, whether they be couched in terms of income, employment, or tax receipts, a baseline assumption is that the incentive programs *caused* the jobs to be located in Oklahoma. If these new jobs would have been here anyway, obviously the programs have no effect and the state's expenditures for this purpose will have been for naught. There is no empirical means of *validating* the truth of the arguments on either side. There is, however, at least the potential for a test. If it turns out that expenditures on the Quality Jobs program have been concentrated in specific industrial categories, it is reasonable to expect that higher rates of job growth and earnings growth, in comparison to what happened nationally, should have occurred in these Oklahoma-based industries. If, in fact, we observe higher

rate of job and earnings growth in industries where these expenditures are concentrated, such results would not be incompatible with the hypothesis that the program *caused* the jobs to be located in Oklahoma. This is a weak test, but a test nonetheless, and one which we impose in the empirical results section.

As noted, we also include a brief review of other state programs that resemble Oklahoma's Quality Jobs program. Given the above background material, some additional features of the IMPLAN system can be examined, and the basic assumptions of I/O analysis can be explored.

III. The IMPLAN Professional Framework

Regional models from the Implan system can be purchased for the nation, every state, and all of the 3000+ counties in the country. Social accounting matrices are available for all of the above regional entities. It is apparent that this is a very large-scale data undertaking. The very scale of the data collection efforts involved is somewhat of a concern. Just how much attention is paid to the structure of the Oklahoma economy in such a grand scheme of modeling? Just how accurate are the social accounting matrices; that is, the non-market transfers of funds from household to governments, from governments to governments, from households to foreign entities, etc.? Study of the accuracy of these representations is certainly well beyond the scope of the present endeavor. Thus, a certain level of trust needs to reside in the belief that the IMPLAN people have done a careful and accurate job in compiling all of the statistics for all of these regional entities.

Beyond the data lie concerns and limitations posed by the basic assumptions utilized in the I/O modeling frameworks. I/O models assume a static structure to an economy that we know, in reality, is constantly changing. These models assume linear production functions, constant returns to scale, no supply constraints, a fixed input structure to industry production (no price substitution responsiveness), proportional expansion or contraction of all outputs, and constant technology.

The dynamics of our rapidly changing economy, technological innovations, rising

productivity, expanding world trade, and increased international competition constrain the domain of applicability of many of the basic assumptions of I/O analysis. The static world of I/O analysis would seem to be a poor tool for describing all that we know to be taking place in the global economy today. While it is necessary to recognize the limitations of I/O analysis, it is also necessary to recognize that it is about the only tool we have to provide baseline estimates of economic impacts. Even with its limitations, it provides a consistent and systematic framework for evaluating impacts, and the IMPLAN system is the most comprehensive and sophisticated of the impact modeling programs available today. Facilities are available in the package to change a wide variety of model coefficients, should the user have additional information or just wants to explore sensitivity of program parameters in the results. Still, we need to be cognizant of its limitations.

Little time was available in this study to review the internal workings of the IMPLAN approach to modeling the Oklahoma economy. That is a separate study in its own right and one worthy of undertaking. Consequently, this is a study of what the IMPLAN model, taken at face value, says about the impacts of the two incentive programs.

It is important to note that the data on jobs and payroll available to the authors were limited to two-digit SIC detail.⁵ IMPLAN contains over 500 industries, many of which had to be aggregated into two-digit categories. I/O models are subject to errors when aggregated, and this practice is highly advised against. Communications with IMPLAN representatives revealed that the best way to approach aggregation, when it becomes a necessity, is to aggregate only one two-digit industry at a time, leaving the rest of the model at its detailed level. The authors were told that this practice leads to very similar levels of impacts in comparison to a total disaggregated model. We have data for 21 distinct aggregate categories of industry for the Quality Jobs data, some of which contain more than one two-digit SIC code. It became necessary, then, to construct 21 different models and analyze the impacts for each of these models.

Another difficulty presented itself. The IMPLAN system allows the user to input the number of jobs or the value of sales. If the jobs figure is used, the sales value is computed based on output per job. If the sales value is inputted, the jobs figure is automatically computed. Quality Jobs data are available for the amount the state paid to the industry, the number of jobs associated with that payment, and the total payroll for those jobs. The problem is that while there was some degree of correspondence between total payroll and jobs reported in the Department of Commerce data release to what the IMPLAN system yields, the IMPLAN system, in general, yielded a lower number of jobs for a given level of payroll than was reported in the Quality Jobs data provided by ODOC. In other words, use of the reported number of jobs from the ODOC data in the IMPLAN system would have generally generated a higher level of impacts. The remedy was to find the level of jobs that equilibrated payroll between what was reported by ODOC as payroll and what the IMPLAN system yielded. In other words, the jobs figure used as inputs to the IMPLAN system yielded roughly the same level of payroll as was reported by ODOC.

Some issues developed in regard to estimating the impacts of property tax exemptions. Neither sales nor jobs were available from the data source. Only the amount of the exemptions was available. To determine a useful value to use in IMPLAN, we first computed Capital-to-Sales ratios for two-digit SIC categories. This was national data, so we are assuming that Oklahoma's Capital-to-Sales ratio matches that of the nation. The amount of the property tax exemption was divided by one percent, a rough measure of the property tax rate, to obtain an approximate value of the new investment. This value was then multiplied by the Sales-to-Capital ratio to obtain the value of incremental sales associated with the investment. The value of incremental sales was then used as input to the IMPLAN system for each two-digit industry.

With the input values specified and the IMPLAN models built for each two-digit SIC code analyzed, empirical estimates of economic impacts were computed. Summary results are reported in the next section.

IV. Empirical Results

Economic impacts and tax consequences will be given first for the property tax exemption. As noted above, values of the property tax exemption were converted to industry sales or output levels through use of the assumption that Oklahoma firms have the same sales-to-capital ratios as similar firms in the nation as a whole. The tabulation of property tax exemptions by SIC code is shown in Table 1.2 of the previous chapter.

IMPLAN models were prepared for each two-digit industry aggregation, the estimated values of sales were then entered into the appropriate model, and the model was implemented, producing estimated impacts. Summary impacts for employment, labor income, and taxes are shown in Tables 2.1 through 2.3. The impacts are divided into direct, indirect, and induced effects, which sum to the total impact.

Table 2.1 shows the estimated impacts of the \$38.4 million in property tax exemptions on jobs. The total impact is estimated to be 11,370 jobs, split rather evenly between direct, indirect, and induced impacts. These jobs generated an estimated addition to labor income in the state of \$364.7 million per year, as shown in Table 2.1. About one-half of this additional income was associated with the direct impact. Overall, state and local tax revenue was increased by \$47.5 million, better than one-half coming from indirect business taxes, such as sales and property taxes.

On the basis of inputs to the IMPLAN system, property tax exemptions seem to be paying for themselves, but with a small margin for error in that these programs are currently costing \$38.4 million per year, on average. There is one very basic and important flaw in this analysis. The full amount of the property tax reimbursement does not flow to the firm. This is because the firm has to pay the federal corporate income tax and property tax payments reduce federal tax liability. With a marginal corporate tax rate of 40 percent, only 60 percent of the property tax exemption flows to the firm. In consequence, we have overestimated employment, labor income, and tax effects by 40 percent. It is very doubtful, as a result, that the property tax exemption yields a benefit-to-cost ratio in excess of unity.

Table 2.1.**Estimated Employment Impacts of Property Tax Exemptions
FY 1996-2003 Annual Average (Number of Jobs)**

<i>SIC Code</i>	<i>Industry Title</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
SIC 20	Food and kindred products	280	760	340	1,380
SIC 21	Tobacco products	10	0	0	10
SIC 24	Lumber and wood products, except furniture	10	10	10	30
SIC 25	Furniture and fixtures	150	50	70	270
SIC 26	Paper and allied products	310	350	340	1,000
SIC 27	Printing, publishing and allied industries	290	100	140	530
SIC 28	Chemicals and allied products	40	70	110	220
SIC 29	Petroleum refining and related industries	0	10	10	20
SIC 30	Rubber and misc. plastic products	310	190	260	760
SIC 32	Stone, clay, glass, and concrete products	140	90	110	340
SIC 33	Primary metal industries	40	40	40	120
SIC 34	Fabricated metal products	300	110	190	600
SIC 35	Machinery, except electrical	220	170	190	580
SIC 36	Electrical and electronic equipment	350	230	250	830
SIC 37	Transportation equipment	1,360	1,360	1,660	4,380
SIC 38	Instruments and related products	30	20	20	70
SIC 39	Miscellaneous manufacturing industries	120	50	60	230
	Total	3,960	3,610	3,800	11,370

Table 2.2**Estimated Labor Income Impacts of Property Tax Exemptions
FY 1996-2003 Annual Average (\$Millions)**

<i>SIC Code</i>	<i>Industry Title</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
SIC 20	Food and kindred products	\$ 8.4	\$ 14.1	\$ 7.6	\$ 30.2
SIC 21	Tobacco products	\$ 0.1	\$ 0.1	\$ 0.1	\$ 0.3
SIC 24	Lumber and wood products, except furniture	\$ 0.3	\$ 0.1	\$ 0.1	\$ 0.6
SIC 25	Furniture and fixtures	\$ 4.0	\$ 1.3	\$ 1.5	\$ 6.8
SIC 26	Paper and allied products	\$ 13.3	\$ 10.6	\$ 7.7	\$ 31.7
SIC 27	Printing, publishing and allied industries	\$ 8.2	\$ 2.8	\$ 3.2	\$ 14.2
SIC 28	Chemicals and allied products	\$ 6.0	\$ 2.3	\$ 2.5	\$ 10.9
SIC 29	Petroleum refining and related industries	\$ 0.2	\$ 0.4	\$ 0.3	\$ 0.8
SIC 30	Rubber and misc. plastic products	\$ 12.7	\$ 5.8	\$ 5.7	\$ 24.2
SIC 32	Stone, clay, glass, and concrete products	\$ 5.4	\$ 2.6	\$ 2.4	\$ 10.4
SIC 33	Primary metal industries	\$ 1.8	\$ 1.2	\$ 1.0	\$ 4.0
SIC 34	Fabricated metal products	\$ 11.3	\$ 3.1	\$ 4.2	\$ 18.5
SIC 35	Machinery, except electrical	\$ 9.1	\$ 5.1	\$ 4.3	\$ 18.5
SIC 36	Electrical and electronic equipment	\$ 12.2	\$ 6.6	\$ 5.7	\$ 24.5
SIC 37	Transportation equipment	\$ 86.6	\$ 37.8	\$ 36.8	\$ 161.2
SIC 38	Instruments and related products	\$ 1.1	\$ 0.6	\$ 0.5	\$ 2.2
SIC 39	Miscellaneous manufacturing industries	\$ 3.1	\$ 1.3	\$ 1.4	\$ 5.8
	Total	\$ 184.0	\$ 95.7	\$ 85.0	\$ 364.7

Table 2.3

**Estimated Impacts on Tax Revenue of Property Tax Exemptions
FY 1996-2003 Annual Average (\$Millions)**

<i>Revenue Source</i>	<i>Employee Compensation</i>	<i>Proprietors Income</i>	<i>Households</i>	<i>Ind. Bus. Taxes</i>	<i>Total</i>
Indirect Business Tax					
Motor Vehicle Lic	\$ -	\$ -	\$ -	\$ 0.7	\$ 0.7
Other Taxes	\$ -	\$ -	\$ -	\$ 1.7	\$ 1.7
Property Tax	\$ -	\$ -	\$ -	\$ 5.1	\$ 5.1
S/L NonTaxes	\$ -	\$ -	\$ -	\$ 0.6	\$ 0.6
Sales Tax	\$ -	\$ -	\$ -	\$ 19.7	\$ 19.7
Severance Tax	\$ -	\$ -	\$ -	\$ 2.3	\$ 2.3
Personal Tax					
Estate and Gift Tax	\$ -	\$ -	\$ 0.2	\$ -	\$ 0.2
Income Tax	\$ -	\$ -	\$ 8.6	\$ -	\$ 8.6
Motor Vehicle License	\$ -	\$ -	\$ 1.3	\$ -	\$ 1.3
NonTaxes (Fines- Fees)	\$ -	\$ -	\$ 0.8	\$ -	\$ 0.8
Other Tax (Fish/Hunt)	\$ -	\$ -	\$ 0.2	\$ -	\$ 0.2
Property Taxes	\$ -	\$ -	\$ 0.1	\$ -	\$ 0.1
Pension Fund Contributions					
Employee Contributions	\$ 1.9	\$ -	\$ -	\$ -	\$ 1.9
Employer Contributions	\$ 4.5	\$ -	\$ -	\$ -	\$ 4.5
Total State/Local Govt	\$ 6.4	\$ -	\$ 11.1	\$ 30.1	\$ 47.5

Note that an implied income tax rate on labor income (the sum of employee compensation and proprietor's income) can be computed from these results. The ratio is 8.6 to 364.7 or about a 2.38 percent average tax rate. The IMPLAN system uses average tax rates for the state, all income groups combined. This is a somewhat deficient feature of the program because marginal tax rates are considerably higher than average tax rates in Oklahoma and individuals reach the top marginal rate at relatively low income levels. Thus, it is likely that the model understates income tax collections. Therefore, the estimated tax effects can be considered to be on the conservative side. Yet, taking into account both state, local, and federal taxes, it is very unlikely that the benefit/cost ratio exceeds unity for this exemption.

Turning to the estimated impacts of the Quality Jobs program, it is important to note that this program began in FY 1994 and didn't reach full-flower in terms of use of the program until several years later. In the initial year, less than

one million dollars was distributed to participating firms. In FY 2002, ODOC reported payments in excess of \$55 million. FY 2003 values were substantially less at about \$43 million. These annual fluctuations present a problem in evaluating payrolls. The answer was to use median quarterly payroll for fiscal years 1996 through 2003, multiplied by four, as inputs to the IMPLAN system. Tables 2.4, 2.5, and 2.6 report the average annual employment, labor income, and tax revenue impacts of the Quality Jobs program.

Upon reviewing Table 2.4, the first thing to notice is that some rather awkward aggregations of two-digit SIC industries were used by the ODC in reporting data. Because of data privacy concerns, there were simply too few firms in some two-digit categories to allow for separate reporting. The most flagrant violation of standard practice is the aggregation of leather products and stone, clay and glass products and primary metals. Nevertheless, one needs to work with what one has. Another anomaly in the ODOC

tabulations is the rather strange category of “Back Office.” This is not really an SIC category. It refers to office support activities. Call centers and reservation services come to mind, and given the huge Quality Jobs payments that have gone to this sector, it is likely the case that many of these operations are call centers. These jobs were allocated to the Business Services sector in the IMPLAN analysis, and, therefore, there was no need to form an aggregate category for the impact analysis associated with those jobs.

The bottom line is that the Quality Jobs program shows some rather large employment impacts, as Table 2.4 reveals. If, in fact, these jobs would not have existed in Oklahoma without benefit of the wage subsidy, the program has resulted in an average annual increase in the employment base of 73,000+ workers. About 46

percent of these estimated employment effects are from the direct impacts of the program.

Estimated labor income impacts are shown in Table 2.5. Nearly \$2.0 billion in labor income is estimated by the model, with a little more than one-half of the total impact coming from the direct impacts. That the program clearly appears to be paying for itself is shown by the estimated tax revenue impacts in Table 6. The model estimates a revenue impact of \$263.8 million. Median quarterly expenditure multiplied by four for this program was about \$40.0 million according to ODOC figures. Thus, the benefit/cost ratio is about 6.6 for this program. The program even pays for itself if only state income tax revenues are considered. And, as noted above, personal income tax revenues are likely underestimated by the model.

Table 2.4

**Estimated Employment Impacts of the Quality Jobs Program
FY 1996-2003 Annual Average (Number of Jobs)**

<i>SIC Code</i>	<i>Industry Title</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
SIC 20	Food and Kindred Products	1,910	5,100	2,250	9,260
SIC 21,22,23	Textile Mill and Apparel Products	310	120	120	550
SIC 24	Lumber and Wood Products	450	160	200	810
SIC 25	Furniture and Fixtures	80	30	40	150
SIC 26,27	Paper and Printing	10	10	10	30
SIC 28,29	Chemicals and Petroleum Refining	20	90	80	190
SIC 30	Rubber and Plastic Products	200	120	170	490
SIC 31,32,33	Leather, Stone, Clay, Glass and Primary Metal Products	140	90	110	340
SIC 34	Fabricated Metal Products	490	170	300	960
SIC 35	Industrial Machinery and Computers	970	750	850	2,570
SIC 36	Electrical and Electronic Products	940	620	690	2,250
SIC 37	Transportation Equipment	3,820	3,810	4,660	12,290
SIC 38	Instruments including Medical and Optical	0	0	0	0
SIC 42	Motor Freight and Warehousing	540	420	370	1,330
SIC 45,47	Air Transport and Services	170	60	120	350
SIC 48	Communications	3,000	2,200	3,140	8,340
SIC 50,51,55	Wholesale Trade and Automotive Dealers	260	60	170	490
SIC 60,63,65	Finance, Insurance and Real Estate	10	10	10	30
SIC 73	Business Services	10,360	1,930	3,280	15,570
SIC 80,87	Health and Engineering Services	540	140	260	940
Back Office	Other Business Services	9,240	3,300	3,880	16,420
	Total	33,460	19,190	20,710	73,360

Table 2.5

**Estimated Labor Income Impacts of the Quality Jobs Program
FY 1996-2003 Annual Average (\$Millions)**

<i>SIC Code</i>	<i>Industry Title</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
SIC 20	Food and Kindred Products	\$ 56.8	\$ 95.0	\$ 51.0	\$ 202.8
SIC 21,22,23	Textile Mill and Apparel Products	\$ 5.9	\$ 3.0	\$ 2.6	\$ 11.5
SIC 24	Lumber and Wood Products	\$ 10.6	\$ 4.3	\$ 4.3	\$ 19.2
SIC 25	Furniture and Fixtures	\$ 2.2	\$ 0.7	\$ 0.8	\$ 3.8
SIC 26,27	Paper and Printing	\$ 0.4	\$ 0.2	\$ 0.2	\$ 0.8
SIC 28,29	Chemicals and Petroleum Refining	\$ 2.1	\$ 3.0	\$ 2.0	\$ 7.1
SIC 30	Rubber and Plastic Products	\$ 8.3	\$ 3.8	\$ 3.8	\$ 15.9
SIC 31,32,33	Leather, Stone, Clay, Glass and Primary Metal Products	\$ 5.3	\$ 2.7	\$ 2.5	\$ 10.5
SIC 34	Fabricated Metal Products	\$ 18.1	\$ 4.9	\$ 6.7	\$ 29.7
SIC 35	Industrial Machinery and Computers	\$ 40.7	\$ 23.0	\$ 19.0	\$ 82.7
SIC 36	Electrical and Electronic Products	\$ 33.1	\$ 17.8	\$ 15.3	\$ 66.2
SIC 37	Transportation Equipment	\$ 243.2	\$106.1	\$103.5	\$ 452.8
SIC 38	Instruments including Medical and Optical	\$ 0.2	\$ 0.1	\$ 0.1	\$ 0.3
SIC 42	Motor Freight and Warehousing	\$ 15.7	\$ 11.2	\$ 8.2	\$ 35.1
SIC 45,47	Air Transport and Services	\$ 7.6	\$ 1.7	\$ 2.8	\$ 12.0
SIC 48	Communications	\$ 139.9	\$ 55.6	\$ 71.9	\$ 267.3
SIC 50,51,55	Wholesale Trade and Automotive Dealers	\$ 7.9	\$ 1.6	\$ 4.0	\$ 13.4
SIC 60,63,65	Finance, Insurance and Real Estate	\$ 0.2	\$ 0.1	\$ 0.2	\$ 0.5
SIC 73	Business Services	\$ 206.9	\$ 45.9	\$ 72.2	\$ 325.0
SIC 80,87	Health and Engineering Services	\$ 15.7	\$ 3.6	\$ 5.5	\$ 24.9
Back Office	Business Services	\$ 216.2	\$ 80.1	\$ 85.9	\$ 382.2
	Total	\$1,037.2	\$464.3	\$462.4	\$1,963.9

This is an accurate estimate, of course, if the IMPLAN model accurately portrays the Oklahoma economy and if the jobs would not exist in Oklahoma without benefit of the program. Yet another way of looking at this program is to ask how low the percentage of jobs attributed to the program could be and the program would still yield a benefit/cost ratio of unity. The answer is 40.0/263.8 or about 15 percent. Thus, if only about one in six or seven of the jobs associated with this program are actually a consequence of the existence of the program, the Quality Jobs program pays for itself. This contrasts markedly with the results obtained in analysis of the property tax exemption, where the minimum percentage of jobs attributable to the program would have to be 38.5/47.5 or 81 percent. Considering after-tax corpo-

rate gains with a 40 percent marginal rate, the ratio would be 38.5/(.6*47.5) or 135 percent.

One way of looking deeper into the question of whether the jobs exist because of the program is to answer the question of “does there appear to be differential employment and earnings growth in those SIC categories that have received larger than average shares of Quality Jobs payments?” The attempt at an answer is made in this study by comparing rates of employment and earnings growth over the 1994 through 2000 time period for selected industries in Oklahoma and their national counterparts. Transformation from the SIC to the NAICS system of industrial classification in 2001 and 2002 precludes the use of those years in this analysis. Yet, such analysis certainly enables a useful examination of this issue.

Table 2.6
Estimated Tax Revenue Impacts of the Quality Jobs Program
FY 1996-2003 Annual Average (\$Millions)

<i>Revenue Source</i>	<i>Employee Compensation</i>	<i>Proprietors Income</i>	<i>Households</i>	<i>Ind. Bus. Taxes</i>	<i>Total</i>
Indirect Business Tax					
Motor Vehicle Lic	\$ -	\$ -	\$ -	\$ 4.0	\$ 4.0
Other Taxes	\$ -	\$ -	\$ -	\$ 9.8	\$ 9.8
Property Tax	\$ -	\$ -	\$ -	\$ 28.8	\$ 28.8
S/L NonTaxes	\$ -	\$ -	\$ -	\$ 3.3	\$ 3.3
Sales Tax	\$ -	\$ -	\$ -	\$111.5	\$111.5
Severance Tax	\$ -	\$ -	\$ -	\$ 13.0	\$ 13.0
Personal Tax					
Estate and Gift Tax	\$ -	\$ -	\$ 1.1	\$ -	\$ 1.1
Income Tax	\$ -	\$ -	\$46.2	\$ -	\$ 46.2
Motor Vehicle License	\$ -	\$ -	\$ 7.0	\$ -	\$ 7.0
NonTaxes (Fines- Fees	\$ -	\$ -	\$ 4.3	\$ -	\$ 4.3
Other Tax (Fish/Hunt)	\$ -	\$ -	\$ 0.9	\$ -	\$ 0.9
Property Taxes	\$ -	\$ -	\$ 0.3	\$ -	\$ 0.3
Pension Fund Contributions					
Employee Contribution	\$ 9.8	\$ -	\$ -	\$ -	\$ 9.8
Employer Contribution	\$23.8	\$ -	\$ -	\$ -	\$ 23.8
Total State/Local Govt	\$33.6	\$ -	\$59.8	\$170.4	\$263.8

We expect to see much larger employment and earnings gains in those industries that received large shares of Quality Jobs payments. Table 2.7 provides some evidence that outsized employment growth has indeed occurred in those SIC categories that have received the larger shares of Quality Jobs payments. We see in this table that six SIC industries account for five percent or more of Quality Jobs payments. In only one of these six instances, SIC 35, is employment growth larger for the nation than for Oklahoma. Often the difference in growth is substantial. For SIC 20, for example, which received about eight percent of QJ expenditures, the difference in employment growth rates is 28 percentage points. For SIC 35, Electrical and Electronic Equipment, which received about five percent of QJ payments, the differential growth is 29 percent. The Communications industry, which received a sizable 19 percent of QJ payments experienced a 45 percent growth rate differential. Business services

achieved a large 30 percent differential in growth rates. Overall, the results in this table are highly suggestive that the Quality Jobs program has, indeed, produced gains in employment in those industries where such gains would be expected. The correlation between the last two columns of data is +0.60.

A similar analysis is performed with earnings, as reported in Table 2.8. Here the results are less sanguine. Among the six SIC categories that received the highest proportions of Quality Jobs payments, Food and Kindred Products, SIC 20, still shows a sizable growth differential, as do Electrical and Electronic Products, SIC 36, and Communications, SIC 48. But, Transportation Equipment, which received the largest allocation of Quality Jobs payments, had a growth differential only about two percentage points higher than the nation's. The results are similar for Business Services, which enjoyed strong growth, but essentially matched the national experience.

Table 2.7

Comparative Employment Growth Rates, Oklahoma and US in Private Sector Industries, 1994 – 2000

<i>SIC</i>	<i>Industry Title</i>	<i>OK Growth Rate</i>	<i>US Growth Rate</i>	<i>Differential Growth</i>	<i>Share of QJ Payments</i>
20	Food and Kindred Products	29%	1%	28%	8%
21,22,23	Textile Mill and Apparel Products	-28%	-29%	1%	1%
24	Lumber and Wood Products	20%	9%	11%	1%
25	Furniture and Fixtures	10%	11%	-1%	0%
26,27	Paper and Printing	0%	-2%	2%	0%
28,29	Chemicals and Petroleum Refining	-13%	-4%	-9%	0%
30	Rubber and Plastic Products	9%	6%	2%	1%
31,32,33	Leather, Stone, Clay, Glass and Primary Metal Products	-1%	0%	-1%	1%
34	Fabricated Metal Products	14%	11%	3%	3%
35	Industrial Machinery and Computers	-3%	6%	-9%	6%
36	Electrical and Electronic Products	38%	9%	29%	5%
37	Transportation Equipment	18%	6%	12%	26%
38	Instruments including Medical and Optical	-27%	-3%	-25%	0%
39	Miscellaneous Manufacturing	-4%	0%	-4%	0%
42	Motor Freight and Warehousing	8%	2%	6%	2%
45,47	Air Transport and Services	17%	55%	-38%	1%
48	Communications	74%	29%	45%	19%
50,51,55	Wholesale Trade and Automotive Dealers	12%	14%	-2%	1%
60,63,65	Finance, Insurance and Real Estate	9%	4%	5%	0%
73	Business Services	88%	58%	30%	23%
80,87	Health and Engineering Services	23%	17%	6%	2%

Industrial Machine and Computers, SIC 35, which received approximately six percent of Quality Jobs payments, fell short by 20 percentage points in earnings growth. Overall, the correlation between differential growth and expenditure share is +0.30. In general, the evidence is that the Quality Jobs program has made a real difference in employment levels in the state, beyond what would have been expected to occur anyway. The evidence is supportive on the earnings front, as well, but less clearly. Indeed, we have another indication of problems that the Oklahoma economy has experienced on the earnings front, as documented in previous studies.⁶

V. Other States' Programs

This section examines whether other states have adopted the principal features of Oklahoma's

Quality Jobs program. The research tool is the National Association of State Development Agencies (NASDA) compendium of state economic development programs.⁷ This database (which is literally a database, accessible only through Microsoft's Access 2000) includes 1,106 incentive programs. Examples of variables included in the database are program name, provider, contact information, program type, detailed program description, program objectives, and socioeconomic, industry, location, and performance targets. Notably lacking from the database is any information on total expenditure by program. The database is presumed to be up-to-date, but the agency producing it acknowledges that some states have not contributed recent information.

Chief among the variables of interest for our purposes is the detailed program description.

Table 2.8

Comparative Earnings Growth Rates, Oklahoma and US in Private Sector Industries, 1994 - 2000

<i>SIC</i>	<i>Industry Title</i>	<i>OK Growth Rate</i>	<i>US Growth Rate</i>	<i>Differential Growth</i>	<i>Share of QJ Payments</i>
20	Food and Kindred Products	54%	26%	28%	8%
21,22,23	Textile Mill and Apparel Products	-5%	-7%	2%	1%
24	Lumber and Wood Products	58%	34%	24%	1%
25	Furniture and Fixtures	26%	40%	-14%	0%
26,27	Paper and Printing	25%	27%	-2%	0%
28,29	Chemicals and Petroleum Refining	4%	35%	-31%	0%
30	Rubber and Plastic Products	29%	31%	-1%	1%
31,32,33	Leather, Stone, Clay, Glass and Primary Metal Products	19%	24%	-5%	1%
34	Fabricated Metal Products	33%	33%	0%	3%
35	Industrial Machinery and Computers	31%	51%	-20%	6%
36	Electrical and Electronic Products	92%	71%	21%	5%
37	Transportation Equipment	30%	28%	2%	26%
38	Instruments including Medical and Optical	-5%	38%	-43%	0%
39	Miscellaneous Manufacturing	22%	28%	-7%	0%
42	Motor Freight and Warehousing	35%	24%	11%	2%
45,47	Air Transport and Services	25%	84%	-59%	1%
48	Communications	96%	78%	18%	19%
50,51,55	Wholesale Trade and Automotive Dealers	40%	52%	-11%	1%
60,63,65	Finance, Insurance and Real Estate	34%	43%	-9%	0%
73	Business Services	157%	158%	-1%	23%
80,87	Health and Engineering Services	49%	49%	1%	2%

Source: Detailed US and state industry private sector employment data was purchased from MIG, Inc., the providers of IMPLAN.

Using the database, it is possible to search for key words and count the number of programs that contain the specified key word or words. For example, only 65 of the 1106 programs contain the key words “property tax” or “ad valorem” in their detailed program descriptions. Thirty-four states are represented, so some of these states have multiple programs.

To investigate how many states have programs like the Quality Jobs program, key search words “job” or “employee” were used first. Wild card capabilities were utilized; therefore, detailed program descriptions containing words like “jobs” or “job creation” or “employees” were also identified. A total of 209 of the 1106 programs contain these words. Perusal of the individual program descriptions showed that many of these programs are training related. Expanding the

search to eliminate records containing “training” or “skill” revealed 151 records.

Another important feature in the Oklahoma Quality Jobs program is the cash rebate to firms. There were only seven programs with wild card key words “job” or “employee” in their detailed program description and “rebate” or “refund” wild card key words in their program type variable. Oklahoma, itself, has two of the programs reported as matching this pattern. Below are quotes of these program descriptions from the NASDA database.

“The program is targeted to manufacturers and certain service companies which utilize the new Oklahoma Quality Jobs program by having a new payroll investment of

\$2.5 million or more. It is an easy-access program which provides direct payment incentives (based on new wages paid) to companies for up to ten years. The program provides quarterly cash payments of up to 5 percent of new taxable payroll directly to qualifying companies for up to ten years. Firms cannot utilize the jobs or investment tax credit, sales tax exemptions for construction, or a variety of additional tax credits and exemptions.”

“Refund of sales taxes paid on construction materials for new or expanding facilities, including: (a) Manufacturing facilities with construction costs exceeding \$5 million that create 100 new jobs maintained for a minimum of 36 months, or (b) Facilities with construction costs exceeding \$10 million, and the combined total of material, construction and machinery exceeding \$50 million, that add 75 employees, or (c) Qualified new or expanding aircraft maintenance and manufacturing facilities that create 250 or more jobs, with investment totaling at least \$5 million., or (d) Manufacturing facilities may include any structure or land improvement used for packing, repackaging, labeling or assembling for distribution products that are at least 70 percent made in Oklahoma, but at an off-site, in-state manufacturing facility or facilities.”

Clearly, the first quoted program description is the Oklahoma Quality Jobs program. Oklahoma also has a program that refunds sales taxes paid on inputs related to job creation. The program description below for Oklahoma’s new jobs/investment incentive is a tax credit program. Thus, it didn’t show up in the aforementioned key word search. Note that firms choosing the new jobs/investment incentive are ineligible for the Quality Jobs program.

“The Investment New Jobs Income Tax Credit allows manufacturers or qualified aircraft maintenance facilities the greater

credit of one percent (1%) per year of the investment in qualified depreciable property the year the property is placed in service, or a credit of \$500 per year per additional new job engaged only in manufacturing or processing. To qualify, the depreciable property must have a floor cost of at least \$50,000 and be placed in service prior to 2003. New jobs credit shall be for each full time equivalent manufacturing employee hired prior to 2003 whose paid wages are at least \$7,000 during each year the credit is claimed. The taxpayer that invests in qualifying property and also adds new employees should figure the tax credit both ways (total capital expenditures if over \$50,000 or net increase in full time equivalent employees) and take the larger credit. In Enterprise Zones the credit is doubled. Firms that take advantage of the Investment/Jobs Income Tax Credit Package are ineligible for the Quality Jobs 10-Year Cash Back Incentive.”

Among the five remaining programs in the restricted key word search, four stand out. Arkansas has a “Create Rebate” program, which it describes as its most competitive incentive. It applies, however, only to situations where Arkansas is in direct competition with another state (oftentimes Oklahoma, we hope). Net new employees must be added to be eligible for an annual payment of 3.9 percent of payroll for a negotiated time period not to exceed 10 years. The Arkansas program is not generally available to all otherwise qualified comers, however; the firm must have another offer.

Louisiana has a five percent tax refund program that applies to small firms of sufficient size who pay 1.75 times the minimum wage; six percent if they pay 2.25 times the minimum wage. The definition of “small” is not given. A unique feature of the Louisiana program is that there do not appear to be any industry targets for small, qualifying firms. It is, apparently, not restricted to manufacturing.

Maine has a program that looks somewhat like the Quality Jobs program. It reimburses

between 30 and 50 percent of employees' withholding taxes. Thus, it is not directly payroll based, like the Oklahoma program, but withholding taxes and payroll are directly related. Furthermore, the company must demonstrate that the funding is an "essential component" of the project's financing. Firms electing this program are barred from the state's Jobs and Investment Tax Credit program. In addition, participating firms must pay better than the average wage in their labor market and must provide health insurance and access to an ERISA retirement program.

South Carolina has a rebate program for job training and a program that reimburses up to five percent of gross employee wages for up to 15 years, but funds must be used for improvement of real property, infrastructure, pollution control equipment and employee training.

From what we are able to glean from the NASDA database, it appears that while some programs have characteristics similar to the Oklahoma Quality Jobs program, none quite fully measure up in terms of general availability of support to all expanding manufacturing and export-based service-oriented firms. The Oklahoma program also appears to be uniquely generous in its terms and in absence of restrictions to manufacturing and certain types of service providing firms.

Summary and Conclusions

This study has used the most robust and comprehensive economic impact analysis system available to evaluate the two primary industry incentive programs in Oklahoma. In the analysis, the property tax exemption program fares poorly. The economic impacts are seen as modest on employment, labor income, and, especially, tax revenue grounds. Furthermore, application of the property tax exemption increases federal tax liability. Thus, only 60 percent of the benefits should be counted. On this basis, this economic development incentive doesn't return taxes to the state as large as the taxes used to finance the exemption.

The problem created by the increase in federal tax liability does not apply to the Quality Jobs program. This program has a high benefit/cost ratio, in the neighborhood of 6.6, and it also generates over 73,000 jobs and almost \$2.0 billion in labor income. Based on the IMPLAN analysis, the personal income tax alone generates sufficient revenue to cover the average state expenditures on this program. The full revenue impact reported assumes that the jobs estimated would not exist in Oklahoma without the incentive. However, if only about one in six or seven of the jobs that are attributed to this program are actually a consequence of this program, the benefits are still as great as the costs.

The Quality Jobs program also appears to have yielded outsized employment gains in those categories of SIC industries where state payments have been concentrated. This fact alone suggests strongly that the program is having a desired effect. The evidence on earnings growth is less clear. Here again we have another manifestation of Oklahoma's problems in generating earnings growth. It is noted that despite what appears to be a successful program, Oklahoma has lost 16 percent of its manufacturing jobs in recent years and Quality Jobs payments have fallen substantially from the high levels achieved in 2001, the beginning year of the last recession.

As successful as the Quality Jobs program appears to be, it is surprising that more states have not adopted its features. Arkansas has clearly put itself in a position of responding to the competition posed by the Quality Jobs incentives, once the competition is evident. Restrictions of various types seem to be present in the few programs across states that have some characteristics similar to Oklahoma's Quality Jobs. We have some additional information indicating that Louisiana has new programs that more closely mimic Quality Jobs characteristics.

The evidence is clear from many other studies that states are highly competitive in their offering of location and expansion incentives. States pursue a mix of strategies in attempts to garner differential growth. This study has examined only two incentive programs, not the overall

mix and appropriateness of Oklahoma's overall plan. Perhaps research attention in the future should focus on the effectiveness of Oklahoma's overall strategic development plan and how our current plan benchmarks against other state programs.

The Quality Jobs program has been in existence for 10 years. While this research provides a limited assessment of the program's effectiveness, evaluation should not stop here. Any program in existence for this length of time can develop problems. Perhaps the program has expanded beyond its initial intent. Perhaps the criteria for participation have been weakened. These are not accusations; they are just features of the program that need to be continuously assessed. This is an expensive program and the costs need to be justified in relation to benefits. All firms would like to have this incentive, obviously. But all firms do not contribute equally to the export base of a region. The Quality Jobs program in this study has been put to several tests, and unlike the property tax exemption, it appears to hold up quite well. With proper policing coupled with review of the effectiveness of programs in other states, this is a program that should be continued.

It is appropriate, as the last words for this paper, to mention once again that this analysis represents a macro approach to estimates and assessments of the benefits and costs of these two incentive programs. This study makes no claim about the merits of any individual project. Indeed, it is quite possible that some projects that may not be all that beneficial to the state in a macro sense, can prove vital to local communities. The empirical results are primarily a product of the IMPLAN system. The authors controlled how the basic inputs were entered, but the multiplier processes that dominate the final results are, primarily, a product of the model.

Endnotes

¹There are many excellent introductory references to Input/Output analysis including Edgar M. Hoover and Frank Giarrantani, *An Introduction to Regional Economics*, New York: Alfred A. Knoph, 1984; William H. Miernyk, *The Elements of Input-Output Analysis*, New York: Random House, 1967; Wassily Leontief et al., *Studies in the Structure of the American Economy*, New York: Oxford University Press, 1953; and, Ronald E. Miller and Peter D. Blair, *Input-Output Analysis Foundations and Extensions*, Englewood Cliffs, New Jersey: Prentice-Hall, 1985.

²See *IMPLAN Professional User's Guide* for a description of the model. Also consult the website www.implan.com for a review of IMPLAN products and other information.

³See endnote 1.

⁴For a description of the SIC classification system see the *Standard Industrial Classification Manual, 1987*, National Technical Information Service.

⁵The authors wish to thank officials of the Oklahoma Department of Commerce for timely provision of the Quality Jobs data.

⁶Robert C. Dauffenbach, "Growth of the Oklahoma Economy: The Roles of Wages and Jobs," *State Policy and Economic Development in Oklahoma 2002*, Oklahoma City, OK: Oklahoma 21st Century, Inc., 1-24 and Robert C. Dauffenbach, "Oklahoma's Occupational Structure and Implications for Income Growth," *State Policy and Economic Development in Oklahoma 2003*, Oklahoma City, OK: Oklahoma 21st Century, Inc., 59-79.

⁷The National Association of State Development Agencies produces a *Directory of Incentives* that is available in printed version and on CD-ROM in the form of a Microsoft Access database. Their most recent product was used to examine incentive programs. Although the details on state programs, in the form of various variables and contact information, are quite extensive, this compendium lacks information on program costs.

Oklahoma's General Sales Tax: Toward Fundamental Reform

The general sales tax is one of the principal sources of state government funds in Oklahoma. It provided over \$1.4 billion in revenues in 2002, second only to the individual income tax. In principle, general sales taxes are intended to be taxes on total household expenditures for final (retail) goods and services. In practice, they fall short of this principle because (a) they are often levied on business purchases of intermediate goods (goods used in the production of final goods and services) in addition to household purchases of final goods, and (b) most household expenditures for services are statutorily exempt from sales taxation, making the general sales tax somewhat less than "general." Oklahoma's general sales tax also exhibits these flaws. We do not currently know very much, however, about how important these defects are, or about the economic consequences of fixing them.

This study: (1) examines the rationales for exempting business purchases of intermediate goods and services (business inputs) and for taxing household purchases of services, (2) provides estimates for Oklahoma of the revenues that would be lost by exempting business inputs and the revenues that would be gained by taxing household purchases of services, (3) compares these estimates to determine the net effect on state tax revenues, (4) estimates the effects on the distribution of the tax burden, and (5) examines the feasibility of using additional tax revenues to provide tax relief for low-income families harmed by the addition of more household purchases of services to the sales tax base.

Economic theory and available evidence provide strong support for changing the sales tax base to remove business purchases of inputs and to add household purchases of services. According to estimates based on the IMPLAN input-

output model for Oklahoma,¹ if these changes had been in effect in 2002, sales tax collections from business would have fallen by \$350.7 million. The potential proceeds from levying the sales tax on household purchases of services would depend on what services would be included in the sales tax base. If all household purchases of services except those already subject to taxation were included, application of the IMPLAN model indicates that the tax would have yielded an additional \$1.035 billion in 2002.

This would pose an additional problem for the state legislature; namely, what to do with the net increase in sales tax revenues generated. Three choices are identified: (1) replenish the state's Constitutional Reserve or "Rainy Day" Fund, (2) adopt further tax reforms, or (3) increase government spending. The state's recent budget experiences indicate the need for replenishment of the Constitutional Reserve Fund.² Heavier reliance on household purchases of services would also create the need for further reform of the sales tax to provide relief from additional taxes imposed on low-income households. If a broad array of services were included in the tax base, enough revenue could be generated to more than offset the loss from excluding business purchases of inputs and to provide total relief from all additional sales taxes on services purchased by low-income households. A case for increased spending could also be made, but it is not made in this study.³

The Current Sales Tax

Oklahoma levies a 4.5 percent sales tax on items sold by business firms across a broad spectrum of industries, as indicated by Table 3.1.

Table 3.1

**Oklahoma General Sales Tax Collections
Fiscal 2002**

<i>Industry</i>	<i>Amount (\$)</i>
LIVESTOCK	106,415
AGRICULTURAL PRODUCTION CROPS	362,553
FOREST PRODUCTS	3,601
AGRICULTURAL SERVICES	1,155,198
METAL MINING	844
COAL & URANIUM MINING	1,066
OIL AND GAS EXTRACTION	3,351,365
MINING AND QUARRYING OF NON-METALLICS	226,422
CONSTRUCION - RESIDENTIAL & COMMERCIAL	569,123
CONSTRUCTION-OTHER	252,036
FOOD AND KINDRED PRODUCTS	1,611,767
TOBACCO PRODUCTS	0
TEXTILE MILL PRODUCTS	120,366
APPAREL AND ALLIED PRODUCTS	936,180
LUMBER AND WOOD PRODUCTS, EX FURN	1,937,559
FURNITURE AND FIXTURES	865,717
PAPER AND ALLIED PRODUCTS	270,455
PRINTING, PUBLISHING, AND ALLIED INDUSTRIES	4,155,753
CHEMICALS AND ALLIED PRODUCTS	1,179,940
PETROLEUM REFINING AND RELATED INDUSTRIES	2,467,990
RUBBER AND MISC PLASTIC PRODUCTS	364,134
LEATHER AND LEATHER PRODUCTS	2,611
STONE, CLAY, GLASS AND CEMENT	11,206,626
PRIMARY METAL INDUSTRIES	322,603
FABRICATED METAL PRODUCTS	4,348,226
MACHINERY, EX ELECTRICAL	6,339,359
ELECTRICAL AND ELECTRONIC MACHINERY	516,985
TRANSPORTATION EQUIPMENT	1,008,399
PRECISION INSTRUMENTS	3,210,077
MISCELLANEOUS MANUFACTURING	1,181,325
RAILROAD TRANSPORTATION	5,868
LOCAL, SUBURBAN, INTERURBAN TRANS	73,662
MOTOR FREIGHT TRANS AND WAREHOUSING	663,831
WATER TRANSPORTATION	90,100
AIR TRANSPORTATION	78,900
PIPE LINES- EX NATURAL GAS	2,827
TRANSPORTATION SERVICES	105,880
COMMUNICATIONS	92,642,474
ELECTRIC, GAS, AND SANITARY SERVICES	40,645,633
WHOLESALE TRADE	119,555,357

Table 3.1 (continued)

**Oklahoma General Sales Tax Collections
Fiscal 2002**

<i>Industry</i>	<i>Amount (\$)</i>
BUILDING MATERIALS, HARDWARE, GARDEN GENERAL MERCHANDISE	96,591,359 280,903,951
FOOD STORES	172,413,522
AUTOMOTIVE DEALERS AND SERVICE STATIONS	51,493,982
APPAREL AND ACCESSORY STORES	41,419,524
FURNITURE AND HOME FURNISHINGS	82,642,096
EATING AND DRINKING ESTABLISHMENTS	147,330,034
MISCELLANEOUS RETAIL ESTABLISHMENTS	112,247,745
BANKING	14,466
CREDIT AGENCIES OTHER THAN BANKS	610,352
SECURITY AND COMMODITY BROKERS	379,912
INSURANCE COMPANIES	8
INSURANCE AGENTS AND BROKERS	24,171
REAL ESTATE	116,189
HOTELS AND OTHER LODGING	20,582,437
LAUNDRY AND DRY CLEANING	1,580,169
PERSONAL SERVICES	7,623,220
BUSINESS SERVICES	46,344,257
TRANSPORTATION SERVICES	17,571,419
MISC REPAIR SERVICES	2,416,898
MOTION PICTURES	8,557,598
AMUSEMENT AND RECREATION SERVICES	10,268,707
HEALTH SERVICES	889,323
LEGAL SERVICES	50,004
EDUCATIONAL SERVICES	1,384,882
SOCIAL SERVICES	14,118
MEMBER ORGANIZATIONS	795,445
ENGINEERING AND ARCHITECTURAL SERVICES	942,500
GOVERNMENT ENTERPRISES	321,647
Not Allocated by industry	15,433,762
TOTAL	1,422,902,924

Source: Author's allocations, based on Oklahoma Tax Commission data.

Most of the items currently subject to taxation are “tangibles,” although, given the tax collections reported for services industries in Table 3.1, there appear to be many exceptions. Most of the collections in services industries, however, are from taxes paid on tangible business inputs that are used by business firms to produce a service, such as computers and computer software used by accounting firms to produce tax advice or hair care products used by hair stylists. The other collections in services industries are primarily taxes paid on tangible items that are sold as part of services produced, such as automobile parts used in automobile repairs.

Improving the Sales Tax Base

The general consensus among economists is that the sales tax, in all states that levy such a tax, could be improved by exempting business purchases of inputs and by including household purchases of services.⁴ The arguments behind this view are briefly considered in this section.

Why Exempt Business Purchases of Inputs?

Economists believe that eliminating the sales tax on business purchases of intermediate goods and services (business inputs) would: (1) increase business investment, (2) eliminate tax pyramiding, (3) reduce inefficient vertical integration of business enterprises, and (4) make the true cost of government more transparent.

To Increase Business Investment. Taxes on business inputs raise the cost of producing goods and services. Such cost increases can impair the competitiveness of Oklahoma businesses and impede state economic development. Suppose, for example, that an Oklahoma manufacturer has to pay a sales tax on electricity but that its Colorado competitor does not. If the Oklahoma firm attempted to shift the tax forward to consumers of electricity via an increase in the price of its product it would run the risk of losing sales to the Colorado competitor who does not have to build this margin into its price. The Oklahoma business could lose sales to the Colorado business any-

where — in Oklahoma, in Texas, or in any other state in which both companies compete to sell their products. The effect on sales could be even more significant if the Oklahoma business were in competition with firms from the European Union where the use of the Value Added Tax effectively precludes the taxation of business inputs.

The adverse effect on sales would reduce expected future revenues, possibly by enough to reduce outlays for new plant and equipment. Electricity-intensive businesses may also be less likely to locate or expand in Oklahoma.

The negative effects on business investment from taxing business inputs can be exaggerated, of course, but if a large number of inputs — or even a small number of expensive inputs — are subject to the sales tax, adverse impacts on state economic development are possible.

According to estimates of the sales tax burden on business produced by Raymond Ring,⁵ Oklahoma’s tax treatment of business purchases is not as burdensome as that of many states, including most of its neighbors. Ring⁶ estimated that in 1989 Oklahoma businesses paid 34 percent of the state’s sales tax. The only neighbor with a lower percent attributable to business was Kansas with 33 percent. Ring estimated that Arkansas businesses paid 40 percent of that state’s sales tax, while Colorado, Louisiana, Missouri, New Mexico, and Texas businesses paid 40 percent, 40 percent, 49 percent, 36 percent, 50 percent, and 47 percent, respectively.

Some may conclude from this that there is no need to provide additional sales tax exemptions for business; that reducing Oklahoma’s sales tax on business would not make Oklahoma businesses more competitive. This is probably not the case. Competition is not limited to neighbors — it can come from other states with lower sales tax burdens (such as Alabama — 27 percent, Illinois — 32 percent, Virginia — 30 percent, West Virginia — 11 percent, or from the five states without a sales tax — Alaska, Delaware, Montana, New Hampshire, and Oregon), or increasingly from the European Union where the use of the Value Added Tax ensures that business inputs are unlikely to be taxed at all. But this kind of comparison is not even relevant. The appropriate policy question is

how much OK can *improve* its competitive position by eliminating sales taxes on business purchases.

The exemption of business inputs would be particularly valuable to Oklahoma business firms if their rivals in neighboring states had to pay sales taxes on the inputs they purchased. The data indicate that this is likely to be the case – at least for business purchases of services.

There is little difference between Oklahoma and neighboring states (AR, CO, KS, MO, NM, and TX) in terms of the sales tax treatment of *goods* purchased as business inputs. According to an analysis of 2000-2001 data by Mikesell,⁷ all of these states, including Oklahoma, exempted goods purchased for resale, materials used as ingredients in manufacturing, materials used as ingredients subject to further processing, and manufacturing equipment and machinery.

The big differences between Oklahoma and neighboring states are in terms of services purchased as business inputs. Table 3.2 compares sales taxes currently levied on services purchased as business inputs by firms in Oklahoma and in neighboring states. Currently, Oklahoma levies a sales tax on 25 services purchased as business inputs. This is slightly more than Colorado and Missouri, but significantly less than Arkansas, New Mexico, and Texas. The exemption of business purchases of services would be valuable, however, to firms competing with rivals from all five states.

To Eliminate Tax Pyramiding. The imposition of sales taxes on business inputs produces tax “pyramiding.” Pyramiding occurs when an input is taxed when purchased originally by a business firm and the cost of the tax is passed on to other businesses and/or consumers. Actually, the process appears to be more like an *upside-down* pyramid, with an initial tax increase begetting more tax increases. In any event, all purchasers subsequent to the original purchaser pay taxes on taxes, increasing the effective tax rate (total tax paid as a percent of the sale price) on final goods and services. Tax pyramiding, per se, increases the likelihood that sales taxes on business inputs will adversely affect business investment.

The increase in the effective tax rate is concern enough, but the problem is exacerbated because the effect of pyramiding is not uniform across goods and services. The magnitude of the pyramiding effect depends on the number of stages involved before the good is purchased as a final product, as well as the relative importance of the initially taxed input at each stage. Given the great variety across industries in the level and frequency of purchases of business inputs subject to the sales tax, there is bound to be great variety in effective tax rates. This raises the possibility that some investment plans are affected more than others by sales taxes on business purchases, or that the practice of taxing business purchases of inputs adversely affects the allocation, as well as the level, of investment.

To Make the True Cost of Government More Transparent. Tax pyramiding produces higher effective tax rates, but they are rates that are generally unknown to the purchasers of goods and services. Thus, tax pyramiding obscures the true cost of government, making it more likely that government will be expanded beyond the level that taxpayers would want if they actually knew the price that they were paying. Another possibility is that this feature of the sales tax may encourage states to rely more on this revenue source relative to other sources of revenue, disturbing what might be a better balance of tax sources. A further possibility is that this feature of the sales tax will reduce consumer welfare in unknown ways and amounts. For example, when the sales tax is levied on business inputs, necessities like food and utilities that are nominally exempt from sales taxes can have sales taxes hidden in their prices.

To Reduce Inefficient Vertical Integration. Tax pyramiding can lead to an inefficient allocation of business functions through tax-induced vertical integration. The taxation of business inputs that are major cost items can induce a business to produce the inputs in-house using its own employees, whose services are exempt from the sales tax, even when an independent producer could provide the inputs at lower cost in the absence of the tax.

Table 3.2

**Sales Taxes Levied on Business Purchases of Services
Oklahoma and Neighboring States**

	<i>SIC Code</i>	<i>AR</i>	<i>CO</i>	<i>KS</i>	<i>MO</i>	<i>NM</i>	<i>OK</i>	<i>TX</i>
Basic Sales Tax Rate		4.5	3	4.9	4.225	5	4.5	6.25
Agricultural Services								
Veterinary services (both large and small animals)	74					5		
Landscaping services (including lawn care)	78	4.5		4.9		5		6.25
Industrial and Mining Services								
Metal, non-metal and coal mining services	10,12,148					5		
Seismograph and geophysical services	1382,					5		
Oil field services	138			4.9		5		2.42
Typesetting service; platemaking for the print trade	279			4.9		5		6.25
Construction								
Gross income of construction contractors	15			4.9		5		6.25
Carpentry, painting, plumbing and similar trades	17			4.9		5		6.25
Construction service (grading, excavating, etc.)	179			4.9		5		6.25
Water well drilling	178			4.9		5		
Transportation Services								
Income from intrastate transportation of persons	41				4.225	5	4.5	
Income from taxi operations	412					5	4.5	
Intrastate courier service	421					5		
Storage								
Automotive storage		4.5				5	4.5	6.25
Marine towing service (incl. tugboats)	4492					5		
Packing and crating	4783			4.9		5		
Utility Service - Industrial Use								
Intrastate telephone and telegraph	4811	4.5	0.5	4.9	4.225	5	4.5	6.25
Interstate telephone and telegraph	4811	4.5		4.9		4.25	4.5	6.25
Cellular telephone services		4.5	3	4.9	4.225	5		6.25
Electricity	491	4.5		4.9	4.225	5	4.5	6.25
Water	494	4.5		4.9	4.225	5		
Natural gas	492	4.5		4.9	4.225	5	4.5	6.25
Other fuel (including heating oil)		4.5		4.9	4.225	5	4.5	6.25
Sewer and refuse, industrial	495					5		6.25
Finance, Insurance and Real Estate								
Service charges of banking institutions	61					5		
Insurance services	64							6.25
Investment counseling	6282					5		
Property sales agents (real estate or personal)	653					5		
Real estate management fees (rental agents)	653					5		
Real estate title abstract services	654					5		
Ticker tape reporting (financial reporting)	6289					5		6.25

Table 3.2 (continued)

**Sales Taxes Levied on Business Purchases of Services
Oklahoma and Neighboring States**

	<i>SIC Code</i>	<i>AR</i>	<i>CO</i>	<i>KS</i>	<i>MO</i>	<i>NM</i>	<i>OK</i>	<i>TX</i>
Services - Business Services								
Billboard Advertising	7312					5		
Radio and television, local advertising	7319					5		
Newspaper Advertising						5		
Magazine Advertising						5		
Advertising agency fees (not ad placement)	7311					5		
Armored car services	7381	4.5				5		6.25
Check and debt collection	7322	4.5				5		6.25
Commercial art and graphic design	7336					5		6.25
Commercial linen supply	7218	4.5		4.9		5	4.5	6.25
Credit information, credit bureaus	7323	4.5				5		6.25
Employment agencies	7361					5		
Interior design and decorating	7389					5		
Maintenance and janitorial services	7349	4.5				5		6.25
Lobbying and consulting						5		
Marketing						5		
Packing and crating				4.9		5		
Exterminating (includes termite services)	7342			4.9		5		6.25
Photocopying services	7334	4.5		4.9		5	4.5	6.25
Photo finishing	7384	4.5	3	4.9	4.225	5	4.5	6.25
Printing		4.5	3	4.9	4.225	5	4.5	6.25
Private investigation (detective) services	7381					5		
Process server fees						5		
Public relations, management consulting	874					5		
Secretarial and court reporting services	7338					5		
Security services	7382					5		
Sign construction and installation	7389			4.9		5		
Telemarketing services on contract	7389					5		
Telephone answering service	7389	4.5		4.9		5		6.25
Temporary help agencies	7363					5		
Test laboratories (excluding medical)	8734					5		
Tire recapping and repairing	7534	4.5		4.9		5		
Window cleaning	7349	4.5				5		6.25
Computer								
Software - packaged or canned program	7372	4.5	3	4.9	4.225	5	4.5	6.25
Software - modifications to canned program	7371		3	4.9	4.225	5	4.5	6.25
Software - custom programs - material		4.5		4.9		5	4.5	6.25
Software - custom programs - professional serv.	7371					5		6.25
Information services	7375					5		6.25
Data processing services	7374					5		6.25
Mainframe computer access and processing serv.	7374					5		6.25
Automotive Services								
Automotive washing and waxing	7542	4.5		4.9		5		
Automotive road service and towing services	7549			4.9		5		
Auto service, except repairs, incl. painting & lube	7549	4.5		4.9		5		
Parking lots and garages	752	4.5				5	4.5	6.25
Automotive rustproofing and undercoating	7549	4.5		4.9		5		

Table 3.2 (continue)

**Sales Taxes Levied on Business Purchases of Services
Oklahoma and Neighboring States**

	SIC Code	AR	CO	KS	MO	NM	OK	TX
Professional Services								
Accounting and bookkeeping	872					5		
Attorneys	81					5		
Engineers	8711					5		
Land surveying	8713					5		6.25
Leases and Rentals								
Bulldozers, draglines and const. mach., short term	7359	5.5	3	4.9	4.225	5	4.5	6.25
Bulldozers, draglines and const. mach., long term	7359	4.5	3	4.9	4.225	5	4.5	6.25
Rental of hand tools to licensed contractors	7353	5.5	3	4.9	4.225	5	4.5	6.25
Short-term automobile rental	751	9	3	4.9	4.225	5	10.5	6.25
Long-term automobile lease	751	4.5	3	4.9	4.225	5		
Limousine service (with driver)						5	4.5	
Aircraft rental to individual pilots, short term	7359	5.5	3	4.9	4.225	5	4.5	6.25
Aircraft rental to individual pilots, long term	7359	4.5	3	4.9	4.225	5	4.5	6.25
Chartered flights (with pilot)					4.225	5		
Hotels, motels, lodging houses	701	6.5	3	4.9	4.225	5	4.5	6
Fabrication, Installation and Repair Services								
Custom fabrication labor				4.9		5		6.25
Repair material, generally		4.5	3	4.9	4.225	5	4.5	6.25
Repair labor, generally	769	4.5		4.9		5		6.25
Labor charges on repair of aircraft		4.5		4.9		5		
Labor charges - repairs to interstate vessels		4.5				5		
Labor charges - repairs to intrastate vessels		4.5		4.9		5		
Labor - repairs to commercial fishing vessels	3731	4.5		4.9		5		
Labor charges on repairs to railroad rolling stock		4.5				5		
Labor charges on repairs to motor vehicles	7539	4.5		4.9		5		
Labor on radio/TV repairs; other electronic equip.	7622	4.5		4.9		5		6.25
Labor charges - repairs other tangible property	7699	4.5		4.9		5		6.25
Labor - repairs or remodeling of real property				4.9		5		6.25
Labor charges on repairs delivered under warranty								6.25
Service contracts sold at the time of sale		4.5	3	4.9		5		6.25
Installation charges by persons selling property			3	4.9		5		6.25
Installation charges - other than seller of goods				4.9		5		
Welding labor (fabrication and repair)	7692	4.5	3	4.9		5		6.25
TOTAL BUSINESS SERVICES TAXED		46	19	53	19	105	25	56

Source: Federation of Tax Administrators, *State Taxation of Services*, Research Report 147, April, 1997

Why Not Exempt Business Purchases of Inputs?

Some would argue that, even if the above arguments are valid, a blanket exemption of business purchases is unwise because (1) the state already provides enough exemptions, and (2) it is difficult to determine which business inputs are actually used to produce income. There is some truth in the first argument; the state already provides significant sales tax exemptions to business. It's precisely because of the scope and nature of the current exemptions, however, that additional exemptions ought to be made. The second argument, on the other hand, is much more difficult to dismiss.

Current Business Exemptions Are Sufficient. There are two threads to the argument that current sales tax exemptions for business are sufficient. The first is the idea that because Oklahoma already exempts a significant number of business purchases from the sales tax, additional exemptions would do little to improve the tax system or its effects. The second is the claim that Oklahoma already has such a large comparative sales tax advantage over other states that additional exemptions would do little to strengthen the state's ability to compete for new or expanding businesses.

Table 3.3 confirms that Oklahoma does have a large number of sales tax exemptions for business, and that the estimated revenue foregone is substantial. The outstanding feature of this table, however, is the imbalance it shows between sales tax exemptions on purchases by manufacturers and sales tax exemptions on purchases by firms in the services sector of the economy. The exemptions that can be credited to manufacturing rather than services include sales for resale, aircraft and aircraft parts, sales to manufacturers, and machinery and equipment used in manufacturing. Together they account for nearly 95 percent of the amount estimated in Table 3.3.

This is a remarkable bias in view of the dominant trend toward services and new economy businesses. Surely it should be corrected. The appropriate correction, however, is not to retract existing exemptions, but rather to expand them to

other sectors of the economy. Such an expansion would improve the allocation of resources and spur growth in the economy's leading sectors.

It Is Sometimes Difficult to Determine Legitimate Business Expenses. Economists endorse the exemption of business purchases of inputs, provided that they are for goods and services that are necessary as a means of producing income. They do not endorse the exemption of taxes on business purchases for goods or services that are not used in producing income.

The separation of legitimate from non-legitimate expenses is not always easy to do. It is especially difficult for expenses often claimed by small businesses and self-employed individuals. Such firms or individuals may attempt to purchase many goods and services on a sales-tax-free basis by claiming they are being purchased for business use when they are actually being purchased for personal use. Services with such tax-evasion potential include telecommunications, car and hotel rentals, restaurant meals, and computer and auto repair. Rather than spending a lot of money on tax compliance and monitoring to deal with these cases, it may be better to tax all sales of some goods and services, to households and businesses alike.

Bigger businesses are more likely to claim illegitimate expenses for purchases of services that are actually used as a means of providing employee compensation. Some examples are company-owned country club memberships, season tickets to sports events, business meals, car rentals, and sales meetings in luxury hotels. Here, too, it may be better to tax the items regardless of purchaser than to try to determine which expenditures are legitimate business expenses.

Why Tax Household Purchases of Final Goods and Services?

Economists generally endorse levying the sales tax on a broad array of household purchases of services in order to: (1) more adequately fund the long-run costs of government services, (2) reduce cyclical revenue stability, and (3) increase efficiency in the allocation of household expenditures.

Table 3.3

**Oklahoma Sales Tax Exclusions and Exemptions
Goods and Services Purchased by Business Firms and Farms
Fiscal Year 2002**

<i>Title</i>	<i>Estimated Revenue Foregone</i>
Machinery & Equip - Manufacturers of Low-Point Beer	Minimal
Water, Sewage and Refuse Services	\$10,545,000
Telecommunications Services for Private Use Within a Company	N/A
Credit for Contractors After Sales Tax Increase	\$0
Spaceport Operations	\$0
Sales for Resale	\$676,144,810
Advertising Space	\$38,638,000
Terrestrial or Aquatic Animal Life Supplies	Minimal
Oil or Chemical Drums	N/A
Utensils Sold to Vendors	Minimal
Aircraft Maintenance Facility	\$0
Interstate Telecommunications Service	\$14,041,000
Railroad Track Spikes	N/A
Aircraft and Aircraft parts	\$1,475,000
Computer Services and Data Processing	N/A
Motion Picture and Television Production Companies	Minimal
Diesel Fuel	N/A
Wireless Telecommunications Equipment	N/A
Rail Transportation Cars	\$0
New or Expanded Aircraft Repair Facilities	\$649,000
Ship Motor Vessel or Barge	Minimal
Electricity Used in Oil De-watering Projects	N/A
Aircraft Repair Done at Aircraft Manufacturer's Authorized Repair Facility	N/A
Tourism Facility	\$0
Agricultural Sales	\$29,081,769
Sales to Manufacturers	\$1,339,861,000
Sales to Corporations, Partnerships, or Limited Liability Companies	N/A
Bad Debt Credit	\$21,919,000
Machinery and Equipment Used in Manufacturing	\$3,217,000
Commercial Airline or Railroads	\$37,739,000
Livestock Purchased Outside the State	\$39,673,000
Rail Transportation Cars	\$0
Bad Debt Credit	\$1,453,000
Sales Tax Credit for Tourism Attraction Operators	\$0
Computer Services	\$0
Oklahoma Administrative Code	Minimal
N/A - Not Available	\$2,214,436,579
Minimal - <\$25,000	

Source: Author's categorization, based on data in Oklahoma Tax Commission, *State of Oklahoma Tax Expenditure Report 1999-2000*.

To More Adequately Fund the Long-Run Costs of Government Services. The cost of providing state government services is likely to rise over time due to such factors as inflation, general population growth, and above-average growth in population cohorts that tend to be disproportionately served by state programs (such as the elderly and school-aged children). With the exception of the growth in the school age population, these factors also operate to drive up costs in the private sector. So, there is a need for growing revenues just to keep the current private sector/public sector balance.

The public sector also suffers from William Baumol's "Cost Disease".⁸ Baumol divides the economy into two sectors: (1) the technologically-progressive, capital-intensive sector that exhibits rapid growth in output per labor hour or productivity, and (2) the labor-intensive sector that exhibits slow growth in labor productivity. Important public sector functions, such as education and health care, are labor-intensive.

Wages will grow rapidly in the capital-intensive sector as workers are rewarded for productivity increases. Wages will follow suit in the labor-intensive sector as employers find that they have to match what workers can earn in the capital-intensive sector in order to recruit new employees and retain existing workers. If wages are rising at roughly the same rate in both sectors of the economy, but labor productivity is increasing faster in the capital-intensive sector, labor costs will rise more slowly (faster) in the capital-intensive (labor-intensive) sector. Given that labor costs are by far the most important component of costs in both sectors, total costs per unit will rise faster in the labor-intensive sector. Thus, wage competition between the two sectors combined with differential growth in productivity leads to costs that grow faster in the labor-intensive – i.e., public - sector.

Most states, Oklahoma included, have sales taxes that are not able to generate revenues that grow as fast as costs in the public sector.⁹ The past four decades have been marked by a significant shift in household expenditures from goods to services. Services accounted for 40 percent, and goods accounted for 60 percent, of total personal consumption expenditures in 1960. These percent-

ages had been reversed by 2002. Figure 3.1 vividly illustrates the general pattern.

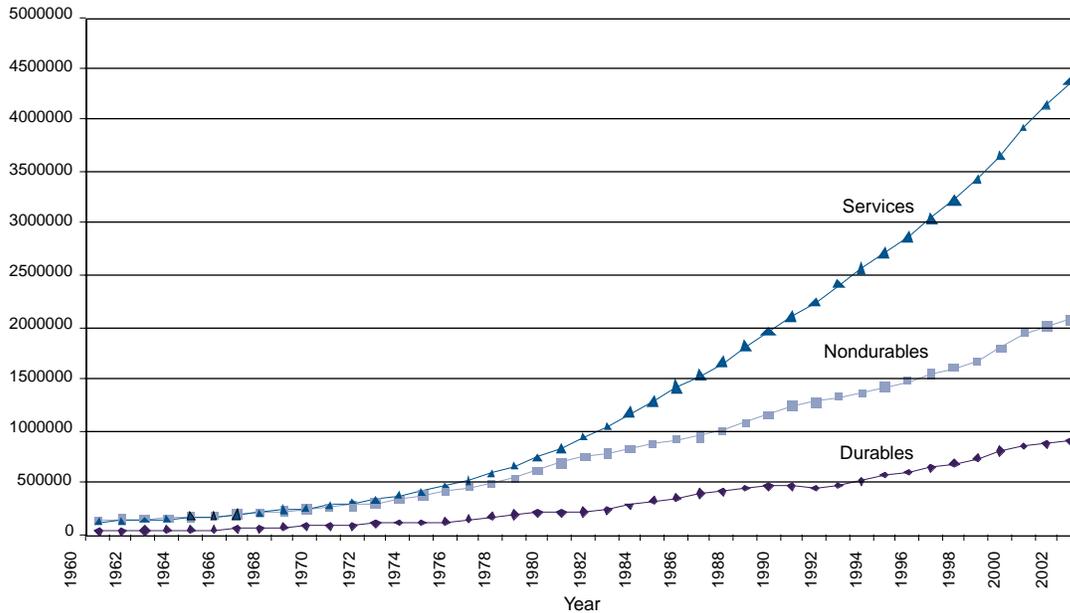
There is no lengthy time series of personal consumption expenditures for individual states, including Oklahoma, but it is reasonable to expect a similar trend for individual states. Given the emphasis in most states on taxing goods, rather than services, there has been a general narrowing of the sales tax base. States, including Oklahoma, have generally had to adopt rate increases to compensate for this factor. There is some question, however, about Oklahoma's willingness or ability to adopt further rate increases; the current combined state and local sales tax rate in Oklahoma is around 8 percent and many tax experts believe that a rate much in excess of this level will cause serious problems in compliance.

There is no guarantee, of course, that the 1960-2002 trend will continue into the future, but several factors point toward continuation of the long-term shift of household spending toward services. As already indicated, for many types of services, there are inherent limits on the ability of technology to increase productivity and reduce costs. In contrast, there is much more potential to improve productivity and lower costs in manufacturing through technological change. If the cost of tangibles is held down relative to the cost of services by future increases in manufacturing productivity, the share of total household spending devoted to tangibles is likely to fall even if the actual quantity of goods purchased holds steady. Alternatively, the share of total household spending on services is likely to rise even if the actual quantity of services remains constant.

Some basic economic and demographic trends in American society also point toward rapid growth in spending on particular services. For example, spending on health care and elder care services seems likely to accelerate as the population ages. As American families become wealthier, the demand for more leisure time should also grow. This should mean an increase in the demand for services that are complementary to leisure, such as those provided by housekeepers, childcare providers, lawn care services, health club memberships, and various entertainment media such as movies and sports events.

Figure 1

**Personal Consumption Expenditures
By Type of Expenditure
1960-2002**



To Reduce Cyclical Revenue Stability.

Revenue stability is an important characteristic of state tax systems because state budgets have to be balanced on an annual basis. High variability does not have to be a problem, but will likely be one, absent a substantial rainy-day fund for smoothing revenue over budget cycles, or lack of political will to put aside extra revenues in good years. Currently, a significant share of sales tax receipts comes from the taxation of the sales of consumer durables, like household furniture, electronics, and appliances. Household purchases of these items often fall sharply during recessions and expand sharply during economic expansions. It appears that household purchases of many services do not vary as much with economic conditions as do purchases of durable goods. People need to get haircuts, clothes dry-cleaned, and medical problems addressed regardless of economic conditions. Purchases of some services may actually tend to rise in recessions; for example, consumers may decide to repair houses and cars rather than replace them.

Given these differences in expenditure patterns between durable goods and services it seems likely that a sales tax base expanded by the addition of household purchases of services would be somewhat more cyclically stable. Empirical research on this issue has produced mixed results, but on balance it suggests that expanding the sales tax base to include more services does produce at least a moderate increase in the cyclical stability of sales tax collections. In the most definitive study of this issue to date, Dye and McGuire¹⁰ found that a sales tax base that incorporated personal services, recreation services, utilities, and telephone service was more stable than the goods-dominated base characteristic of most states.

To Increase Efficiency in the Allocation of Household Expenditures. It is reasonable to assume that, in the absence of a sales tax, households would allocate their budgets so as to maximize the satisfaction derived from the consumption of goods and services. The imposition of a sales tax on goods, but not on services, lowers the prices of services relative to the prices of goods.

This induces households to substitute expenditures on services for expenditures on goods. This tax effect causes households to sacrifice benefits from goods they would have otherwise consumed that are greater than the increase in benefits from services they do consume. Economists refer to the net difference or loss as the excess burden of differential sales taxation. The excess burden is a measure of the efficiency cost of differential sales taxation.

Richard Hawkins¹¹ has recently produced estimates of the excess burden of different sales tax structures. His findings indicate that households do substitute untaxed goods and services for taxed goods and services and that this produces excess burdens or efficiency losses of about 25 to 35 cents for each dollar of taxes. The tax structures that he compares are not identical to those that would be created in Oklahoma with extensive sales taxes on services, but his results suggest that a non-trivial reduction in excess burdens would follow from the imposition of a sales tax on household purchases of services.

Mazero¹² emphasizes another important aspect of expenditure inefficiency - the out-of-state shopping phenomenon. He points out that states often levy a higher rate on goods rather than broadening the base to include services, with the result that :

The higher the sales tax rate on goods, the greater is the likelihood that some consumers will engage in interstate shopping to evade the tax. Tax-motivated cross-border shopping is particularly likely when a state with a relatively high sales tax rate borders a state without a sales tax or that exempts from the tax items like food and clothing that can constitute a significant share of a family's budget. Besides wasting gasoline, tax motivated cross-border shopping can result in sub-optimal use of economic resources. Although in-state merchants may have more efficient operations and therefore sell goods at lower prices, their obligation to impose sales tax can render the total price to the consumer higher than in the neighboring

state and lead consumers to go there to shop. Similarly, unnecessarily high sales tax rates can stimulate purchases from less efficient Internet and mail order catalog merchants.

Why Not Tax Household Purchases of Services?

The arguments one normally hears against taxing household purchases of services are that: (1) it would be particularly hard on firms in the services sector, many of which are small businesses, and (2) it would worsen the distribution of the tax burden.

It Would Be Harmful to Service Firms and Small Business. A retail sales tax on household purchases of services would appear to impose a burden on service firms in two ways: (1) it would increase the price of services relative to what they would be in the absence of the tax, and (2) it would require service firms, themselves, to serve as tax collectors. The price of services would increase, but it is difficult to find a kernel of unfairness in this possibility. Such price increases merely serve to level the playing field for both goods and services. Presumably, the sales tax on new services would be administered as is the current sales tax; namely, by requiring vendors to act as tax collectors. This is not a costless activity, and it is probably somewhat more costly per dollar collected for small vendors, but there is presumably a reimbursement scheme that could be worked out for new vendors of any size.

Equity in the Distribution of the Tax Burden. The distribution of the burden of the sales tax – who pays what share – is a source of great concern. Studies of this issue generally find that the sales tax, as currently structured, is regressive (the tax burden increases as household income decreases) when the tax burden is compared to *current* household income, and roughly proportional (the tax burden as a share of income is the same at all levels of household income) when the tax burden is compared to *lifetime* income. A regressive tax does not conform to widely accepted standards of *vertical equity*.

Studies also show that the differential taxation of goods and services produces different tax burdens for households at the same income level. This effect violates the commonly accepted standard of *horizontal equity*; namely, that people in the same economic circumstances (as measured, in this instance, by household income) should have the same tax burden. The violation of the horizontal equity principle arising from non-taxation of services is particularly glaring in those situations in which taxed goods and untaxed services are close substitutes for one another. In many states, for example, a person who rents movies at a video store will pay sales tax while a person who orders pay-per-view movies via cable TV will not.

There is little doubt that the imposition of the sales tax on household purchases of services would improve horizontal equity. The effect on vertical equity is less certain, however. Some services are purchased disproportionately by higher-income households, such as the services of investment counselors, and lawn care services. But others, such as health care and residential utilities, consume a larger portion of household income at lower income levels. Thus, the net effect of imposing the sales tax on a broad array of services is uncertain and must be verified by empirical analysis.

Unfortunately, according to Mazerov's¹³ summary of the limited available evidence, there is no basis for drawing a definitive conclusion about the effect on vertical equity of extending the sales tax to a wide array of services. He suggests, however, that broadly taxing services is unlikely to *worsen* the regressivity of the sales tax.

Be that as it may, expanding the taxation of services would certainly increase the *absolute* tax burden of lower-income households – they will end up paying *more* taxes because they do buy some services - and this may be an effect of greater importance than any possibility of an increase in regressivity or relative burden. Thus, some consideration of ways to provide them with tax relief is probably an inevitable part of the policy process.

Sales Taxes on Business Purchases

There are only a few estimates of sales taxes on business purchases, and only two estimates that we know of for Oklahoma – both by Raymond Ring.¹⁵ As already noted, Ring estimated in his 1999 study that 66 percent of Oklahoma's general sales tax collections in 1989 came from household purchases. He attributed most of the remaining 34 percent to taxes levied on business purchases.

Ring's estimates are widely quoted, but they are not quite suitable for our purposes. First, they are somewhat dated (his basic data are for 1989). Second, they reflect national, rather than Oklahoma, household expenditure patterns.

We correct for both of these problems by developing new estimates for this study, using the 1999 version of the IMPLAN¹⁵ input-output model described in some detail in Chapter 2 of this study. The purchases on which businesses pay sales taxes are purchases from other business firms, or intermediate goods. IMPLAN can be used to separate purchases of intermediate goods from purchases of final goods in each sector of the economy. Most purchases of intermediate goods are business-to-business transactions. Thus, intermediate goods purchases are a good proxy for the sales tax base on business purchases.

An exception must be made, however, for electric, gas, and sanitary services. The IMPLAN model indicates that 45 percent of sales in this sector are intermediate sales. Application of the logic just outlined would credit business with 45 percent, and households with 55 percent, of the sales taxes collected in this industry. Households are exempt, however, from paying sales taxes on residential utilities. Thus, business firms are credited with all of the sales taxes paid in this sector.

Column 3 in Table 3.4 shows the share that purchases of intermediate goods and services are of purchases of intermediate *and* final goods and services, except for electric, gas and sanitary services – assumed to be equal to one. Application of these shares to the sales taxes collected in column 2 (from Table 3.1) yields an estimate of the sales taxes collected on purchases by business firms in 2002. The summation of these amounts indicates that

Table 3.4

**Sales Taxes Paid by Business
Fiscal Year 2002**

<i>Industry</i>	<i>Total Sales Taxes Collected</i>	<i>Intermediate Purchases: Share of Total Sales</i>	<i>Sales Taxes Paid By Business</i>
LIVESTOCK	\$106,415	0.972	\$103,453
AGRICULTURAL PRODUCTION CROPS	362,553	0.928	336,436
FOREST PRODUCTS	3,601	1.000	3,601
AGRICULTURAL SERVICES	1,155,198	0.837	966,599
METAL MINING	844	1.000	844
COAL & URANIUM MINING	1,066	0.994	1,060
OIL AND GAS EXTRACTION	3,351,365	1.000	3,351,365
MINING AND QUARRYING OF NON-METALLICS	226,422	0.999	226,139
CONSTRUCION - RESIDENTIAL & COMMERCIAL	569,123		0
CONSTRUCTION-OTHER	252,036	1.000	252,036
FOOD AND KINDRED PRODUCTS	1,611,767	0.320	516,456
TOBACCO PRODUCTS	0	0.021	0
TEXTILE MILL PRODUCTS	120,366	0.888	106,927
APPAREL AND ALLIED PRODUCTS	936,180	0.199	186,173
LUMBER AND WOOD PRODUCTS, EX FURN	1,937,559	0.965	1,869,134
FURNITURE AND FIXTURES	865,717	0.337	291,595
PAPER AND ALLIED PRODUCTS	270,455	0.990	267,636
PRINTING, PUBLISHING, AND ALLIED IND	4,155,753	0.871	3,621,376
CHEMICALS AND ALLIED PRODUCTS	1,179,940	0.660	778,597
PETROLEUM REFINING AND RELATED IND	2,467,990	0.569	1,403,558
RUBBER AND MISC PLASTIC PRODUCTS	364,134	0.984	358,255
LEATHER AND LEATHER PRODUCTS	2,611	0.232	607
STONE, CLAY, GLASS AND CEMENT	11,206,626	0.931	10,433,232
PRIMARY METAL INDUSTRIES	322,603	1.000	322,514
FABRICATED METAL PRODUCTS	4,348,226	0.964	4,191,844
MACHINERY, EX ELECTRICAL	6,339,359	0.940	5,957,825
ELECTRICAL AND ELECTRONIC MACHINERY	516,985	0.872	450,631
TRANSPORTATION EQUIPMENT	1,008,399	0.582	586,813
PRECISION INSTRUMENTS	3,210,077	0.595	1,909,033
MISCELLANEOUS MANUFACTURING	1,181,325	0.655	773,809
RAILROAD TRANSPORTATION	5,868	0.823	4,829
LOCAL, SUBURBAN, INTERURBAN TRANS	73,662	0.192	14,119
MOTOR FREIGHT TRANS AND WAREHOUSING	663,831	0.846	561,538
WATER TRANSPORTATION	90,100	0.535	48,214
AIR TRANSPORTATION	78,900	0.458	36,102
PIPE LINES- EX NATURAL GAS	2,827	0.941	2,661

Table 3.4 (continued)

**Sales Taxes Paid by Business
Fiscal Year 2002**

<i>Industry</i>	<i>Total Sales Taxes Collected</i>	<i>Intermediate Purchases: Share of Total Sales</i>	<i>Sales Taxes Paid By Business</i>
TRANSPORTATION SERVICES	105,880	0.891	94,329
COMMUNICATIONS	92,642,474	0.632	58,556,783
ELECTRIC, GAS, AND SANITARY SERVICES	40,645,633	1.000	40,645,633
WHOLESALE TRADE	119,555,357	0.632	75,536,489
BUILDING MATERIALS, HARDWARE, GARDEN	96,591,359	0.132	12,763,906
GENERAL MERCHANDISE	280,903,951	0.034	9,609,346
FOOD STORES	172,413,522	0.029	5,078,359
AUTOMOTIVE DEALERS AND SERVICE STATIONS	51,493,982	0.144	7,400,861
APPAREL AND ACCESSORY STORES	41,419,524	0.051	2,099,495
FURNITURE AND HOME FURNISHINGS	82,642,096	0.069	5,708,220
EATING AND DRINKING ESTABLISHMENTS	147,330,034	0.088	12,907,643
MISCELLANEOUS RETAIL ESTABLISHMENTS	112,247,745	0.077	8,587,728
BANKING	14,466	0.401	5,798
CREDIT AGENCIES OTHER THAN BANKS	610,352	0.731	445,977
SECURITY AND COMMODITY BROKERS	379,912	0.733	278,460
INSURANCE COMPANIES	8	0.104	1
INSURANCE AGENTS AND BROKERS	24,171	1.000	24,171
REAL ESTATE	116,189	0.530	61,578
HOTELS AND OTHER LODGING	20,582,437	0.423	8,716,427
LAUNDRY AND DRY CLEANING	1,580,169	0.294	464,867
PERSONAL SERVICES	7,623,220	0.044	335,430
BUSINESS SERVICES	46,344,257	0.943	43,707,195
TRANSPORTATION SERVICES	17,571,419	0.522	9,180,241
MISC REPAIR SERVICES	2,416,898	0.688	1,662,260
MOTION PICTURES	8,557,598	0.500	4,278,799
AMUSEMENT AND RECREATION SERVICES	10,268,707	0.129	1,320,831
HEALTH SERVICES	889,323	0.009	8,226
LEGAL SERVICES	50,004	0.424	21,220
EDUCATIONAL SERVICES	1,384,882	0.024	33,516
SOCIAL SERVICES	14,118	0.026	365
MEMBER ORGANIZATIONS	795,445	0.138	109,855
ENGINEERING AND ARCHITECTURAL SERVICES	942,500	0.994	936,657
GOVERNMENT ENTERPRISES	321,647	0.651	209,421
Not Reported by Industry	15,433,762		
Total Reported by Industry	1,407,469,162	0.249	350,725,099

Source: Author's estimates based on the IMPLAN model and Oklahoma Tax Commission records

\$350.7 million or 24.9 percent of the general sales tax came from levies on business purchases. This estimate is significantly smaller than Ring's estimate for Oklahoma in 1989, but we believe that it more accurately reflects current expenditure patterns in Oklahoma. Even at that, it represents a substantial tax on business. It is 2-3 times larger than the corporate income tax, and it is probably surpassed among taxes on business only by the property tax.

Potential Sales Tax on Household Purchases of Services

We also use the 1999 version of IMPLAN to estimate the sales taxes that could be collected in Oklahoma if the sales tax were levied on household purchases of services. This is not the first estimate of potential sales taxes on services for Oklahoma,¹⁶ but it differs from all previous estimates in that it explicitly includes only household purchases of services and explicitly excludes business purchases of services (previous estimates have failed to distinguish between purchases by businesses and households).

Table 3.5 presents the estimate of maximum possible sales tax collections from levying the sales tax on household services not currently subject to a tax. The bases for this estimate are the data in IMPLAN on sales to households of final goods and services produced in Oklahoma. We have included those sectors of the economy that are commonly recognized as services sectors. Services that are currently taxed are indicated by designation of the tax already imposed.

The numbers in column 3 are estimates of the potential increase in the sales tax *base*. The increase for all sectors sums to \$23.2 billion in 1999, as noted at the bottom of the table. Over \$2.2 billion of the potential increase in the tax base is already subject, however, to sales taxation, and another \$1.2 billion is subject to the insurance premium tax. The maximum possible increase in the sales tax base, after subtracting these portions of the potential tax base, is about \$23.4 billion.

In addition to identifying items subject to sales taxation, Table 3.5 also includes an adjust-

ment to update the IMPLAN numbers from 1999 to 2002. This was done by multiplying each 1999 number by "1 + the increase in personal income earned in each sector between 1999 and 2002." This adjustment factor appears in column 4. When the adjustment factors are applied to 1999 estimates, the total potential tax base increases from \$23.2 billion to nearly \$27 billion. If the state's 4.5 percent sales tax rate had been levied on this tax base in 2002, it would have yielded an additional \$1.035 billion in sales tax revenues. This is \$684 million more than the \$350.7 million reduction in sales tax revenue attributable to the sales tax exemption of business inputs.

One year's estimates are not necessarily indicative of a long-run trend, of course, and lawmakers should not rush to judgment without better knowledge of the long-run prospects for the newly constituted sales tax base. History indicates, however, that the growth prospects for sales tax revenues after the tax is applied to a broad array of household purchases of services are much better than the growth prospects for the existing sales tax base. This much is clear in the trends in U.S. personal consumption expenditures for services, durable goods, and non-durable goods exhibited in Figure 3.1, above.

There is no guarantee that these trends will continue, but they strongly suggest that if the sales tax were imposed on a broad array of household purchases of services, the state legislature would be faced with a new problem; namely, what to do with the net increase in sales tax revenues generated.

The three primary choices are: (1) use the additional revenue to replenish the state's Constitutional Reserve or "Rainy Day" Fund, (2) use the additional revenue for further tax reform, or (3) increase government spending. Choices (2) and (3) are the same as choices that the U.S. Congress faced a couple of years ago when it appeared that the federal budget was heading for a decade or more of budget surpluses. There is no choice (1) at the federal level because the federal government, unlike state governments, does not have to balance its budget annually. The counterpart of choice (1) at the federal level is the use of projected surpluses to reduce the public debt.

Table 3.5

**Potential Additional Sales Tax on Household Purchases of Services Not Already Taxed
(\$Millions)**

<i>IMPLAN</i>			<i>1+ Increase</i>		
<i>Code</i>	<i>Industry</i>	<i>Household Purchases of Services -1999</i>	<i>in Personal Income 1999-2002</i>	<i>Household Purchases of Services -2002</i>	<i>Tax Imposed</i>
434	Local- Interurban Passenger Transit	61	1.150	70	
436	Water Transportation	27	1.150	31	
437	Air Transportation	248	1.150	285	
438	Pipe Lines- Except Natural Gas	11	1.150	12	
439	Arrangement Of Passenger Transportation	15	1.150	17	
440	Transportation Services	0	1.150	0	
441	Communications- Except Radio and TV	855	1.150	983	Sales Tax
442	Radio and TV Broadcasting	16	1.150	19	
443	Electric Services	1,329	1.150	1,528	
444	Gas Production and Distribution	443	1.150	509	
445	Water Supply and Sewerage Systems	232	1.150	267	
446	Sanitary Services and Steam Supply	75	1.141	86	
456	Banking	1,870	1.141	2,133	
457	Credit Agencies	146	1.141	166	
458	Security and Commodity Brokers	114	1.141	130	
459	Insurance Carriers	1,166	1.141	1,330	Ins Prem Tax
460	Insurance Agents and Brokers	0	1.141	0	
462	Real Estate	1,773	1.167	2,069	
463	Hotels and Lodging Places	270	1.167	316	Sales Tax
464	Laundry- Cleaning and Shoe Repair	174	1.167	203	
465	Portrait and Photographic Studios	90	1.167	105	Sales Tax
466	Beauty and Barber Shops	132	1.167	154	
467	Funeral Service and Crematories	122	1.167	142	
468	Miscellaneous Personal Services	232	1.167	271	
469	Advertising	7	1.167	9	
470	Other Business Services	34	1.167	40	
471	Photofinishing- Commercial Photography	54	1.167	63	
472	Services To Buildings	29	1.167	34	
473	Equipment Rental and Leasing	30	1.167	35	Sales Tax
474	Personnel Supply Services	19	1.167	22	
475	Computer and Data Processing Services	15	1.167	17	
476	Detective and Protective Services	24	1.167	28	
477	Automobile Rental and Leasing	180	1.167	211	Sales Tax
478	Automobile Parking and Car Wash	77	1.167	90	Sales Tax
479	Automobile Repair and Services	506	1.167	591	
480	Electrical Repair Service	48	1.167	55	

Table 3.5 (continued)

**Potential Additional Sales Tax on Household Purchases of Services Not Already Taxed
(\$Millions)**

<i>IMPLAN</i>		<i>Household</i>	<i>1+ Increase</i>	<i>Household</i>	
<i>Code</i>	<i>Industry</i>	<i>Purchases of</i>	<i>in Personal</i>	<i>Purchases of</i>	<i>Tax</i>
		<i>Services -1999</i>	<i>Income</i>	<i>Services -2002</i>	<i>Imposed</i>
			<i>1999-2002</i>		
481	Watch- Clock- Jewelry and Furniture Repair	33	1.167	38	
482	Miscellaneous Repair Shops	33	1.167	39	
483	Motion Pictures	110	1.167	129	Sales Tax
484	Theatrical Producers- Bands Etc.	35	1.167	41	
485	Bowling Alleys and Pool Halls	26	1.167	31	Sales Tax
486	Commercial Sports Except Racing	10	1.167	12	Sales Tax
487	Racing and Track Operation	49	1.167	57	Sales Tax
488	Amusement and Recreation Services- N.E.C.	433	1.167	505	Sales Tax
489	Membership Sports and Recreation Clubs	149	1.167	174	Sales Tax
490	Doctors and Dentists	3,336	1.167	3,893	
491	Nursing and Protective Care	758	1.167	885	
492	Hospitals	4,055	1.167	4,733	
493	Other Medical and Health Services	976	1.167	1,139	
494	Legal Services	620	1.167	723	
495	Private Elementary and Secondary Schools	172	1.167	201	
496	Private Colleges- Universities- Schools	700	1.167	817	
497	Other Educational Services	213	1.167	248	
498	Job Training & Related Services	73	1.167	85	
499	Child Day Care Services	302	1.167	352	
500	Social Services- N.E.C.	510	1.167	596	
501	Residential Care	201	1.167	235	
507	Accounting- Auditing and Bookkeeping	11	1.167	13	
	Household Purchases of Services	23,229		26,966	
	Household Services Already Taxed	3,446		3,977	
	HH Purchases of Services Not Already Taxed	19,783		22,989	
	Sales Tax on Services Not Already Taxed	890		1,035	

Source: Author's Estimates, Based on IMPLAN

Congress adopted a tax cut and increased spending to provide greater homeland security and fight the wars in Afghanistan and Iraq at the same time that the economy went into a recession. We now know that the conjunction of these choices and events produced the largest federal budget deficit in U.S. history and that we appear to be on a trajectory for more of the same.

Many states, Oklahoma included, also learned that recessions can have long-run consequences for state budgets. We may have even come to appreciate more fully the value of a reserve, or rainy day fund. In any event, it would not be difficult to make a case for using some of the surpluses promised by sales tax reform to replenish Oklahoma's depleted Constitutional Reserve ("Rainy Day") Fund. The sales tax reform examined in this paper may help to meet this need to some extent if a broader-based sales tax would lend greater stability to sales tax revenues over the course of the business cycle, as some tax economists believe. It seems likely, however, that broadening the sales tax base would solve only part of the problem and that there would still be a need for additional Rainy Day money.

There are undoubtedly a variety of uses for the additional revenues if further tax reform is the objective. The current sales tax rate could be cut by about a third. But the legislature could also use the additional revenues as a means of funding a reduction in other taxes. A case could be made, for example, for funding a reduction in the individual income tax as a means of increasing household saving. Levying a tax on a broad array of services would tend to increase household saving if it raised *more than enough* additional revenue to offset the revenue lost by exempting purchases of business inputs – provided that the excess revenue would be used to reduce dependence on the income tax. This would occur because income taxes tend to discourage saving while consumption taxes tend to encourage saving. A higher level of savings is desirable because savings provide funds that will normally be borrowed to expand the level of investment. A higher level of investment is desirable because it fuels a higher rate of economic growth.

To have a significant effect on saving, income tax relief would have to be concentrated

on upper-income households. This is in stark contrast to the need for additional reform of the sales tax, itself, created by the taxation of a broad array of household purchases of services.

Any attempts to tax additional household purchases of services would run squarely into opposition from those who fear that such taxation would either worsen the distribution of the tax burden and/or impose a higher tax burden on low-income families. As already noted, there are two concepts of equity in the distribution of the tax burden: vertical equity and horizontal equity. Economic theory indicates that the imposition of the sales tax on household purchases of services would improve horizontal equity and there is no reason to expect otherwise in this case. Both economic theory and existing evidence do not provide conclusive clues, however, on what to expect in terms of the impact on vertical equity from the change in the household tax burden examined in this study. Accordingly, we use the IMPLAN model to provide our own estimates of the distribution by income class of increased sales taxes on services.

Effect on the Distribution of the Tax Burden: Vertical Equity

Table 3.6 summarizes the effects on households at different income levels of imposing a sales tax on household purchases of services under different assumed circumstances. The top fourth of the table reflects the "before sales tax on services" (Before STS) scenario. The second fourth reflects the situation after a sales tax is imposed on household purchases of services not already taxed. The third fourth of the table reflects a rebate of all additional sales taxes for families with income of \$20,000 or less, given to relieve families below the poverty line of any additional tax burden. The bottom fourth of the table summarizes the net effects on revenues of the taxation and rebate scheme outlined in the top three-fourths of the table.

The estimates reported in Row 3 indicate that the current Oklahoma state sales tax is regressive, when sales taxes paid (Row 1) are compared to *current* personal income (Row 2).

Table 3.6

Distribution of the Sales Tax, Before and After Imposition of the Sales Tax
On Household Purchases Not Already Taxed With and Without Low-Income Rebate

<i>Household Income Group</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>F</i>
<i>Household Income (000)</i>	(\$0-20)	(\$20-30)	(\$30-40)	(\$40-50)	(\$50-70)	(\$70+)
	BEFORE STS					
1 Group Sales Tax Before STS (\$000)	248,335	356,987	217,434	166,830	253,094	160,590
2 Group Personal Income (PI) in \$000	6,636,030	16,670,435	12,618,488	10,842,492	16,367,757	14,006,427
3 Group Sales Tax as Share of PI Before STS	0.037	0.021	0.017	0.015	0.015	0.011
	AFTER STS					
	NO REBATE					
4 Group Tax on Services Not Already Taxed (\$000)	230,717	270,948	174,465	106,875	154,023	97,478
5 Group Sales Tax After STS (\$000)	479,053	627,936	391,899	273,705	407,117	258,068
6 Group Sales Tax as Share of PI After STS	0.072	0.038	0.031	0.025	0.025	0.018
	AFTER STS					
	WITH LOW-INCOME REBATE					
7 Group Tax Increase After STS, W/Rebate (\$000)	0	270,948	174,465	106,875	154,023	97,478
8 Group Sales Tax After STS, W/Rebate (\$000)	248,335	627,936	391,899	273,705	407,117	258,068
9 Group Tax as Share of PI After STS, W/Rebate	0.037	0.038	0.031	0.025	0.025	0.018

REVENUE SUMMARY

10 Sales Tax Before STS (000)	\$1,403,272
11 Sales Tax After STS And Rebate (000)	2,207,061
12 Increase In Revenue (000)	\$803,789
13 Decrease In Rev From Bus Ex (000)	\$350,725
14 Net Change in Revenue (000)	\$453,064

Source: Author's calculations, based on IMPLAN

Imposing the sales tax on household purchases of services, except those already taxed, increases the tax burden for each income group (Row 4) and increases the share of each group's income that would be used to pay sales taxes (Row 5).

The overall distribution of the tax as a share of personal income after the sales tax is imposed on services is more regressive than the distribution of the tax before the sales tax is imposed on services (Row 4). This follows from the facts that the percentage increase in the tax share is the largest in the lowest income group and that the percentage increase in the tax share tends to fall as household income rises. Thus, the imposition of the sales tax on services not already taxed makes lower income households both absolutely and relatively worse off.

Mitigating the Burden on Lower-Income Households

The large negative impact on low-income households can be mitigated and the revenue advantages of imposing the sales tax on household purchases of services can be achieved simultaneously, simply by providing low-income households with a sales tax rebate.

Legislators are reluctant to include household expenditures for services in the sales tax base, based on the belief that taxing them would impose an especially heavy burden on low-income households. We have shown, in fact, that they are correct. Low-income households account for only a small share of total expenditures on these items, however, so a blanket tax exemption for them would aid the non-poor more than the poor. Estimates illustrated in lines 7-9 of Table 3.6 indicate that if the state applied the sales tax to household purchases of services and rebated all of the taxes collected on purchases of these items by families with annual incomes less than \$20,000 (a level that would include most families with incomes below the poverty line), it would be possible to provide relief from sales tax reform to lower-income households, and increase sales tax revenues by more than enough to offset the increase in exemptions granted to business.

The bottom fourth of Table 3.6 illustrates the basic arithmetic behind this claim. The net effect is to leave the tax burden unchanged for the lowest income group (at \$248.335 million) but to increase it for every other group. The net increase in total taxes collected is \$453.064 million. This may be enough of a tax increase to meaningfully address some of the state's other budget priorities.

Endnotes

¹MIG, Inc. IMPLAN Professional Version 2.0

²Withdrawals from this fund have depleted it. For an extended discussion of how this happened and why it is necessary to replenish this fund (as well as establish new rules for deposits and withdrawals) see Olson, Kent W., "The Oklahoma State Budget Crisis: Lessons From the Past, Policies for the Future," in *State Policy and Economic Development In Oklahoma: 2003*, Oklahoma City, OK Oklahoma 21st Century, Inc. 2003, pp. 1-20.

³The fact that the Oklahoma Legislature frequently withdrew money from the Constitutional Reserve Fund for "emergencies" that weren't really emergencies may be good evidence of a structural deficit, or chronic shortage of funds relative to needs.

⁴Two good examples of this view are outlined in Fox, William F. and Matthew Murray, "Economic Aspects of Taxing Services," *National Tax Journal*, March 1988, 41:1, pp. 19-36; and Mikesell, John L., "Sales Tax Incentives for Economic Development: Why Shouldn't Production Exemptions Be General?" *National Tax Journal*, September 2002, 54:3, PP. 557 – 567.

⁵Ring, Raymond, Jr., "The Proportion of Consumers' and Producers' Goods in the General Sales Tax." *National Tax Journal*, June 1989, 42:2, pp. 167–79; Ring, Raymond, Jr., "Consumers' Share and Producers' Share of the General Sales Tax," *National Tax Journal*, March 1999, 52:1, pp. 79-90.

⁶Ring, 1999, op cit.

⁷Mikesell, op cit.

⁸Baumol, William J., "Health Care, Education, and the Cost Disease: A Looming Crisis for Public Choice." *Public Choice*, 1993, Volume 77, pp. 17-28; also Baumol, William J., "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis." *American Economic Review*, 1967, Volume 62, pp. 415-426.

⁹Holcombe, Randall G., and Russell S. Sobel, *Growth and Variability in State Tax Revenues*, 1996, Westport, Connecticut: Greenwood Press.

¹⁰Dye, Richard F. and Therese J. McGuire, "Growth and Variability of State Individual Income and General Sales Tax," *National Tax Journal*, March 1991, 44:1, pp. 55-66.

¹¹Hawkins, Richard R., "Popular Substitution Effects: Excess Burden Estimates for General Sales Taxes," *National Tax Journal*, December 2002, 55:4, pp. 755-770.

¹²Mazerov, Michael, "Expanding Sales Taxation of Services: Options and Issues," June 2003, Washington, DC: Center on Budget and Policy Priorities.

¹³Ibid.

¹⁴Ring, 1989 and Ring, 1990, op cit.

¹⁵IMPLAN, op cit.

¹⁶The latest of these is in Dauffenbach, R., A. Holmes, K. Olson, D. Penn, and L. Warner, "Revenue-Neutral Tax Reform for Oklahoma: Issues and Options," *State Tax Notes*, July 30, 2110, 21:5.

A Lottery for Oklahoma?

Introduction

Lotteries have funded government enterprises since almost the beginning of organized governments. Biblical reference is made in the book of Numbers to Moses awarding land on the basis of a lottery. Rome sponsored early lotteries for construction projects, and the Han Dynasty in China used lotteries to help pay for the Great Wall. The Chinese also are credited with inventing the game of keno. The first widespread use of government lotteries began in 1530 in Florence, and they were quickly copied by England and France.

In the American colonies, Virginia began a lottery to finance Jamestown, and other colonies used lotteries to finance various educational institutions including Harvard, Yale, Princeton, and Dartmouth. Benjamin Franklin used lotteries to finance cannons for the Revolutionary War. After that, lotteries diminished in use so much that by the time of the Civil War only Louisiana made significant use of them. All states, with this exception, had banned lotteries either through statute or in their constitutions. In the 1890s, enforcement of federal interstate laws banning the use of the mails for lotteries effectively closed down all legal lottery activity. Of course, illegal lotteries such as “numbers games” continued to be an important source of revenue for organized crime.¹

In 1964 New Hampshire reintroduced the lottery as a sweepstakes, which was followed by a similar sweepstakes in New York in 1967. New Jersey followed in 1971 but introduced games that competed more directly with illegal gaming activity. Prizes were awarded weekly and daily rather than semiannually as in New York and New Hampshire. The public responded with dramatically increased revenues resulting from the desire for immediate gratification upon which all lotteries are ultimately based.

Currently, 38 states and the District of Columbia offer some form of state-sponsored lotteries. The games offered vary widely from simple video lotteries in West Virginia, Rhode Island, and South Dakota, which are typically just regulated and taxed by the state but run by private sector firms, to multiple types of gambling managed and sponsored by a state agency including such games as pull tabs, sweepstakes, and scratch games. The variety of games, types of games offered, and, in particular, the size of the purse, all have important effects on the level of participation and thus the revenue raised by the state.

The term “lottery” is thought to be derived from the Italian *lotto*, meaning “destiny” or “fate”. In current use, the term implies a wide variety of gambling schemes. The common element is the distribution of a pool of funds based solely on chance. To enter the pool, one must offer some consideration, usually in the form of a ticket purchase. There are five common games offered by state lotteries: video lottery, lotto games, keno-style games, instant/pull tabs, and numbers games.

Video games are the least frequently offered and are usually operated under state license by private entrepreneurs rather than a state agency. In essence, video games are *allowed* forms of gambling rather than state-sponsored and promoted gambling. There is little distinction between a video game and a slot machine. Odds are set within the game and winnings based on the odds rather than some share of a pooled purse.

Lotto games are the newest form of lottery offered in the United States. In these games, a contestant picks a set of numbers from a larger field. The object of the game is for a contestant to match his or her numbers to numbers drawn at random. If a contestant’s set of numbers matches the set of numbers randomly chosen, he or she wins. Often, prizes are also awarded to those contestants who are able to match most of the numbers.

These games vary in format and, consequently, in odds of success. Usually, the playable field ranges from 30 to 60 numbers, and the player picks five to seven numbers. The probability of winning is very sensitive to the game format. Nevertheless, lotto has become popular in all its forms. This is usually attributed to the large, progressive payouts. Variations of this game resembling traditional bingo have been successful as well. Further evolution of the lotto has developed into the form of keno games.

In keno, a contestant chooses between four and ten numbers from a field of 70. Like some advanced lotto games, 20 winning numbers are picked. Players can increase their odds of winning by choosing fewer numbers. However, the prize payouts decrease as well.

The simplest and quickest form of lottery is instant, or pull tab games. In these games, a contestant purchases a ticket and then scratches off a vinyl cover to find out instantly if he or she has won. The games are offered in various formats ranging from simply matching symbols to trying to beat a preprinted “opponent” score. While these games can have large jackpots, they are more likely to award many smaller prizes.

Numbers games were originally illegal forms of gambling made famous in New York and Chicago. Understanding the popularity of these illegal games, lottery commissions began to introduce legal numbers games. While legal, these games are played exactly like their illegal forerunners.

In these games a contestant picks a three or four-digit number. He or she wins if the randomly drawn number matches the number he or she picked. Like their illegal counterparts, current numbers games offer a variety of ways to bet. For example, one can bet on what the first or last two digits of a three-digit number will be.²

Lottery Revenues and State Budgets

State lotteries in the United States generated some \$42.4 billion in gross sales in 2002. This represented average sales of \$168 for each man,

woman, and child in the states where lotteries were managed. These gross revenues are divided into four parts: payments to lottery players, administration costs, payments to retailers (commissions, usually a percent of gross sales), and distribution to government functions (either through earmarking or to the general fund for appropriation by the legislature). This last piece is often called the “profit” of the lottery.

Of particular interest to state budget makers and the impetus for the creation of lotteries in the first place is the potential revenue from conducting a lottery. In 2000, states received on average 32.4 percent of gross sales for state purposes, paid 54.6 percent of gross sales as prizes, and incurred 13 percent of gross sales in administration costs, including commissions paid to retailers. Retailer commissions range from 3 percent to 10 percent, depending on the type of game serviced. Additional commissions are often paid on prizes awarded above a certain amount. Administrative costs vary widely, and the national average may not be a good estimate for an Oklahoma lottery. Administrative costs, excluding retailer commissions, ranged from 2 percent in Massachusetts in 2000, the country’s largest state lottery, to 23.8 percent in Nebraska in 2000. Small state lotteries experience higher administrative costs per dollar of gross revenues because of significant economies of scale in lottery administration. Six states had administrative costs, excluding retail commissions, of more than 17 percent. New Mexico, with a population somewhat smaller than Oklahoma’s has administrative costs of 21.2 percent. Retail commissions add from 3 to 8 percent to the other administrative costs.

While significant in magnitude, taken alone, lottery revenues constitute a very small part of state budgets, (see table 4.1) even when allowing for revenues generated by the lottery beyond distribution of gross sales. (States typically pay winners in an annuity and keep all interest generated by the funds while awaiting distribution. Many states allow winners to take a lump-sum payment but only pay a discounted value of the prize.)³

Table 4.1

Net Lottery Revenues as a Percentage of the State's Total Budget, 2002

<i>State</i>	<i>Percentage of State Budget from Lottery</i>	<i>State</i>	<i>Percentage of State Budget from Lottery</i>
Arizona	1.36	Michigan	6.03
California	1.40	Missouri	2.21
Colorado	1.69	Montana	0.57
Connecticut	2.30	Nebraska	0.36
Delaware	8.22	New Hampshire	5.90
Florida	4.38	New Jersey	3.44
Georgia	5.29	New Mexico	0.70
California	1.40	New York	4.79
Idaho	1.03	Ohio	2.94
Illinois	2.25	Oregon	3.21
Indiana	1.98	Pennsylvania	3.78
Iowa	0.93	Texas	0.88
Kansas	1.29	Vermont	2.45
Kentucky	2.43	Virginia	3.14
Louisiana	0.80	Washington	0.94
Maine	1.74	Washington, DC	1.13
Maryland	4.83	Wisconsin	0.61
Massachusetts	6.59		

The Proposed Oklahoma Lottery

The proposed Oklahoma lottery is described in HB 1278 and will be decided in the November 2004 election as State Questions 705 and 706. The people have once before spoken to the question of a state lottery in State Question 658 in 1994. Then the decision was decidedly negative, with a vote of 60 percent against the lottery. Since 1982, at least nine attempts to institute a lottery in Oklahoma through legislation have been defeated in floor votes in either the House or the Senate. In 1982, as now, the lottery was proposed as a cure for the budget woes of the state.

HB 1278 would create the Oklahoma Lottery Commission with broad powers to conduct lottery activities, enter into compacts with other states and tribal governments, and incur debt of up to \$10 million dollars as start-up funding. A board of seven trustees appointed to five-year terms by the governor with advice and consent of the Senate, would employ an executive director of the lottery

commission. Trustees would serve without pay. The executive director would supervise all activities of the commission, including the employment of appropriate staff. No employee of the commission would be subject to the merit system, and thus the commission would most likely become the largest state agency not included in the merit system for employment. The commission is deemed to be an instrumentality of the state but not a state agency. All budgeting decisions will be determined by the board and not by appropriation through the legislature.

The commission may conduct games “including but not limited to instant lotteries, and other games traditional to the lottery”.⁴ All sales must be for cash, which will limit the use of online gaming, which is an important part of revenues in other states. Further, the use of video lottery machines is prohibited as are games based on the outcome of a sports event. Both of these are also important revenue generators in other states, but they eliminate the potential competition the

state of Oklahoma would have with the approximately 50 Indian casinos already in place in Oklahoma. Indian casinos rely almost exclusively on these games and off-track wagering for a customer base.

The distribution of revenues from the lottery is set by law. While the commission sets the percentage that will be returned to ticket holders, by law they are to receive no less than 45 percent of gross proceeds which is significantly lower than the national average. The commission is directed to pay no less than 2 percent in commission to retailers, far below the average effective commission in other states, and to transfer to the Oklahoma Lottery Education Trust Fund at least 35 percent of gross proceeds. This allows 18 percent of gross proceeds for administration, well above the national average but perhaps in line with the experience in states with smaller populations. By comparison to the national average, Oklahoma's lottery will pay less to gamblers, cost more to administer, and fund government services at about the same percentage level.

Estimating Revenues of an Oklahoma Lottery

Estimating revenues from any tax source presents problems unique to the tax. Estimating revenues from a new tax source compounds those difficulties. Indeed, revenues from lottery sales are unlike those from any other tax source. Taxes are generated on some economic activity, either past or current. If a lottery ticket were taxed on the basis of its economic value, it would require a negative tax rate.

Revenues from lottery sales occur because of demand for the product sold; a chance at instant wealth or at least an instant payoff. A state-operated lottery in Oklahoma will not have the advantage of a monopoly on gaming activities. Pari-mutuel horse racing tracks, off-track betting on races in other states, Indian casinos, and illegal gambling of various sorts all provide direct competition for the gaming dollar for an Oklahoma lottery. It is no accident that Nevada has no state-managed lottery. There is only a limited

amount of entertainment/gaming dollars in individual budgets, and the state will have to compete for them.

Studies of lottery revenues have identified a number of key variables that affect gross sales.⁵ Obviously, the population of the state plays a critical role. The New York lottery has the largest sales by a factor of almost two relative to the next highest group of states. The general level of economic health of the state also plays an important role, and thus various measures of state income are used to estimate state gross sales. Most studies have found that the higher the percentage of the population that is minority, the higher gross sales of lottery tickets and many studies have found that the higher the education level of the state, the lower lottery sales will be.⁶ Estimates of revenues in specific states also include such factors as the proximity of the state to other states with lotteries, the number of Indian casinos and other gaming opportunities in the state, and the types of games offered by the state.

In order to estimate the potential gross sales of a lottery for Oklahoma, a regression analysis was conducted using cross-section data on states with lotteries in 2002. Rhode Island, West Virginia, and South Dakota were eliminated from the analysis on the basis that they rely heavily on video games, and this form of lottery is forbidden in the proposed Oklahoma statute. Cross-section analysis is deemed appropriate even though lotteries in all states have gone through cycles of early heavy demand and then declining demand after several years. No new lotteries have been instituted in the past several years that were in place in 2002 and thus this effect should not play a role in the analysis.⁷

The regression included per capita personal income and population of the state aged 35 to 44 years – the ages historically of those who are the most active lottery players – as independent variables designed to predict gross lottery sales. The regression model explained 60 percent of the variation in gross lottery sales, allowing for a high degree of statistical confidence in the results.⁸ Inserting the Oklahoma values of the variables into the estimated equation provided an estimate, at the 95 percent confidence level, of Oklahoma

gross lottery sales of \$277.4 million. This estimate is perhaps biased upward for several reasons. No negative impact of the extensive Indian gaming in Oklahoma has been accounted for; the probable failure of Oklahoma to generate significant sales to out-of-state gamblers will reduce gross sales, and Oklahomans' dominant religious preferences are not those that have been shown to increase participation in lotteries.

To test the validity of this estimate a comparison was made of the revenues generated in states similar to Oklahoma in size and geography. Table 4.2 presents those states of comparable size to Oklahoma and located geographically near Oklahoma. Using these states as comparables, another estimate can be made attributing to Oklahoma the average of the per capita gross sales in these states. This technique provides an estimate of \$272.6 million in gross sales on the basis of average per capita gross sales of \$80.66.

Using the estimate of gross sales from the regression analysis, the amount of available funds for government service generated by instituting an Oklahoma lottery on the basis of the statutory requirements of HB 1273 can be predicted. These are provided in Table 4.3.

If these estimates indeed prove true, assuming that Oklahoma approves a lottery, this will mean that lottery revenues will constitute only 2.2 percent of the General Revenue Fund and a dramatically smaller part of total state spending. By comparison, Oklahoma generates more than \$60 million from the cigarette tax and \$56.5 million from alcohol-related taxes.⁹ It is to be noted that these estimates are dramatically at odds with "estimates" proffered by proponents of an Oklahoma lottery. No study was generated in producing those "estimates", so no analysis of their validity is possible here.

Table 4.2

"Comparable" States and Estimated Oklahoma Gross Sales

<i>State</i>	<i>Sales Gross 2002</i>	<i>Population</i>	<i>Per Capita Sales</i>
Arizona	\$ 294,820,000	4,403,659	\$ 66.95
Colorado	\$ 407,970,000	5,130,632	\$ 79.52
Idaho	\$ 92,670,000	1,308,320	\$ 70.83
Iowa	\$ 181,220,000	2,832,392	\$ 63.98
Kansas	\$ 190,080,000	2,634,122	\$ 72.16
Kentucky	\$ 638,720,000	3,978,103	\$160.56
Louisiana	\$ 311,620,000	4,347,642	\$ 71.68
Minnesota	\$ 377,360,000	4,882,303	\$ 77.29
Missouri	\$ 585,190,000	5,505,963	\$106.28
Nebraska	\$ 73,910,000	1,677,978	\$ 44.05
New Mexico	\$ 133,970,000	1,818,718	\$ 73.66
Wisconsin	\$ 427,570,000	5,285,604	\$ 80.89
Average	\$ 284,537,272		\$ 80.66
Oklahoma	\$ 272,502,000 ^a	3,379,515	

^aEstimated on basis of \$80.66 per capita.

Table 4.3

**Estimated Gross Sales, Prizes and Government Funds:
Oklahoma Lottery^a**

Gross Sales		\$277.4 million		
Prize Distribution		\$124.8 million		
Net Proceeds (Funds Available for Government Services)		\$ 97.1 million		
Statutory Distribution of “Net Proceeds”				
K – 12 Funding, including early childhood programs	(45%)	\$ 43.7 million		
Higher Education Tuition Assistance Capital for all levels of Education Technology Improvement at all levels of Education Endowed Chair Professorships in Higher Education School for the Deaf and Blind	}	(45%) \$ 43.7million		
School Consolidation Fund			(5%)	\$ 4.86 million
Teacher’s Retirement Fund			(5%)	\$ 4.86 million

^aFunds available assuming no borrowed start-up funds. Total distribution will not add to total gross sales because of administration and commission costs.

**Evaluation of a Lottery as a
Voluntary Tax**

While it is clear that an Oklahoma lottery would add a relatively small amount of resources to the government for public services, these resources are made available without increasing taxes. Indeed, it can be argued that the institution of lotteries nationally is a response to increasing demand for public services without recourse to new taxation.¹⁰ Oklahoma has an additional constraint on tax increases compared to most other states in the form of State Question 640 which requires that all tax increases be approved by a super majority in both houses of the legislature. As such, a lottery is often called a “voluntary” tax. One wag has dubbed it a tax on ignorance.¹¹ In any case, a lottery can be reviewed in the same manner as any other tax for the characteristics that might constitute a “good” tax.¹²

Any tax may be evaluated on the basis of five fundamental characteristics: effects on economic efficiency, impacts on equity, exportability, stability, and administrative costs and ease of compliance.

The Economic Efficiency of a Lottery

Economic efficiency measures the impact a tax has on the choices made by consumers and/or producers. High taxes on gasoline, for example, will provide an incentive to substitute diesel fuel or engage in conservation measures. High income taxes will provide incentives to reduce work effort. Some taxes, such as those on cigarettes and alcohol, are designed especially to affect choices. As a general principle, a “good” tax, or better tax, is one that has the least effect on choices either by consumers or producers. It is unclear just how a lottery would be evaluated under this criterion.

Adding a lottery as an option for consumer expenditure actually increases choices, although providing competition with other consumer expenditures, both gaming and non-gaming related.

The Equity Criterion and Lotteries

The equity criterion of a “good” tax, of course, will depend upon the goal of the tax structure and the relative value placed upon who “should” pay taxes. There is, unfortunately, no economic theory to answer this question, and it must be answered through the political process. A tax can be analyzed, however, as to just who pays it and the relative magnitude of the tax in terms of an individual’s income. Taxes that take a higher percent of income from low-income individuals are determined to be regressive, while a tax that takes a higher percentage of income from high-income individuals is determined to be progressive. The U.S. personal income tax is progressive, while the sales tax, especially in Oklahoma where groceries are taxed and services are not, is regressive.

Virtually every study of lottery participation has determined that, as a voluntary tax, it is regressive. That is, lottery revenues to the state come disproportionately from low-income households.¹³ For example, a Georgia study (Table 4.4) showed that approximately the same percentage of people in each of seven income ranges plays the lottery.¹⁴

Table 4.4

Percentage of Lottery Players by Income Group, Georgia, 2002

<i>Income Level</i>	<i>Percentage of Each Group That Plays the Lottery</i>
Less than \$15,000	68.0
\$15,000 to 24,999	67.4
\$25,000 to 34,999	74.3
\$35,000 to 49,999	79.5
\$50,000 to 74,999	66.4
\$75,000 to 99,999	71.1
Over \$100,000	73.2

This distribution illustrates the regressive nature of the lottery “tax”.

Unlike a tax, however, participation is voluntary, at least for those not suffering from gambling addiction.¹⁵ The low percentage of gross sales returned to players, however, can be viewed as a high tax on the commodity purchased; the ticket. No other “good” taxed in Oklahoma would carry a tax burden of 55 percent plus the income tax burden of any winnings.

Tax Exportability of a Lottery

A tax is deemed better, from the perspective of the taxing jurisdiction, when more of the tax burden can be exported out of the jurisdiction. In Oklahoma, the best example of an exported tax is the gross production tax. Non-Oklahomans pay a significant portion of this tax, thus generating revenues to the state at the expense of those outside the state. The exportability of the lottery burden is an important factor in determining the potential revenues to a state. States with large tourism populations such as Florida, California, and New York will gain from sales to non-residents, relieving the burden on residents. An Oklahoma lottery, because lotteries exist in all surrounding states except Arkansas, will have little possibility to export much of the burden of the tax and thus scores low on this criterion.

Stability of Lottery Revenues

A “good” tax is one that will generate a stable flow of revenues through the economic cycle. All tax revenues will, of course, be affected by the business cycle. Some taxes, however, fluctuate less than others. The property tax, for example, is a very stable source of revenues through business cycles. In Oklahoma, the history of oil booms and busts has demonstrated the extremely wide swings that occur in gross production tax revenues. Lottery revenues to state governments are affected by the economic health of the state, as are all taxes. However, studies have found that the variation in lottery revenues is significantly greater than traditional forms of taxation.¹⁶

This characteristic of lottery revenues is particularly dangerous in the Oklahoma lottery because of the planned expenditure on scholarships that are commitments over multiple years. Capital budgeting, another major planned expenditure in the Oklahoma lottery proposal, is also placed in jeopardy when the flow of funds is subject to wide variations from year to year. On this criterion of a “good” tax, the lottery ranks very low.

Administrative Costs of a Lottery

Finally, a tax that imposes low costs of compliance and administrative on both the tax collector and the taxpayer is deemed to be a better tax. The lottery is an extremely expensive tax to administer. Retail commission costs, advertising, and other general administrative costs are significantly higher than for any other tax. Not included in these administrative costs are the costs imposed on local law enforcement in dealing with underage purchasers and crime related to lottery activities, including robbery of lottery tickets. The average administrative cost of all state revenues is less than one cent while the average cost of a dollar raised through lotteries nationwide is 11 cents, more than ten times the average cost of raising revenues from traditional tax sources.¹⁷

In summary, the lottery, evaluated as a tax, albeit a voluntary tax, fares poorly when compared to more traditional taxes. An Oklahoma lottery would be regressive, have very low exportability, be subject to wide fluctuations in revenues each year, and be the most expensive tax to administer.

Fungibility of Lottery Revenues

Curiously, some argue that they will support a state lottery if only the revenues could be guaranteed to go to a “good” cause. Implied in such a statement is the notion that a lottery is inherently “bad,” but the ends could justify the means if revenues were directed to specific state functions which presumably are more important than other state functions. In recent years, in more and more states, the use of earmarking of tax

revenues has become the norm. In Oklahoma, at the city level, tax increases are almost never proposed that are not earmarked through the voting process.

To overcome resistance to lotteries, other states have, like Oklahoma, proposed that lottery revenues be dedicated to education. Of the 38 states with lotteries, 12 were passed with the promise that lottery revenues would fund education programs. The Oklahoma lottery as proposed in HB 1273 contains the provision that all lottery funds will go to the education purposes presented in Table 4.3. HB 1273 also imposes a new duty on the State Equalization Board to render a determination “whether appropriations from the [Oklahoma Education Lottery] trust fund were used to enhance or supplant education funding.” If they find that funds have been “supplanted,” the board is to determine the amount, and the legislature is to appropriate general revenue funds to the Education Lottery Trust Fund as the first order of business. Of course, the imposition of a duty on the legislature by the legislature is hollow and carries no power of enforcement.¹⁸ It does demonstrate, however, the desire to avoid the effects of the fungibility of state revenues experienced in other states.

The fungibility of state revenues refers to the obvious fact that appropriations are based upon available funds and the priorities for expenditure are expressed through the political process without regard to the source of the revenue. Any number of examples can be cited where appropriated dollars to an agency are reduced when other agency revenues are increased. Tuition revenues at institutions of higher education are almost always subject to this process as are most fees imposed by state agencies. Indeed, in times of budget cuts it is common for an agency to offer to impose a fee in order to maintain a particular program that would otherwise be cut under the proposed appropriation. The budgeting process always reviews carryover funds within agencies that may be reallocated from one agency to another based upon the priorities of the legislature that particular fiscal year. The only method that guarantees no funds will be supplanted from one function to another is the unusual circumstance where the function

receives no appropriated funds. The Wildlife Conservation Commission is one such case. Of course, all levels of education receive significant appropriated dollars, all of which are up for review each fiscal year. Every category of proposed funding for the Oklahoma lottery already receives some level of current funding that can be diverted in the future, or as has been the case elsewhere, reduced in growth from what might have been the case without a lottery.

The issue of fungibility of lottery revenues specifically has been studied extensively. In a study commissioned by the State of Georgia,¹⁹ the significant body of research on this subject is thoroughly reviewed. Their conclusion is “Previous research has largely demonstrated that lottery revenues earmarked for education displace state spending for education, resulting in a negligible net increase in education financing.” They cite five carefully-researched works on the subject that reach this conclusion and only one that tentatively suggests that during the first few years of a lottery there is some net increase.²⁰ Even this study, however, finally concludes “while there was an initial significant increase in education spending, lottery states slowed the rate of growth in education spending relative to those states without education-targeted lotteries.”

The mechanism proposed for the Oklahoma lottery provides no hope of forestalling the inevitable experiences of other states that demonstrate state revenues are fungible, and priorities set by the legislative process will ultimately govern just what percentage of the total available state revenues will be directed to education functions.

Conclusion: The Role of Government

The proper role of a government has been debated since at least the time of Plato. Indeed, it has been, and is today, a major subject of debate as we struggle with such diverse issues as terrorism and the reading skills of children. To what extent should a government displace the private sector in the provision of goods and services to the public? What standards should a government set

in terms of openness and integrity? Are some things allowed in the private sector that are not permissible in the public sector, such as contracts based upon friendship rather than price?

Of course, all governments require revenues to promulgate any policy. Thus, the effect of revenue policies on society is an integral part of the debate. What are the effects on economic growth of one tax relative to another? Will some taxes affect the behavior of citizens in a generally agreed upon beneficial way, such as taxes to discourage smoking or to increase the conservation of scarce resources?

Lotteries pose these same questions. And they pose these questions in a very different way than in the debate over legalizing gambling. There is a vast difference between allowing an action and actively promoting it. States with lotteries actively promote gambling among its citizens. In 1997, state lotteries spent more than \$400 million on advertising. Detractors of lotteries point to the deceptive advertising of many state lotteries.²¹ Several tactics include overemphasizing the chance of winning, providing misleading information on the true odds, and encouraging the notion that there is an element of skill in winning. Significant advertising is targeted to central cities areas with particularly high concentrations of low-income families.

If individuals and corporations are to be held to high standards of ethics, then it can be argued that governments also may be held to similar standards. Promoting a behavior, perhaps even deceptively, that is in all other ways deemed irresponsible and even illegal, places a government in the awkward position of punishing its citizens for private actions that are otherwise both legal and *promoted* by the government if taken through the monopoly they have established for that purpose. No ethical foundation exists for punishing private entrepreneurial gambling, such as numbers games, when millions of state dollars are spent in promoting the same activity.

An actively promoted state lottery is a form of civic corruption undermining the moral force of the state. Simply arguing the state is meeting a demand does not abrogate the responsibility of the state to strive for higher ground. There are, after

all, any number of activities for which there is a high demand that are deemed illegal. Lotteries promote a culture of getting something for nothing, a present-oriented culture. Such a cultural perspective is contrary to policies fostering economic growth.²²

The function of state agencies, as outlined in their statutory charters, is to guarantee safety and security and the promotion of greater possibilities for the individual citizen, either directly or indirectly. The function of the proposed Oklahoma Lottery Commission is simply to generate the greatest possible revenues through various lottery schemes. HB 1273 actually recognizes that the creation of an Oklahoma lottery will result in social damage. Up to \$500,000 in revenue from all unclaimed tickets is earmarked for the Department of Human Services “for the treatment of compulsive gambling disorder and educational programs related to such disorder”. No other function of government requires that programs be established to protect and rehabilitate the citizens from their own government’s policies.

The ruse that the revenues from a lottery will aid in the development of a more educated populous has been shown to be simply that, a ruse.²³ Cloaking the Oklahoma lottery in constitutional garb provides no better protection from diversion of funds than that experienced in other states and even may be considered a cynical gesture on the part of the proponents of the lottery. But perhaps more than that, it is ultimately an argument that the ends justify the means, an argument it is hoped their government would not accept from citizens who transgress the law, but here is put forward by the government to gain support for a lottery.

But even if a lottery should result in a higher quality of education, and one can put aside the inconsistencies inherent in a state-promoted gambling scheme, studies of lottery participation show that as educational levels rise, lottery participation declines. Perhaps, then, the greatest irony is a state lottery that earmarks revenues for educational purposes.

Endnotes

*A great debt of thanks is owed to careful thorough research assistance of Mr. Zach Osko of the University of Oklahoma.

¹*National Gambling Impact Study Commission Report*, National Gambling Impact Commission, 1999.

²Charles T. Clotfelter & Philip J. Cook, *Selling Hope* (First Harvard University Press, 1991) p.51 -70.

³In 2000, the two winners of the Big Game who “won” \$363 million, the largest jackpot in lottery history, elected to take the prize as a lump sum of \$90 million. The typical presumed earnings on winnings is currently 4.5%. This rate, used to calculate the “present value” for those wishing to take their prize as a lump sum, is dramatically below recent actual potential market earnings over a 26-year period used in most lottery payouts.

⁴House Bill 1278, Oklahoma Legislature, 2003.

⁵Frees, Edward W. & Miller, Thomas W., “Sales Forecasting Using Longitudinal Data Models”, University of Wisconsin-Madison, Working Paper, 2002.

⁶See for example, Clotfelter, Charles T., 1979, “On the Regressivity of State-operated “Numbers” Games”, *National Tax Journal*, 32 (4):543-48; Clotfelter, Charles T. and P.J. Cook, 1990, “On the Economics of State Lotteries”, *Journal of Economics Perspectives*, 4 (4): 105-19; Clotfelter, Charles T. and P.J. Cook, 1987, “Implicit Taxation in Lottery Finance”, *National Tax Journal*, 40 (4):533-46; Stranahan, Harriet, and Mary O’Malley Borg, 1998, “Horizontal Equity Implications of the Lottery Tax”, *National Tax Journal*, 51 (1): 71-82.

⁷Governor Phil Bresdon signed a Tennessee lottery into law on June 11, 2003. However, at the time of this research, there were no data for the Tennessee lottery.

⁸The adjusted R² was .60 and both independent variables were statistically significant at the 95 percent level of confidence.

⁹*FY 04 Revenue Certification*, State Board of Equalization, February 18, 2004.

¹⁰“The Georgia Lottery: Participation, Revenue Generation, and Benefit Distribution”, Joseph McCrary, et.al., Carl Vinson Institute of Government, University of Georgia, September 2001.

¹¹Lodge, Arthur, "A Tax on Imbeciles", *Journal of Accountancy*, 161, (April 1986): 36.

¹²Robert C. Dauffenbach, Alexander Holmes, Kent Olson, David Penn and Larkin Warner, "Revenue-Neutral Tax Reform for Oklahoma" *State Tax Notes*, Vol. 21, Number 5, 2001. This Report was prepared at the request of Governor Frank Keating, Senate President Stratton Taylor, and House Speaker Larry Adair.

¹³The findings that a lottery is regressive are consistent and extensive. For Pennsylvania see Spiro, Michael, 1974, "On the Tax Incidence of the Pennsylvania Lottery", *National Tax Journal*, 27 (1) 57-61; for Connecticut and Massachusetts see Brinner, Roger and Charles T. Clotfelter, 1975, "An Economic Appraisal of State Lotteries", *National Tax Journal*, 28, (4): 395-404; for California see Clotfelter, Charles T. and P.J. Cook, 1990, "On the Economics of State Lotteries", *Journal of Economics Perspectives*, 4 (4): 105-19; for Canada see Livernois, John R. 1987, "The Redistributive Effects of Lotteries: Evidence from Canada", *Public Finance Quarterly*, 15 (3):339-51; for Illinois see Borg, M. O. and P.M. Mason, 1990, "Earmarking Lottery Revenues: Positive Windfalls or Concealed Redistribution Mechanism", *Journal of Education Finance*, 15: 289-301; and for Texas see Price, Donald I. and E. Shawn Novak, "The Income Redistribution Effects of the Texas State Lottery Games", *Public Finance Review* 28 (1): 82-92.

¹⁴"The Georgia Lottery: Participation, Revenue Generation, and Benefit Distribution", Joseph McCrary, et.al., Carl Vinson Institute of Government, University of Georgia, September 2001.

¹⁵Research indicates that as many as 7 percent of teenagers may be addicted to gambling and from 1.6 to 7 percent of adults are problem gamblers. Lorenz, Valerie, "The National Impact of Casino Gambling Proliferation" Hearing before the Committee on Small Business, U.S House of Representatives, 103 Congress, 2nd Session, Washington, D. C., September 21, 1994.

¹⁶"Lottery Revenues: An Unstable Funding Source for Education", John Hill, The Heartland Institute, January, 2001.

¹⁷Bullock, Bob, 1986, "A Texas Lottery", *Fiscal Notes*, 5: 1-4.

¹⁸The creation of the Education Lottery Trust Fund as a constitutional fund through State Question 706 is likewise a hollow, and perhaps purposefully misleading, gesture. Nothing in the constitutional nature of the Education Lottery Trust Fund prevents revenues from being diverted, because all distributions to and from this constitutional fund are governed by statute, not the constitution.

¹⁹"The Georgia Lottery: Participation, Revenue Generation, and Benefit Distribution", *op. cit.*

²⁰Miller, D.E. and P. A. Pierce, "Lotteries for Education: Windfall or Hoax?", *State and Local Government Review*, 29 (1): 34-42 (1997).

²¹Charles Clotfelter and Philip Cook, "Lotteries in the Real World", *Journal of Risk and Uncertainty*, Vol. 4, 1991, p. 230.

²²"Social Culture and Economic Development", Alexander Holmes, in *State Policy and Economic Development in Oklahoma: 1998*, A Report to Oklahoma 2000, Inc., Oklahoma City.

²³See citations at endnote 20.

The Civil Justice System and State Economic Development

Medical malpractice, class-action suits, punitive damages, workers' compensation, tort reform, and liability insurance are all terms that capture the attention of policy makers, but not often in an economic development context. These terms allude to various parts of the civil justice system. This system is crucial for the operation of a just society. Changes in it can have large effects on individuals and groups. Tort reform, a set of changes in the civil justice system, not surprisingly is controversial.

Economists and lawyers have demonstrated the importance of the legal system for economic growth and development.¹ Critics of the tort system in the United States, however, argue that it is inefficient and reduces the competitiveness of the United States economy.² In sharp contrast, others argue that the civil justice system provides good value for the money.³ In addition, differences among states' civil justice systems may have a large impact on their competitiveness or, more generally, their relative economic performance. Nevertheless, these differences are sometimes overlooked in devising a state's economic development strategies.

This chapter's purpose is to discuss the relationship between tort reform and state economic development. As such, it describes various reforms but does not analyze their legal implications. It first provides a brief discussion of the civil justice system's importance for an economy's economic performance. It then discusses the functions of the U.S. liability system, looks at its costs, and indicates that these costs can vary across states. Then it reports on two studies of the effects on state economic performance of differences in liability systems, both of which indicate that differences in these systems across states can have significant effects on their economic performance. In both instances, it considers Oklahoma's

position in the national system and discusses whether its relative position adversely affects state economic development.

The Civil Justice System and Economic Performance: The Formerly Socialist Countries

Little empirical evidence exists on the effect of the civil justice system on economic development. Evidence exists that economic performance in terms of productive efficiency is positively associated with economic freedom, as measured by the Fraser Institute.⁴ An important element of this measure of economic freedom is the nature of the civil justice system.⁵ Furthermore, this measure of economic freedom is also associated with manufacturing productive efficiency among countries in the Organization for Economic Cooperation and Development.⁶ Perhaps the most dramatic illustration of effect of the legal system on economic performance is seen as the formerly socialist countries of Europe attempt to transition to a democratic market system.

Many economists have been surprised at the difficulties that these formerly socialist countries have had in attempting to transform their economies. In studying these countries, economists have become more aware that an important element in their economic success is their commitment to the rule of law. We can see this graphically by comparing their economic performance to an index of the quality of their legal systems. This quality, summarized as the rule of law, is based on contract enforcement, judicial effectiveness and predictability, and crime rates. We do not intend to imply that this example of the importance of the legal system for an economy suggests that civil

justice systems of U.S. states are similar to or differ as much among each other as they do in the countries used in our example, but they do exemplify how critical the legal system can be in the development process.

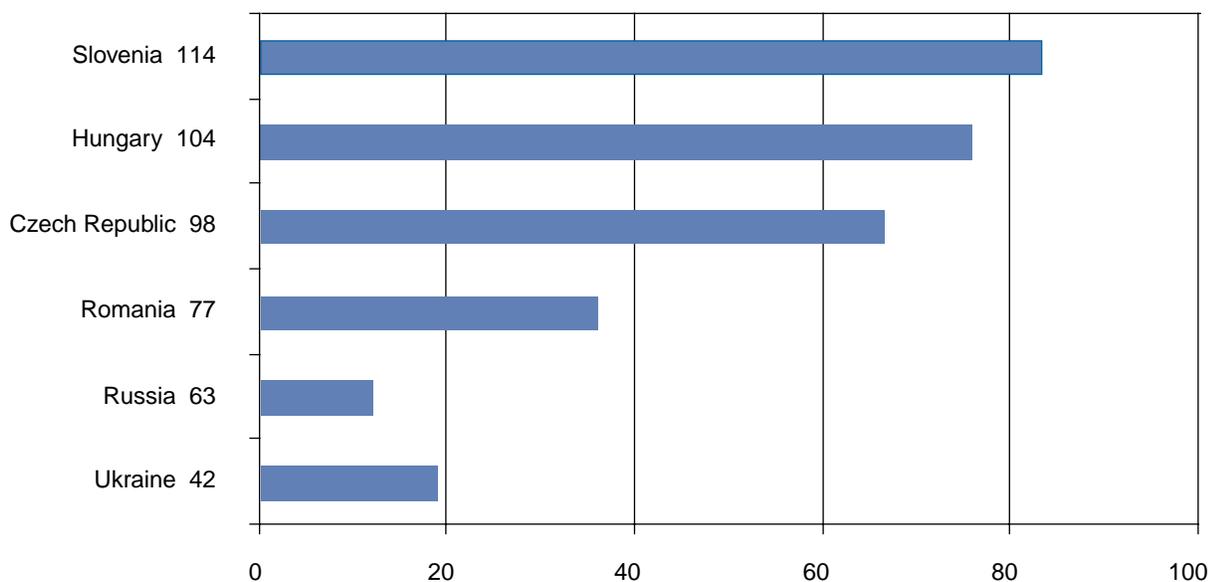
Figure 5.1 includes 6 countries arranged vertically. The numbers beside a country's name indicate the success that it has had in economic transition. Slovenia's rank of 114, for instance, indicates that it had a 14 percent greater GDP in 2001 than in 1989 (GDP, or gross domestic product, is the measure of the value of a country's production of final goods and services in a particular year). In contrast, Russia's rank of 63 indicates that it had a 37 percent lower GDP in 2001 (or 63 percent of its 1989 GDP). Thus, the higher a country is on Figure 5.1, the greater has been its success in the economic transition. Slovenia and Hungary had index measures for the rule of law of just over 80 and just under 80, respectively, as indicated by the horizontal bars.

These are percentile rankings that indicate that about 20 percent of all countries in the world had legal systems that ranked higher in terms of the rule of law than Slovenia and Hungary and 80 percent of all countries had inferior rankings. Russia and Ukraine had rankings below 20, indicating that more than 80 percent of all countries performed better in terms of the rule of law. Romania and the Czech Republic lie between the two sets of countries, both in the success of their transition and on their ranking with regard to the rule of law.

Moving up the vertical axis of Figure 5.1, an almost perfect relationship between the length of the bar and the percentile ranking dramatically suggests that a country's economic success is closely tied to its commitment to the rule of law. Although explaining the success of transition countries is, of course, more complicated than this comparison suggests, the comparison does illustrate the importance of the legal system.'

Figure 5.1

Rule of Law and Success in Economic Transition



Source: D. Kaufmann, A. Kraay and P. Zoido-Lobaton, "Governance Matters," *World Bank Working Paper #2196*, 1999, and Edgmand, Michael R, Ronald L. Moomaw and Kent W. Olson, *Economics and Contemporary Issues*, 6th Edition, Mason, Ohio: South-Western, 2004, p.61.

Tort Costs as Part of the Costs of the Civil Justice System.

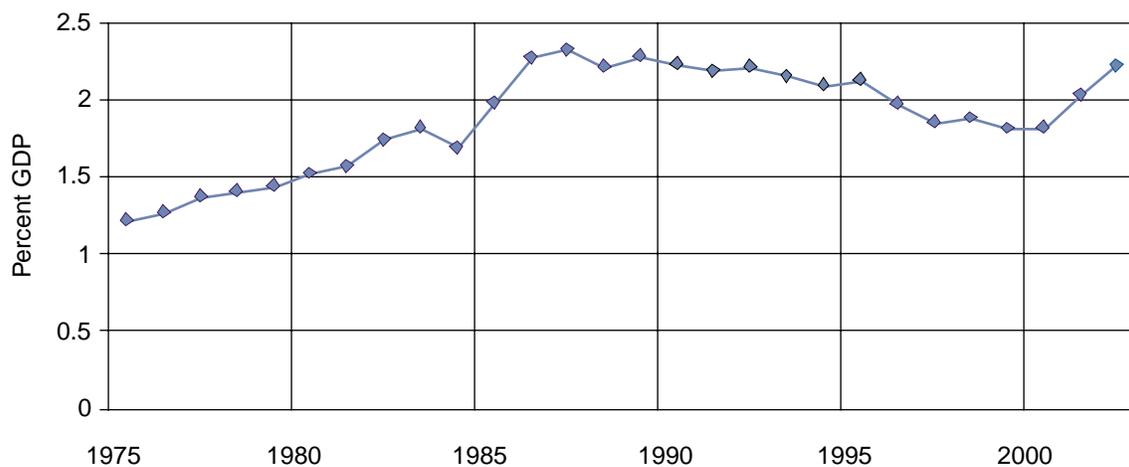
Direct costs of the tort system in the United States, as calculated by Tillinghast-Towers Perrin were \$233.4 billion.⁷ These costs increased substantially in 2001 (by 14.4 percent) and again in 2002 (by 13.3 percent). Direct costs of the tort system consist of payments to plaintiffs for economic and non-economic losses, plaintiffs' attorney fees, defense costs, and insurance company overhead. By several measures these costs are large and are expected to become even larger. As Figure 5.2 shows, tort costs currently amount to more than 2 percent of GDP. This is more than \$800 per person or more than \$3,200 for a family of four. Figure 5.2 shows a steady growth of tort costs relative to GDP from 1975 to 1987, peaking at about 2.3 percent. From 1988 to 1995 the percentage followed a downward trend, but remained above 2.1 percent. It fell below 2

percent from 1996 to 2000, but climbed substantially in 2001 and 2002. Tillinghast-Towers Perrin expects tort costs as percent of GDP to increase for the next several years, again reaching about 2.3 percent of GDP.

An important question is whether the benefits of the tort system outweigh the costs. Tort law has at least two functions. One is to compensate people who are harmed by defective products, by medical malpractice, and by the actions of "strangers"—accidents. The harm from defective products and medical malpractice occurs in the context of a voluntary transaction where the supplier of the product or service is — by the doctrine of strict liability — responsible for defective products, or by negligence if, for instance, the supplier fails to provide the appropriate medical service. Accidents, on the other hand, do not necessarily occur in the context of voluntary transactions; rather, they may result from the actions of strangers.

Figure 5.2

Tort Costs as a Percent of GDP



Source: Tillinghast-Towers Perrin, "U.S. Tort Costs: 2003 Update: Trends and Findings on the Costs of the U.S. Tort System," December 10, 2003.

The second function of the tort system is to provide incentives for the appropriate level of safety.⁸ For instance, the ideal tort system encourages firms to design and produce products that efficiently balance expected safety costs and expected production costs, while encouraging consumers to use products with appropriate care. Similarly, liability for negligent provision of medical and other professional services can induce providers to take the appropriate amount of care. Accidents on the premises of a business or in a home and automobile accidents also are important issues of tort lawsuits. Compensating persons injured as a result of a tort can provide appropriate incentives for firms to build safe features into products.

It is difficult to evaluate the benefits of the tort system partly because the system can create incentives for too much as well as for too little safety. Medical care provides an example where too much safety may be provided. In particular, evidence exists that doctors practice defensive medicine in response to the perceived costs of defending against allegations of negligence. Studies show that the extra diagnostic services provided do not necessarily improve health outcomes. Without arguing the benefits of the civil justice system relative to malpractice, it is clear that the incentives created in some states lead to instances of inefficiency.⁹

The differences among states are reflected to some extent by malpractice insurance premiums. Premiums differ substantially across states for the same specialities, suggesting that differences in states' civil justice systems make it more likely that physicians will be charged with malpractice in some states compared to others. For instance, in 2002 California internists paid from \$6,000 to \$12,000 for liability insurance compared to \$13,000-\$26,000 in Texas and \$29,000-\$56,000 in Florida. The differences are greater for OB/GYNs: \$31,000-\$55,000 for California compared to \$43,000-\$92,000 in Texas and \$103,000-\$201,000 in Florida.¹⁰ One study by NORCAL Mutual Insurance Company,¹¹ concludes that medical costs in California are 6 percent lower than the national average because of its reformed medical malpractice system.

Perhaps because of the difficulty in measuring benefits, no one has published a study of the net benefits of the tort system. An alternative approach is to consider the cost-effectiveness of the tort system. One approach to cost-effectiveness is to examine the distribution of the costs between those that go to compensate plaintiffs and those attributed to operating the tort system; namely, plaintiffs' attorney fees, defense costs, and insurance overhead. Tillinghast-Towers Perrin finds that only 22 percent of these costs cover economic losses and another 24 percent cover non-economic losses.¹² Thus, 54 percent of the costs are transactions costs going to attorneys and insurance companies.

The Council of Economic Advisers has suggested a methodology to examine the system's cost-effectiveness.¹³ A number of observations suggest that the system's costs are excessive relative to the compensation received by plaintiffs. As mentioned, less than half of the direct costs go to plaintiffs; the remainder goes to trial lawyers, defense lawyers, and insurance overhead. The total direct tort costs in 2002, as estimated by Tillinghast-Towers Perrin, and shown in Table 5.1, Panel A, is \$233.4 billion, of which \$51.3 billion is compensation for direct economic losses and \$56 billion is compensation for non-economic losses, e. g., pain and suffering, for a total compensation of \$107.3 billion. The transactions cost of the tort system is the difference between the compensation for losses and the total cost of the system—\$126 billion.

Panel B of Table 5.1, following the methods of the Council of Economic Advisers, assumes that the payments for economic and non-economic losses are the ideal payments that lead to "just compensation" for losses and induce efficient producer and consumer behavior with regard to safety. If we assume that workers' compensation, a no-fault system, is efficient, its transactions costs relative to benefits can be taken as a benchmark for the appropriate transactions costs for the tort system. Transactions costs are about 23 percent of the benefits paid for the workers' compensation system. Therefore, the benchmark transactions costs for the tort system in 2002, given the assumption for Panel B, are \$24.69 billion. The minimum cost for a cost-effective system would

then be the total compensation plus the benchmark transactions costs (\$107.37 billion + \$24.69 billion) or \$132.06 billion. Thus, the total cost for the system included excess transactions costs in 2002 of about \$101 billion. Alternatively, if we assume (Panel C of Table 5.1) that the payments for non-economic losses are random and do not provide benefits in terms of providing appropriate incentives for firm and individual behavior, the benefits are just \$51.3 billion. If so, the benchmark transactions costs, as shown in Panel C, are \$11.81 billion and the excess transactions costs are \$170.58 billion.

Why do these excess transactions costs matter? The initial allocation of the costs is on business firms. However, these firms pass the costs on to consumers in terms of higher prices, or pass them back to workers in terms of lower wages, or pass them to the owners of the firms in terms of lower profits. For the U.S. economy the most likely scenario is that they are passed on to consumers. If so, the Council of Economic Advisers suggests that the burden is equivalent to

1 to 2 percent consumption tax.¹⁴ If the excess transactions costs are passed entirely back to labor in terms of lower wages, the wage tax is 2-3 percent of wages. Even in the case that they are shifted entirely to the owners of the businesses in terms of lower profits, however, they can be damaging to a state's economy because it may make the state less competitive with other states that have lower expected tort costs. The Council of Economic Advisers suggests that the equivalent tax on capital ranges from 3 to 5 percent.

The Council of Economic Advisers implies that the costs are excessive, as well as large, thereby impeding economic development, but Silver¹⁵ disagrees. In fact, systematic evidence regarding the effect of the legal system on economic activity is sparse. Anecdotes about doctors leaving certain specialties, or large settlements that harm a particular company, do not give us that systematic evidence. In what follows, some of the evidence that exists regarding the effects of variations in legal system on state economic development is described.

Table 5.1

**Distribution of Tort Costs in 2002
(\$ Billions)**

Panel A	
Compensation for Economic Loss	\$51.35
Compensation for Non-economic Loss	\$56.02
Transactions Cost	\$126.37
Total Tort Costs	\$233.74
Panel B	
Assume Plaintiffs' Payments Result in Optimal Outcome	
Benchmark Transactions Cost	\$24.69
Minimum Cost for Cost-Effective System	\$132.06
Excess Transactions Cost	\$101.68
Panel C	
Assume Plaintiffs' Payments for Non-economic Costs are Random	
Benchmark Transactions Cost	\$11.81
Minimum Cost for Cost-Effective System	\$63.16
Excess Transactions Cost	\$170.58

Source: Tillinghast-Towers Perrin, "U.S. Tort Costs: 2003 Update: Trends and Findings on the Costs of the U.S. Tort System," December 10, 2003.

State Liability Systems and Economic Development

State liability systems vary substantially. Numerous ways exist to describe this variation. One approach is that taken by Harris Interactive Market Research in a study commissioned by the U.S. Chamber Institute for Legal Reform, an affiliate of the U.S. Chamber of Commerce.¹⁶ This market research organization, best known for The Harris Poll[®] sampled the opinions of senior attorneys and general counsel in about one thousand corporations. They essentially were asked to rate states on the overall effectiveness of their liability systems and on components of that system. We will discuss the findings regarding the overall category and several sub-categories, including overall tort and contract litigation, class action suits, punitive damages, technical evidence, and juries' fairness.

Rating Liability Systems

In the 2003 study of the corporate perception of state liability systems, Oklahoma ranked 36th of

50 which was an improvement over its ranking of 41st in 2002 (Table 5.2). Because these rankings are based on surveys, we don't know what caused this change in rank or even if it is a statistically significant change. The study grouped states nationally into seven categories: Best, Very Good, Good, Average, Fair, Poor, and Worst. In 2002 Oklahoma was in the Poor category and in 2003 was toward the bottom of the large Fair category. In national comparisons, Oklahoma's overall liability system is below average.

The respondents were asked which elements of the liability system have the most effect on state economic development. In both 2002 and 2003 these corporate attorneys chose tort reform, or the lack of tort reform, as an important issue in economic development. More specifically, in 2002 significant concern was expressed about punitive damages, and in 2003 the concern was focused more on damage limitations.

Obviously, these corporate attorneys can be expected to have different perceptions about state liability systems than plaintiffs' attorneys. Moreover, they may be expected to exaggerate the importance of these systems for state economic development. Keeping this in mind, it is important to note that more than 80 percent of them said that

Table 5.2

Ratings on Elements of Liability Systems: Oklahoma and Surrounding States

	<i>Overall ranking</i>	<i>Tort and Contract Litigation</i>	<i>Class Action</i>	<i>Punitive Damages</i>	<i>Scientific and Technical Evidence</i>	<i>Juries' Fairness</i>
Colorado	12	12	27	12	17	16
Kansas	15	14	8	15	16	14
Missouri	33	31	13	33	31	38
Oklahoma	36	35	35	30	42	29
New Mexico	41	41	40	34	43	41
Arkansas	45	45	42	38	46	43
Texas	46	46	45	42	45	46
Louisiana	47	47	46	NA	47	47

NA: Not Allowed

Source: Harris Interactive, Inc., *State Liability Systems Ranking Study*, April 9, 2003.

perceptions about state liability systems could strongly influence whether a corporation would locate or do business in a state.

In addition to its national ranking, Oklahoma's ranking relative to surrounding states is also important. Some businesses may choose a general area of the country in which to locate and then choose a state within that area. Compared to seven surrounding states, Oklahoma is in a middle category with Missouri, and perhaps New Mexico, in terms of the corporate rating of its liability system. Colorado and Kansas are perceived to have a more business-oriented system than Oklahoma, while Arkansas, Texas, and Louisiana are perceived to have a less business-oriented system than Oklahoma.

The states' ranks on individual elements of their liability systems are largely in line with their overall ranks. The exceptions, however, are informative. Colorado's rank on class action issues is well below its overall rank, whereas Kansas and Missouri rank higher in this area than in their overall ranking. New Mexico and Arkansas' punitive damages rankings are better than their overall rankings, Oklahoma's ranking slips a bit with regard to scientific and technical evidence, but the perception of its juries' fairness is more favorable.

Does a Liability System Matter?

Todd G. Buchholz and Robert W. Hahn¹⁷ have made a first stab at showing that the overall liability-system rating from this survey is associated with state economic performance. Their study, available on the website of the Institute for Legal Reform,¹⁸ may have been sponsored by the Institute. They correlate state economic growth from 1995 to 1999 with overall state liability ratings for 2002. They find a positive correlation between the two variables, a correlation consistent with the idea that variations in state liability systems affect their economic growth. They also find that the average growth rate of state per capita Gross State Product (GSP) for the 10 states with the highest rating in the survey had an average growth rate of almost 16 percent com-

pared to about 11.5 percent for the 10 states with the lowest rating. As Buchholz and Hahn recognize, their study is preliminary. It does not account for other factors that might influence state economic growth and it does not rule out the possibility that states that are growing faster are likely to create more effective judicial systems.

A Study of the Effect of Changes in Tort Law on Productivity

Thomas J. Campbell, Daniel B. Kessler, and George B. Shepherd¹⁹ have studied the effect of changes in tort law on productivity in a state's economy and in various industries within a state. Their approach is to identify changes in the general liability law in each state over the period 1972-1990 (changes that affected only medical malpractice are not included). Their research hypothesis is that tort reforms that increase the potential liability of business firms can be expected to reduce productivity growth after the change and that changes that decrease potential liability will increase productivity growth.

Liability Decreasers. Campbell, Kessler and Shepherd identified six potential reforms that would decrease liability and two reforms that would increase liability. Reforms that decrease liability include (a) placing limitations on non-economic and punitive damage awards, (b) restriction of punitive damages, (c) recognition of payments from collateral sources as reducing the compensation owed by the defendant, (d) changing the doctrine of joint and several liability, (e) requiring that future damages be paid periodically, and (f) limitations on contingency fees that plaintiffs' lawyers can accept. Reforms that increase liability include (a) the introduction of comparative negligence and (b) paying interest from the time of injury to the settlement date.

As discussed above, liability costs faced by defendants can be apportioned into economic damages, non-economic damages, plaintiffs' attorney fees, and insurance costs. Legal changes that place limitations on total awards or on non-economic damages or that prohibit punitive damages clearly reduce defendants' potential liability. Moreover, some states have changed the

common law collateral source doctrine that says a defendant must pay full damages, regardless of whether the plaintiff receives compensation from other sources. This reform can reduce liability.

The common law doctrine of joint and several liability says that in instances where two or more defendants are at fault, each defendant is responsible for the total damage if the other defendants are unable to pay their proportionate share. Thus, a defendant judged to be 5 percent responsible might be liable for the total judgment. Again, modification or elimination of this doctrine reduces defendants' potential liability.

Common law doctrine calls for a lump sum payment at the time of settlement for future losses. It has been argued that juries might not discount the future properly and tend to award lump sums larger than warranted by the damages. Consequently, periodic payments might cover the damages and avoid excessive lump-sum settlements.

Finally, limitations on fees that lawyers can charge allow plaintiffs to be compensated for damages at a lower cost to the defendant or for plaintiffs to receive greater compensation at the same cost to the defendant. Furthermore, these limitations reduce the profitability of tort cases for the plaintiffs' lawyers, suggesting that fewer cases might be brought.

Liability Cost Increases. Two changes that some states have adopted have increased defendants' potential liability. One is the requirement that interest be paid on the settlement, starting at the time of injury or when the lawsuit was filed. A possibly more favorable change for plaintiffs is the adoption of a standard of comparative negligence. Under common law, if any part of the damages is due to plaintiff negligence, the plaintiff cannot collect damages. Under comparative negligence the fault is apportioned between defendant and plaintiff, and the defendant is required to pay the damages on this basis. This change increases defendants' liability relative to the common law doctrine of contributory negligence.

The study points out that reforms that either increase or decrease liability cannot *per se* be shown to increase or decrease economic well being. Recall that the benefits of the civil justice

system include appropriate compensation to plaintiffs and the establishment of appropriate incentives for all parties to adopt efficient safety standards. The study that we are reviewing takes no stand on whether a particular reform leads to an improvement in economic well being. It simply estimates the effect of liability increasers and decreasers on productivity in a state.

The Effect of Changes in Liability on Productivity. From 1972 to 1990 eight states adopted changes that reduced defendants' liability without adopting any changes that increased their liability. Those eight states had a productivity increase of 9.8 percent compared to a productivity increase of 2.4 percent for all other states. This large differential of 7.4 percent in favor of these states suggests that reforms that decrease liability lead to productivity increases, but it doesn't account for factors other than liability changes that might affect productivity growth. An accurate estimate requires that these other factors be considered. The Campbell et al. study is important because it uses state-of-the-art methodology to do so.

It uses a statistical procedure that allows each state's civil justice system to be different. Unlike the Buchholz-Hahn study, it does not allow the researcher to determine which state has a civil justice system that is most conducive to productive economic activity. It does, however, allow the researcher to determine the effect of a change in the liability system on the productivity growth rate. The statistical technique also allows different types of states (e.g., Sun Belt versus other states) to have different productivity growth trends. The researchers also accounted for economic and political differences among states. Among the economic characteristics accounted for are a state's unemployment rate, highway infrastructure, education, commercial bank assets, and importance of manufacturing goods sold to other states and countries. In addition, the relative ratios of doctors to population and lawyers to population are included.

After adjusting for all of these factors, the study found that legal changes that reduced potential liability resulted in productivity increases of 1 to 2 percent over the period 1972-1990. Note that this is much smaller than the 7.4 percent difference found by comparing states that

adopted only liability-decreasing reforms to all other states. Using 2004 prices, this amounts to about a \$900 increase in gross state product (GSP) per worker. Legal changes that increased potential liability did not seem to affect overall productivity.

The study also examined the effects of legal changes on productivity in more detailed sectors of a state's economy. Sectors most affected by liability claims are expected to be the insurance sector and the sectors affected most by the legal changes. According to this study "the most common sources of commercial liability insurance claims (other than medical malpractice) in 1987 were (in decreasing order of frequency) auto accidents, unsafe premises, defective products, and operations of contractors, construction, and design firms (p. 126)." Consequently, the study assumed that changes in liability for (a) auto accidents would likely have the greatest effect on firms in the transportation industry, (b) on-premise accidents on firms in retailing, hotel, and amusement sectors, (c) defective products on manufacturing and wholesaling, (d) contractors on the construction sector, and (e) the insurance sector. Most of these expectations were met. Legal changes that reduced liability had the biggest positive effect on productivity in manufacturing, wholesaling, and finance, insurance and real estate. Changes that increased liability had the biggest negative effect on the amusement and recreation sector, but the negative effects were also important for retailing, wholesaling, and transportation/communications/utilities.

Tort Reform: 1986-2003

The Campbell et al. study implies that states that enact changes that reduce liability probably will increase the profitability of firms in the state relative to states that do not enact changes. The types of firms affected and the size of the effect will depend upon the particular change that is made. Conversely, firms in a state that does not make a change probably will have reduced profitability relative to the states that do so. Although this study does not imply that firms in states closer

to the state making the change will be particularly adversely affected, it is reasonable to infer that in fact this will happen. To see how Oklahoma's competitiveness might have been affected by tort reform, we compare changes in Oklahoma's civil justice system with those in the surrounding states of Arkansas, Colorado, Kansas, Louisiana, Missouri, New Mexico and Texas.

Using information from the American Tort Reform Association's (ATRA) Tort Reform Record,²⁰ we examine six of the eight reforms considered in the Campbell et al. study. In the ATRA's study, tort reforms are defined as legal changes that reduce liability. The description of the reforms enacted by states over the period 1986-2003 are from the Tort Reform Record as are the quoted legal phrases.

Punitive Damages. Punitive damages are awarded as punishment for a defendant and to discourage the behavior that led to the tort. Many people support their award on this basis. Indeed, it is consistent with the functions of tort law. Critics, however, argue that the damages are not awarded in a predictable way and that government regulation is a preferred method of creating the appropriate incentives and punitive actions.

Oklahoma reformed its punitive damages law in 1986 and again in 1995. In 1986 it limited damages to compensatory damages unless "clear and convincing evidence" demonstrated the plaintiff's case. In 1995 caps were established of \$100,000 or actual damages in the presence of "clear and convincing evidence" of a "reckless disregard for the rights of others." Substantially larger punitive damages may be awarded if the defendant "acted intentionally and with malice." No limitation exists if the defendant acted "beyond a reasonable doubt" – "intentionally and with malice in conduct life-threatening to humans."

Since 1986, 33 states have reformed their punitive damage laws. In particular, in the late 1980s Colorado, Kansas, and Texas placed limitations on the size of punitive damage awards. Along with Oklahoma and Missouri, these states also raised the tests necessary for awarding punitive damages in the late 1980s, followed by Arkansas in 2003. Furthermore, in 2003 Colorado prohibited the filing of a punitive damage claim without "evidence of willful or wanton action that

would justify such a claim,” and Texas required a unanimous jury verdict. Most of the eight states in the region have reformed their punitive damage laws either by raising the standard of evidence or by limiting the damages. Oklahoma’s reforms have not been as substantial as in some surrounding states, but they exceed those in other such states.

Non-economic Damages. Compensatory damages are supposed to return the plaintiff to her or his economic situation before it was damaged by the defendant’s tort. Economic damages, which can include medical bills, loss of income because of injury, loss of property and its use, and so on, can be determined in a relatively straightforward way. Non-economic damages are different: “Damages for non-economic losses are damages for pain and suffering, emotional distress, loss of consortium or companionship, and other intangible injuries. “ The awarding of non-economic damages is controversial because they are real and at the same time extremely difficult to measure. Because the valuation of the loss caused by pain and suffering is inherently difficult, critics of these damages argue that their judicial determination is unpredictable and inconsistent.

Others argue that non-economic damages are real and should be determined in a judicial process. Numerous examples exist of medical malpractice or defective products that result in pain and suffering, emotional distress, or other intangible losses for the patient. This side argues that fundamental principles of fairness and justice require a judicial determination of the non-economic loss and appropriate compensation.

From the prospective of economic development, a state’s treatment of non-economic damages considers their cost-increasing effect on productivity and location of firms and people. To the extent that they value the insurance protection provided by non-economic damages, people will prefer to live in states which do not restrict them and presumably be willing to accept lower wages in these states. Alternatively, if they, for instance, raise the cost of medical insurance, people may prefer states that have a more restrictive treatment. Firms are likely to consider the liability from potential non-economic damages as burdensome

because of their unpredictability. Consequently, they may undertake actions that reduce their productivity in states with relatively lenient treatment of non-economic damages.

Eighteen states, including Oklahoma, have restricted non-economic damages. In 2003, Oklahoma limited non-economic damages to \$350,000 in cases involving pregnancy and emergency care. In the late 1980s, Colorado and Kansas limited non-economic damage awards to \$250,000, with Colorado raising the limit in 2003 to \$300,000 for medical liability. Finally, a constitutional amendment passed in 2003 allows the Texas legislature to limit these damages. Non-economic damages in medical liability were limited there to \$250,000 against doctors and health care workers and \$500,000 against hospitals for a total cap of \$750,000. The other states under consideration have not changed their non-economic damages law since 1986. Relative to Colorado, Kansas, and Texas, Oklahoma’s treatment of non-economic damages is likely to impair its competitiveness.

The Rule of Joint and Several Liability. In common law, if several defendants are liable for damages, each defendant is liable for all of the damages, if the other defendants cannot pay. For instance, if one defendant were deemed responsible for 25 percent of the damages and the other for 75 percent, the former (with 25 percent responsibility) would be required to pay 100 percent if the latter could not pay.

On the one hand, if an uninsured driver of a car is deemed 75 percent responsible for an accident and the car’s manufacturer 25 percent responsible, then the damaged plaintiff would be appropriately compensated. The presumption is that the damage would not have occurred if the manufacturer had not had some responsibility. The counter argument is that defendants should not be held responsible for more than their share of the damages.

Since 1986, for whatever reason, 38 states have limited the application of this rule. Missouri (1987), Louisiana (1996), Colorado (1987 - with limited exceptions), and New Mexico (1986 - with limited exceptions) overthrew the rule of joint and several liability. Texas in 1987 and in 1995

limited the application of the rule to defendants who are more than 50 percent responsible. Arkansas adjusted the rule in 2003 so that defendants with 10 percent or less responsibility would be subject to the rule, defendants 11 to 50 percent responsible could have the judgment against them raised by 10 percentage points, and those greater than 50 percent responsible could have it raised by 20 percentage points. Oklahoma has not modified the rule of joint and several liability. Accordingly, it would seem to be at competitive disadvantage both nationally and regionally, although the size of the disadvantage cannot be determined.

Collateral Source. Under common law, a plaintiff's compensation from sources other than the defendant, say health insurance, cannot be entered into evidence. The presumption is that if a defendant has committed a tort, the defendant is fully responsible for the damages. The ATRA points out that the doctrine allows a plaintiff to be compensated both by the defendant and by a health insurance policy. To the extent that tort law aims to restore the plaintiff to his or her original economic condition, the collateral source rule appears inconsistent. On the other hand, to the extent tort law aims to create appropriate incentives for the provision of safety by potential defendants, the rule appears consistent.

Although 23 states have reformed the collateral source rule, only three of the eight states under consideration have done so. Colorado and Kansas, again in the late 1980s, permitted the admissibility of collateral source payments and provided for circumstances that permitted damages to be at least partially offset by these payments. In 2003, Oklahoma permitted the introduction of evidence that the plaintiff received collateral payments in cases involving health care providers. Oklahoma would appear to have a competitive advantage with regard to this doctrine, but the size of the advantage in this case appears relatively small.

Prejudgment Interest Reform. The introduction of prejudgment interest is treated as a liability increaser in the Campbell et al. study. For most of the period 1972-1990, states changed the effective date of the judgment from the date of the decision to the (earlier) date of the injury and required the payment of interest from the injury date. Since

1986, 14 states have limited prejudgment interest by setting the rate at some appropriate treasury rate, or by prohibiting it for punitive damages, and or by legislative action. Colorado, Missouri, Louisiana, Oklahoma and Texas have made such modifications. Oklahoma appears to be in the vanguard with regard to this reform, although its reform is limited to medical malpractice.

Conclusion

The civil justice system is crucial for any society. A well-functioning system is necessary if we are to exercise our "unalienable Rights . . . (to) Life, Liberty, and the pursuit of Happiness." Although its importance for economic performance is sometimes unspoken, we are again reminded of it by the relationship between the formerly socialist economies' successes and failures and their commitment to the rule of law. The fact that tort costs, a part of the costs of the civil justice system, are large does not prove that they are larger than their benefits. The fact that they are larger in the United States than in other countries with similar economies does raise the question of whether they are excessive. The answer to that question, however, is unclear. The Council of Economic Advisers²¹ and many other observers believe that they can be reduced without reducing the benefits associated with the system. Silver²² and many other observers as well, argue that this cannot be done, or that the costs are not excessive.

Evidence is accumulating, however, that these costs vary across states. Some states have liability systems perceived by the business sector as more favorable to business.²³ Preliminary evidence suggests that such states experience more rapid economic growth.²⁴ A more detailed study of the effect of tort reforms on productivity in states found that the enactment of reforms that reduced liability costs is associated with greater productivity.²⁵

An examination of several types of tort reform, as catalogued by the American Tort Reform Association,²⁶ shows that since 1986 Oklahoma has not adopted liability-reducing reforms to the same extent as many other states.

In particular, within its region it has not kept up with Colorado, Kansas, and Texas. The Campbell et al study implies, as a result, that Oklahoma may have reduced its competitive productivity advantage or increased its productivity disadvantage relative to these states.

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