Working Paper Series

Can the Benefits Principle Be Applied to State-local Taxation of Business?

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Working Papers Series
Research Department
(WP-98-16)

Federal Reserve Bank of Chicago

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The benefits approach to taxation prescribes that taxes should fashioned so as to mimic market prices. That is, much like user charges or user fees, a business firm=s tax liability would accord with benefits received from the services provided by government--be they roads, refuse disposal, law enforcement services etc.[2] It has been argued by tax analysts that the benefits principle is a much superior basis on which to fashion business taxation, the competing principle being that tax liabilities should reflect individuals= Aability to pay,@ much like personal income taxes which are often structured so that tax payments are higher for those individuals with higher yearly income.[3] The reasons for preferring a benefits approach to taxing business are exactly because business firms are not individuals. As the adage goes, Abusinesses do not pay taxes, people do,@ and, in the case of taxing businesses on an ability to pay principle, we do not know which people are paying taxes, be they rich or poor. The final incidence, that is, the burden after taxes are Ashifted@ forward

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[1]The authors thank Cuong Huynh and David Oppedahl for assistance. The authors are Professor of Economics at Tulane University, and Economic Advisor and Vice President, Federal Reserve Bank of Chicago.

[2]A frequently asked question is, Awhy not directly apply user charges and fees?@ The answer is that direct fees are not always possible because the usage is not directly and strictly evident, or the administration of such payment may be too costly. For example, gasoline taxes may be thought of as a benefits principle tax that corresponds to road usage services rendered. Aside from controlled-access highways, however, it is not practical to collect direct user fees.

[3]For a recent treatment, and historical review of the literature, see William H. Oakland, AHow Should Business Be Taxes?@ in Thomas F. Pogue, ed. *State Taxation of Business*, Praeger, Westport, 1992.

or backward in the form of higher prices or lower input prices, has proven difficult if not impossible to discern. For this, and other good reasons, a benefits approach to taxing business is to be preferred.[4] Such a system of implicit user fees carries along all the advantages that we normally associate with private markets. Private market transactions with agreed-upon prices tend to allocate resources where they are most highly valued, and to maximize value creation more generally.

Despite the sound basis for fashioning business taxation on the basis of the benefits principle, this practice has not been widely incorporated into state and local tax structures. An oft-stated reason for its neglect is the criticism that it is unworkable because the service costs and received by business entities from the state-local government sector are impossible to measure.[5] In the discussion to follow, we do create estimates of both business taxes and of public service costs, which suggests that a benefits principle would be practical. We estimate both the business-related expenditures and taxes of state-local governments in U.S. states for the latest date for which comparable data are available, 1995. We believe that these measures are useful approximations, though greater accuracy could surely be achieved if state-specific state-unique data sources were to be used in constructing such estimates. However, our approach here has the advantage of a consistent methodology across states. This is useful in observing what hypothetical "single business taxes" in accordance with the benefits principle would look like in states of the U.S. We

[4]Why not finance government by taxing individuals only, not business? One reason is that businesses use government services generally, and many times it is out-of-state businesses that use local government services. And so, business taxation may be the only way for a state=s residents to be recompensed for services rendered.

[5]See Advisory Commission on Intergovernmental Relations, *The Michigan Single Business Tax*, Washington D.C., 1978.

further examine whether our measures are useful in explaining interstate economic growth differences from 1987 to 1996. In addition, we explore the extent to which states seem to keep their business taxes and business services in alignment with those of neighboring states. If neighboring states tend to match business taxes with expenditures to a similar degree, this may indicate the degree to which states are already competing for growth and development on a benefits principle basis of taxation.

The Context of the Debate: Why the Benefits Principle?

Discussion of the relation between regional growth and taxation has grown increasingly contentious over the past 30-40 years. The reasons for this are quite evident. First, the state-local government sector and business taxes have grown in importance.[6] More importantly, state-local tax policies and tax systems have come to be crafted with an eye toward regional growth and development. Specifically, states and localities have adopted and customized selective tax incentives as policy tools to attract the attention of would-be investors, even while states have increasingly sought to fine-tune their Atax climates@ so as to be conducive to growth and investment. Most notably, as high-paying manufacturing jobs have dispersed across regions, especially from the Northeast and

[6]State-local direct expenditures as a fraction of U.S. GDP have grown from 8.8 percent in 1952 to 16.7 percent in 1995. State-local taxes have also grown rapidly, although much of the state-local expansion has been financed by the growth of sales and personal income taxes rather than by business-related tax sources. Oakland and. Testa (1996) estimate that business taxes as a share of state-local tax collections have declined to 29 percent in 1992 from an estimate of 42 percent in 1957. See William H. Oakland and William A. Testa, AState-local Taxation and the Benefits Principle,@ *Economic Perspectives*, January/February 1996, pps. 2-19.

Midwest to the South and West, tax incentives and strategic structural changes to the tax system have accompanied the shifts in investment geography.

The practice of fashioning tax policy toward the goals of growth and development, especially the practice of selective tax incentives to individual firms, has been roundly criticized by social scientists on the grounds of being costly and inefficient. With regard to the location of industry itself, it is argued that tax-induced industrial location decisions tend to lower national welfare by moving business investments off of their otherwise-preferred locations. For example, such tax competition is said to distort business siting decisions, resulting in fish processing plants located far from waterways, and to aircraft maintenance facilities far from locations that are most suited by climate. In addition, tax competition itself is characterized as a negative sum game with respect to financing public goods. That is, local governments and firms themselves cannot refrain from tax competition, yet, in doing so, revenues become insufficient to support intermediate goods (such as public education) that are crucial to productivity, welfare, and growth. And so, corrective policies have been proposed. At the most applied level, Burstein and Rolnick have suggested that the federal government should circumscribe local tax policies or at least penalize those firms that receive selective tax and public service abatements.[7]

Yet, the arguments of policy analysts on this issue have been far from one-sided. Some analysts contend that sub-national tax policies may be quite helpful in Aclearing@

[7]For this view and for a range of views see AThe Economic War Among the States,@ *The Region*, Federal Reserve Bank of Minneapolis, June 1996.

stubbornly underemployed local labor markets.[8] And from a practical standpoint of legal administration, restrictions and penalties on state and local customization of tax liabilities have been dismissed as unworkable. That is because central government regulation of state-local tax practices for development may be very difficult to implement and enforce in our federal system. In particular, as a ready substitute for circumscribed tax incentives, more subtle expenditure subsidies and direct customized service provision could serve the same purpose. Another concern is that what are *de facto* selective abatements can be easily written directly into general tax codes. For example, this may include a general code provision exempting a firm of a minimum size or in a specific industry or in a specified location from tax liability, which is tantamount to a selective abatement. All of these regulatory impracticalities lead us to search for an organization of fiscal affairs in which economic development practitioners can follow their competitive instincts to more fruitful societal outcomes.

The benefits principle approach to general business taxation offers resolution of these contentious issues. Elsewhere, we have argued that the confusion and controversy surrounding the proper approach to state-local general business taxation arises from a failure to consider Afirst principles@ of how business should be taxed.[9] First, on the grounds of fairness to individuals with respect to their ability to pay, the current basis for business taxation as a way to Aget at the rich@ should be abandoned because the actual incidence of

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[8]For example, see Tim Bartik, *Who Benefits from State and Local Economic Development Policies?*, The Upjohn Institute for Employment Research, Kalamazoo, 1991; For a more general treatment on subnational policies, see Edward M. Gramlich, ASubnational Fiscal Policy,@ *Perspectives on Local Public Finance and Fiscal Policy*, Vol. 3, pps. 3-27.

[9]Ibid. Oakland/Testa, 1996, p. 6.

business taxes remains unknown, and is likely far less regressive than popularly imagined. Meanwhile, in considering neutrality and efficiency, a benefits principle approach to general business taxation is far superior. The benefits principle prescribes that services rendered by government to business entities should be financed by a proportionate tax system. This tax system mimics a Auser charge@ system of financing those services that the state-local sector provides to business. In doing so, business taxes becomes locationally neutral with respect to where businesses are most productive, rather than having location decisions whipsawed by capricious tax incentives. And with regard to business services provided by government under a benefits approach, decision making of the electorate will be improved. That is because households are likely to accede to government service provision to business insofar as business is recognized as paying its own way under such a system. This is no small matter insofar as public services to business are often found to significantly to growth and development.[10] Finally, if it is true that tax competition is ruinous or at least the folly of politically-motivated elected officials under the current set of tax arrangements, competition becomes value-creating under the benefits principle. Operating under a benefits principle, regions and their development practitioners can continue to be quite active in promotion, but they would now do so by providing the correct level and mix of public services to business at a fair and least-cost price. Indeed, recognition that the benefits principle is operable will encourage a better dialogue between the business community and its government over the level and mix of public services to be provided. Having an alternative

[10]The inclusion of services produced by state and local government for business is said to be crucial in fashioning statistical appraisals of the impacts of fiscal affairs on growth and development. For a comprehensive review and appraisal of the relevant empirical work, see Ronald C. Fisher, AThe Effects of State and Local Services on Economic Development,@ *New England Economic Review*, March/April 1997, pp. 53-66.

way to compete for investment, elected officials who pursue growth and development may choose to curtail their use of selective abatements which are so objectionable to policy analysts.

It should also be noted that improved public decision making is not confined to the services provided to the business sector. In making decisions about household public services, the voting population and their representatives are now less likely to mis-read the true costs of public services. Such is the case whereby voters mis-perceive that Abusiness@ is paying for household services such as parks, recreation, and to some degree, education, when, in fact, business taxation is a mere conduit for hidden tax shifting back onto households themselves. Owing to high mobility of business capital and the many markets to which sellers have access, the opportunities for tax exporting are generally much less than that which is touted by elected officials.

Can the Benefits Principle Be Applied?

Our approach to measuring business taxes paid and the costs of services provided to the business sector is to combine state with local government finances in each state. In order to make interstate comparisons, such a combining of state with local is the only valid approach because service delivery responsibilities between state and local government differ from state to state, and so do tax sources and intergovernmental grant flows. Combining state and local yields a combined system of accounts. This procedure is possible because definitions and categories of expenditures and tax revenues are consistently collected in available data by the Governments Division of the U.S. Census Bureau.

The methodology for estimating business taxes and business expenditures of state and local governments follows that of Oakland and Testa (1996), which produced estimates for the states of the Seventh Federal Reserve District for fiscal year 1992.[11] Although still problematic, it is somewhat more straightforward to categorize taxes as Abusiness@ versus Ahousehold@ than to categorize expenditures. We define business taxes as any general tax on business that, in the absence of tax shifting, would reduce the business=s bottom line. These include taxes on business inputs such as labor and capital usage, business profits and returns to capital, purchases of inputs that are presumably passed forward in the price of inputs, such as excise taxes on energy utility sales to the business sector, a business=s right to do business, and business=s property and assets. Individual sales and excise taxes on the business sector=s products are excluded as being passed forward to consumers, such as public utility excise taxes paid by on household electricity purchases. Narrow taxes such as hotel and severance taxes are excluded as not being general business taxes, but rather as targeted taxes on rents and on returns to special assets belonging to the state=s taxpayers (e.g. locational rents and mineral assets). Similarly, environmental taxes are excluded as

[11]Results for fiscal year 1992 are also reported in ADesigning State-Local Fiscal Policy for Growth and Development,@ Conference Proceedings No. 5, held on July 17, 1995, *Assessing the Midwest Economy*, Federal Reserve Bank of Chicago, 1996.

A few methodological differences are important to note from earlier reports which produced 1992 estimates. Property taxes levied on business property were collected directly from state and, in a few instances, county revenue authorities in each state for the 1995 estimates. In the previous (1992) estimates, Census Bureau data were used. General sales tax estimates on business taxable purchases were produced using results from Donald Ring Jr. for 1993 (no major base changes have occurred from 1993-1995 that would bias these estimates). Ring estimates the in-state expenditures of residents on taxable consumer purchases using the *Consumer Expenditure Survey* reports by income class for 1989. Sales taxes paid by consumers are then estimated by applying the state-specific tax code and tax rates to these expenditures for each state; the remainder of revenues are estimated sales taxes paid on business purchases. These estimates are found to be very consistent with those conducted in individual states, often using different methodologies.

special corrective taxes rather than as general business levies.

A tally of such taxes for the overall United States in 1995 suggests that general business taxes levied by the state and local government sector amounted to over $255 billion for fiscal year 1995, amounting to over 38 percent of state-local tax collections.[12] The property tax accounts for over 30 percent of such tax revenues. Most of such revenues are levied on real property rather than on personal property, and the tax is largely imposed and collected by local governments rather than by state governments. Surprisingly, sales taxes are the next largest category, at almost 26 percent. This is surprising for two reasons. First, many citizens tend to think of general sales taxes as final stage consumer taxes when, in fact, many business purchases of intermediate inputs, and in some cases, capital equipment, are included in the tax base.[13] Of overall general sales tax collections, we estimate that 41.2 percent is accounted for by business purchases. Together, property and sales taxes account for two-thirds of state-local general business taxes. The second surprise is that the tax that we normally associate with business taxation, the state corporate income tax, amounts to a lesser 14.3 percent share, which is about the same share as unemployment insurance tax collections.[14] Excise taxes on intermediate business purchases of gasoline, insurance, and utility services make up the rest, along with minor license and franchise fees.

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[12]See Appendix I for the taxes by category for U.S. and Midwest States.

[13]Sales tax bases differ markedly on both consumer and business sectors from state to state. For an overview on differences in administration and tax base, see John F. Due and John L. Mikesell, *Sales Taxation, State and Local Structure and Administration*, The Urban Institute Press, Washington D.C., 1995.

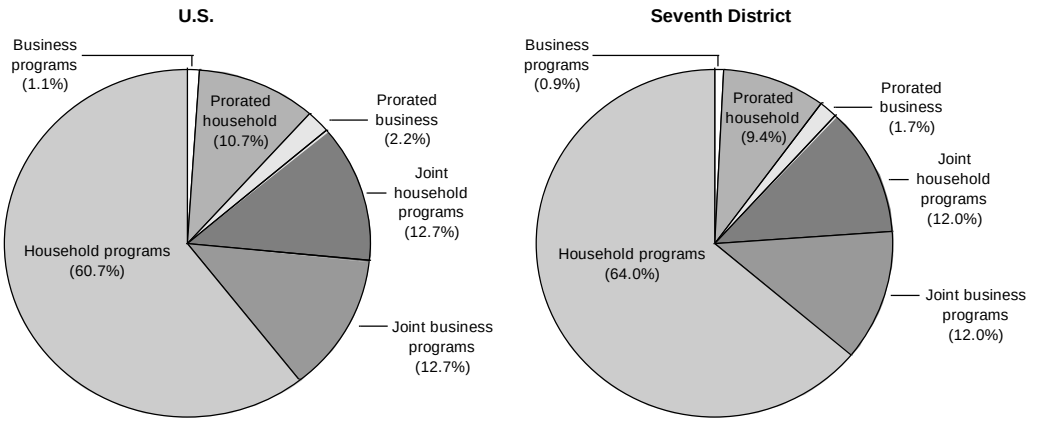
[14]Many will argue that unemployment insurance is not a tax, but rather a perquisite that may be capitalized into wages. We have decided to include it as a tax because, to varying degrees across states, tax liabilities are not well assigned to those firms whose employees reap the insurance payments.

With regard to expenditures for services benefitting business entities, the allocation is much more uncertain. Following our previous work, we allocate some expenditure categories wholly to the household sector--categories such as education, health and hospitals, and parks and recreation; and some wholly to the business sector. The wholly business sector categories are very few--water transport terminals, and agricultural assistance. No doubt, working with individual state budgets, a much finer allocation to business can be achieved. However, the Census expenditure categories are aggregated to a degree that preclude accounting of services that are wholly benefitting to business. (Appendix II displays the estimated results and assumptions behind Abusiness expenditure costs@ for the United States as an example.) Other expenditure categories must be parsed out to business and household sectors. For such categories as police, fire, judicial, and corrections, a Ashared@ category of 50/50 split is assumed between the household and business sectors. We believe that this errs on the side of parsing much benefit to the business sector. A third category, that of overhead functions such as public buildings, financial administration, and public debt, is allocated based on the business/household shares of two previous categories.

The total of each expenditure category is reduced by netting out federal grants-in-aid that are specific to that expenditure area, and also reduced by user fees that defray that same category of expenditures. We do this so as to produce measures of Atax financed expenditures,@ which can then be aggregated and compared to overall business taxes in each state.

A tally of fiscal 1995 expenditures into these expenditure categories yields a distribution wherein services to businesses account for only 16.0 percent of public sector tax costs, or $123.6 billion for the aggregate state-local sector in the U.S. (figure 1). This represents a tax-financed business expenditures that is slightly less than half of the business taxes paid in that year.

Figure 1
Distribution of state and local expenditures, 1995



Source: Staff calculations based on data provided by state fiscal agencies and U.S. Department of Commerce, Bureau of the Census, Government Division.

The finding that business taxes exceed tax-financed service costs is universal across states (Table 1). However, the variation is quite large, ranging from a over a 3:1 ratio to a ratio modestly above one. A frequent criticism of our approach is in our categorizing education as a public service within the household sector. We believe that this is very defensible. Firms pay their employees for their product; accordingly, subsidies to individuals for education will accrue to those individuals. Nonetheless, given the proliferation of educational services that are being used as incentives to business location, and which provide arguably firm-specific rather than general training, we run a sensitivity analysis of our assumption. The remaining columns of Table 1 show the results on the tax/expenditure ratio of assuming, respectively, that education service costs are allocated 10 percent to the business sector, and an unrealistic 25 percent to the business sector. Despite the prominence of education in the state-local budgets, business taxes tend to lie well above estimated service costs, with only minor changes in the rankings among states.

Existing studies of how closely governments approximate the benefits principle in practice are quite consistent in showing that business taxes exceed the costs of services rendered by significant proportions. At the local government level, H. Kitchen=s examination of municipalities in Ontario, Canada, shows that the nonresidential payments of taxes exceed the nonresidential share of expenditures by ratios of over two.[15] This result will not surprise those who are familiar with the literature concerning the fiscal impacts of business property on local communities in the U.S., where a general result is that property and other local taxes paid by businesses exceed business services rendered

[15]See Harry M. Kitchen and Enid Slack, "Business Property Taxation," *Discussion Paper Series 93-24*, Government and Competitiveness School of Public Policy, Queen's University, 1993.

Table 1
Business Tax/Business Expenditures, 1995

Assuming education as a business expenditure

0%		10%		25%	
Maryland	1.277	Maryland	1.007	Maryland	0.771
Oregon	1.494	Oregon	1.167	Oregon	0.880
New Mexico	1.546	New Mexico	1.273	New Mexico	1.006
Alaska	1.654	New York	1.355	Oklahoma	1.012
New York	1.692	Colorado	1.374	New York	1.044
Colorado	1.694	Alaska	1.377	North Carolina	1.048
Massachusetts	1.732	Massachusetts	1.413	Vermont	1.062
Florida	1.795	Vermont	1.423	Colorado	1.065
Vermont	1.846	North Carolina	1.430	Alaska	1.081
Alabama	1.878	Oklahoma	1.431	Wyoming	1.084
Nevada	1.889	Alabama	1.474	Massachusetts	1.103
North Carolina	1.893	Wyoming	1.483	Alabama	1.111
California	1.896	Florida	1.491	Utah	1.120
Virginia	1.903	Kansas	1.509	Kansas	1.133
Kansas	1.933	Virginia	1.511	Virginia	1.150
District of	1.945	Wisconsin	1.542	Wisconsin	1.174
Wisconsin	1.948	Idaho	1.549	Montana	1.179
Wyoming	1.969	Utah	1.562	Florida	1.190
Oklahoma	1.973	Missouri	1.573	Maine	1.199
Louisiana	1.999	California	1.584	New Hampshire	1.216
New Jersey	2.095	Nevada	1.593	New Jersey	1.225
Kentucky	2.104	Montana	1.629	Texas	1.245
Utah	2.114	New Jersey	1.632	Kentucky	1.263
Rhode Island	2.128	Maine	1.648	California	1.268
Texas	2.155	Louisiana	1.662	Georgia	1.275
South Dakota	2.177	Texas	1.666	Missouri	1.276
Montana	2.181	Kentucky	1.666	Mississippi	1.294
Maine	2.182	New Hampshire	1.675	Nevada	1.297
Idaho	2.235	Rhode Island	1.689	Rhode Island	1.299
New Hampshire	2.238	South Dakota	1.741	Idaho	1.304
Missouri	2.303	Georgia	1.744	Nebraska	1.326
Connecticut	2.313	Mississippi	1.774	Louisiana	1.327
Georgia	2.317	District of	1.777	South Dakota	1.333
North Dakota	2.325	Connecticut	1.801	Connecticut	1.352
Iowa	2.326	Minnesota	1.825	Minnesota	1.353
Mississippi	2.351	Nebraska	1.844	Pennsylvania	1.369
Minnesota	2.378	Iowa	1.851	West Virginia	1.400
Illinois	2.390	North Dakota	1.878	Ohio	1.409
Washington	2.418	Pennsylvania	1.880	Iowa	1.424
Arizona	2.424	Illinois	1.910	North Dakota	1.454
Nebraska	2.491	Ohio	1.912	Illinois	1.467
Ohio	2.495	Washington	1.946	Arkansas	1.469
Pennsylvania	2.501	Arizona	1.956	South Carolina	1.493
Arkansas	2.659	West Virginia	2.002	Washington	1.505
Tennessee	2.670	Arkansas	2.007	Arizona	1.510
Delaware	2.732	Tennessee	2.049	Tennessee	1.515
West Virginia	2.846	Delaware	2.101	Michigan	1.545
Michigan	2.847	Michigan	2.128	Delaware	1.576
Hawaii	2.891	South Carolina	2.139	District of	1.579
South Carolina	2.970	Hawaii	2.253	Indiana	1.628
Indiana	3.385	Indiana	2.367	Hawaii	1.693

by an average ratio of three.[16] Such findings are echoed at the state government level in the U.S.; William Oakland=s 1988 study of Louisiana state government general fund spending for fiscal year 1986 finds that business tax revenues exceeded the costs of services received by 29 percent.[17]

What Would a Single Business Tax Look?

What would a general business tax system look like in contrast to the array of individual business taxes that currently exists? Again, Abusiness activity@ generally defined is proposed as the tax base of choice for a general business tax; it is business activity that gives rise to government services. Among the alternative candidates for an indicator of business activity; value added and not gross receipts is more indicative of business activity as it avoids cascading or double counting of activity. More specifically, value added should be computed on an origin basis because, almost universally, it is business activity within a state rather than outside that consumes state and local government services.[18] To its further

[16]See Robert W. Burchell and David Listokin, *The Development Impact Assessment Handbook and Model*, Urban Land Institute, Cambridge Mass, 1993.

[17]See William H. Oakland, ABusiness Taxation in Louisiana: An Appraisal,@ in J. Richardson ed., *Louisiana=s Fiscal Alternatives*, Louisiana State University Press, New Orleans, 1988, pps. 159-187.

[18]Some analysts argue that by providing the foundations for a market, the government provides a valuable benefit to firms who choose to sell in their jurisdiction, including those firms who produce outside its boundaries but sell within them. While there is some validity to this argument, the costs of government services to business arise much more from production activities than from selling activities. Moreover, to the extent that selling activities give rise to value added within a state, foreign based firms will become subject to the origin based value added tax in appropriate measure.

Such value added can be measured as the difference between a firm's sales and its purchase of materials and capital inputs (*i.e.* the subtraction method), or it can be measured by adding payments to inputs--wages, profits, rents, and interest (*i.e.* adding up method). Because multi-state and multi-national firms could manipulate intra-firm sales prices to reduce tax liability

credit, this tax base is neutral with respect to a firm's choice of input proportions, that is, its use of capital versus labor or land in production. In contrast, most existing business taxes fall disproportionately on capital intensive firms, e.g. consider corporate net income taxes, sales taxes as applied to business machinery and equipment, and local property taxes.

In Table 2, column one, business tax collections in each state are expressed as a share of gross state product, the latter being closely akin if not identical to value added.[19] Here we see that, if we treat all business tax sources combined as a hypothetical single business tax, the rates of such taxes would range from 2.7 percent to almost 7 percent. These are the estimates at current levels of business taxation--that is, combining into one revenue source the numerous individual taxes levied against business property, purchases, assets, and right to do business, and assuming that the state-local government sector collects revenue from a single business tax equal to actual collections from all business taxes during fiscal year 1995.

In comparison to existing general business taxes, such a hypothetical single business tax on value added would be very broad based, much like Michigan=s ASingle Business Tax@

(transfer pricing), the "adding up" approach may be the more practical. To avoid the problems of transfer pricing, this means that capital earnings (interest and profits) of multi-jurisdictional firms will have to be apportioned just as it is under the present state corporate income taxes; however, the present practice of assigning disproportionate weight to the sales factor is inconsistent with the origin approach as discussed herein.

[19]The source of the value added data is the Bureau of Economic Analysis, U.S. Dept. of Commerce. Since fiscal data runs 1994-95, the average of GSP for 1994 and 1995 is taken as the tax base. Government sector GSP is netted out.

which is imposed by state government there.[20] The broad basis of such a tax would also have the salutary effect of extending to the growing service sector of the economy. In contrast, the basis of taxation for the most prominent state level business tax, the state corporate income tax, is narrow and it has been narrowing further. Business income taxes usually apply only to those firms organized under the corporate legal structure and, in addition, are often skewed in tax liability toward very large corporations.[21] Increasingly, the corporate income tax base coverage is being further confined toward those corporations that sell into the state from outside as states increasingly revise their apportionment formula of the taxable incomes of multi-state firms toward the so-called Asingle factor on sales.@ This formula defines the taxable base of any multi-state firm on the basis of the firm=s sales within the geographic boundaries of a state. It therefore tends to exempt firms that produce in the state yet sell outside its boundaries. In the Midwest, both Iowa and now Illinois have adopted the single factor apportionment; Michigan is moving closer to almost total weighting on sales, while the remainder of states weight sales more heavily than the other two apportionment factors, payroll and property.

[20]For a description and discussion, see Robin Barlow and Jack S. Connor Jr., AThe Single Business Tax,@ in Harvey E. Brazer, ed., *Michigan=s Fiscal and Economic Structure*, The University of Michigan Press, Ann Arbor, 1982, and Advisory Commission on Intergovernmental Relations, *The Michigan Single Business Tax*, Washington D.C., 1978.

[21]Stemming from legal proceedings, the narrow base of New Hampshire=s Business Profits Tax was an impetus behind that state=s adoption of a modest value added tax. See Daphne A. Kenyon, AA New State VAT? Lessons from New Hampshire,@ *National Tax Journal*, Vol XLIX, No. 3., pp. 381-399.

Table 2

Business Tax/Nongovernment Gross State Product Ratio, 1995

Business taxes/GSP		Business taxes minus business expenditures/non-government GSP (assuming education as a business expenditure)					
Ascend rank		Ascend rank	Ratios education 0%	Ascend rank	Ratios education 10%	Ascend rank	Ratios education 25%
North Carolina	0.0274	Maryland	0.0063	Maryland	0.0002	Maryland	-0.0086
Wyoming	0.0288	Oregon	0.0101	Oregon	0.0043	Oregon	-0.0042
Maryland	0.0290	North Carolina	0.0129	North Carolina	0.0082	New Mexico	0.0002
Oregon	0.0304	Massachusetts	0.0135	New Mexico	0.0089	Oklahoma	0.0004
New Hampshire	0.0305	Colorado	0.0136	Colorado	0.0090	North Carolina	0.0013
Alabama	0.0318	Wyoming	0.0142	Massachusetts	0.0093	New York	0.0019
Massachusetts	0.0319	New Mexico	0.0147	Wyoming	0.0094	Colorado	0.0020
Missouri	0.0323	Alabama	0.0149	Oklahoma	0.0099	Vermont	0.0021
Oklahoma	0.0328	Vermont	0.0161	Alabama	0.0102	Wyoming	0.0022
Colorado	0.0331	Oklahoma	0.0162	Vermont	0.0105	Massachusetts	0.0030
Vermont	0.0352	New Hampshire	0.0169	New York	0.0117	Alabama	0.0032
Texas	0.0356	Virginia	0.0171	Missouri	0.0118	Utah	0.0041
Georgia	0.0359	New York	0.0182	Virginia	0.0122	Virginia	0.0047
Virginia	0.0360	Missouri	0.0183	New Hampshire	0.0123	Kansas	0.0050
Kentucky	0.0366	California	0.0186	Utah	0.0138	Alaska	0.0052
Tennessee	0.0376	Nevada	0.0189	Texas	0.0142	New Hampshire	0.0054
Arkansas	0.0379	Texas	0.0191	Kansas	0.0143	Wisconsin	0.0065
Pennsylvania	0.0382	Kentucky	0.0192	California	0.0145	Maine	0.0069
Delaware	0.0383	District of	0.0200	Kentucky	0.0146	Montana	0.0070
Utah	0.0383	Utah	0.0202	Nevada	0.0149	Missouri	0.0070
California	0.0393	Louisiana	0.0204	Idaho	0.0153	Texas	0.0070
South Dakota	0.0395	Georgia	0.0204	Georgia	0.0153	Florida	0.0076
Connecticut	0.0400	Kansas	0.0204	Wisconsin	0.0155	Kentucky	0.0076
Nevada	0.0401	Florida	0.0211	Florida	0.0157	Georgia	0.0077
Ohio	0.0402	South Dakota	0.0214	Louisiana	0.0162	New Jersey	0.0081
Indiana	0.0403	Wisconsin	0.0214	Maine	0.0163	California	0.0083
South Carolina	0.0405	Maine	0.0224	South Dakota	0.0168	Nevada	0.0092
Louisiana	0.0407	Connecticut	0.0227	New Jersey	0.0170	Mississippi	0.0095
D.C.	0.0411	Pennsylvania	0.0229	Connecticut	0.0178	South Dakota	0.0099
Maine	0.0414	New Jersey	0.0230	Montana	0.0178	Louisiana	0.0100
New Mexico	0.0415	Tennessee	0.0235	Pennsylvania	0.0179	Idaho	0.0100
Illinois	0.0417	Arkansas	0.0236	District of	0.0180	Pennsylvania	0.0103
Mississippi	0.0420	Idaho	0.0238	Mississippi	0.0183	Connecticut	0.0104
Kansas	0.0423	Ohio	0.0241	Alaska	0.0189	Nebraska	0.0107
Idaho	0.0431	Mississippi	0.0241	Arkansas	0.0190	Rhode Island	0.0111
Nebraska	0.0435	Illinois	0.0242	Ohio	0.0192	Ohio	0.0117
New Jersey	0.0439	Delaware	0.0243	Tennessee	0.0192	Minnesota	0.0121
Wisconsin	0.0441	Montana	0.0250	Rhode Island	0.0196	Arkansas	0.0121
New York	0.0445	Rhode Island	0.0254	Illinois	0.0198	Tennessee	0.0128
West Virginia	0.0452	Nebraska	0.0261	Nebraska	0.0199	West Virginia	0.0129
Montana	0.0462	Minnesota	0.0268	Delaware	0.0201	Illinois	0.0133
Minnesota	0.0463	South Carolina	0.0269	Minnesota	0.0209	South Carolina	0.0134
Florida	0.0476	Iowa	0.0273	South Carolina	0.0216	Delaware	0.0140
Iowa	0.0479	Alaska	0.0273	Iowa	0.0220	Iowa	0.0143
Rhode Island	0.0480	North Dakota	0.0283	West Virginia	0.0226	District of	0.0151
Michigan	0.0494	Indiana	0.0284	North Dakota	0.0232	North Dakota	0.0155
North Dakota	0.0497	West Virginia	0.0293	Indiana	0.0233	Indiana	0.0155
Arizona	0.0534	Arizona	0.0314	Arizona	0.0261	Michigan	0.0175
Washington	0.0580	Michigan	0.0321	Michigan	0.0262	Arizona	0.0180
Hawaii	0.0650	Washington	0.0340	Washington	0.0282	Washington	0.0195
Alaska	0.0691	Hawaii	0.0425	Hawaii	0.0361	Hawaii	0.0266

While a hypothetical single business tax on value added by origin has the desirable characteristics of being broad based and at a low rate, the rates would be lower still if revenue collections were lowered to levels consistent with costs of business services currently received. As measured against a hypothetical nongovernmental GSP tax base, the rates of taxation under this scenario fall to a U.S. average of 2.1 percent for fiscal year 1995 (Table 3), ranging in Midwest from 1.3 percent in Indiana to 2.4 percent in Wisconsin.

Again, a perspective is needed to properly interpret these existing and hypothetical state by state differences in benefits to taxes. Varying rates are and should be chosen by states themselves so as to reflect differing preferences by their business community for public services, and therefore need not reflect any tax climate advantage or disadvantage. So too, over time, business service levels and tax rates would presumably change as a benefits-based scheme was enacted. As the relation between business tax levels and services was made more explicit, and it came to be articulated through a more formal discussion/negotiation mechanism, businesses would be expected to respond to a changing tax system by modifying its requests for public services.

Using Census Data to Evaluate Business Taxes and Benefits

In the previous section, we have used data from the Governments Division of the Census Bureau to illustrate the nature of current state-local practices with respect to overall business taxes in comparison to business service costs. Are these data and measures accurate enough to serve as the basis for actual dialogues between service providers (state and local governments) and the business sector in individual states?

Table 3
Hypothetical Tax Rates for a Single Business Tax Levied on the Basis of Value Added by Origin, Fiscal Year 1995

	Tax Rate Assuming Current Collections (percent)	Tax Rate Assuming Collections Equal to Current Service Costs (percent)	Difference
Illinois	4.4	1.9	2.5
Indiana	4.3	1.3	3.0
Iowa	4.9	2.2	2.8
Michigan	5.2	1.9	3.3
Minnesota	4.9	2.1	2.8
Ohio	4.1	1.8	2.4
Wisconsin	4.6	2.4	2.2
Midwest	4.5	1.9	2.7
United States	4.3	2.1	2.2

To explore this question, we experiment with benefit/tax estimates in two ways. First, the estimates of service costs versus taxes are used as independent variables in ordinary least squares regression equations of interstate manufacturing growth differences. Specifically, using our measure of benefits in relation to business taxes for individual states, does an imbalances of taxes over expenditures have the expected dampening effects on business investment and location? Second, we explore whether neighboring states act Aas if@ their business taxes and benefits provided matter to growth and development. Do neighboring states tend to adjust their business service costs and business taxes so as to avoid getting out of line with neighboring states with whom they (presumably) compete in attracting manufacturing investment?

Beginning with the interstate growth experiments, we estimate equations explaining variation in interstate manufacturing growth using the two most general frameworks. In both frameworks, business investment and location are assumed to follow regional variations in state=s underlying cost conditions, such as wages and taxes, and in its product demand, such as changes in federal spending for manufactured products used for national defense. The first framework is the so-called Aequilibrium@ framework wherein it is assumed that any point in time represents an equilibrium such that existing business activity has fully adjusted to current cost and on demand conditions. In particular, changes in manufacturing activity between two points in time is regressed on changes in cost and on demand parameters. This approach has the statistical advantage of avoiding coefficient bias that may arise from omitted (unknown and state-specific) influences on growth. The

second approach assumes that regions adjust to conditions with a long lag, so that we tend to observe a region=s change in activity as a partial adjustment to past conditions.[22]

If we examine the results of such growth equations (Table 4), it is apparent that the census-based benefit/tax measures reveal no apparent relation with state-by-state variation in the growth of manufacturing, as measured by either growth in gross state product in manufacturing or growth in manufacturing employment from 1989 to 1996.[23] The

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[22]Tim Bartik summarizes the commonly-used "disequilibrium" functional forms as follows:

Supposing that business activity in area *i* at time *t*, A_{it}, partially adjusted to its long run optimal level, A_{it}^*, from its previous level, $A_{i,t-1}$,

(1) $A_{it} = \lambda A_{it}^* + (1 - \lambda)A_{it-1} + \mu_{it}$

where μ is a random disturbance term. Further, suppose that A_{it}^* depends on the current period's level of observed variables, X_{it}, which usually reflect cost and demand conditions.

(2) $A_{it}^* = \beta' X_{it} + e_{it}$

where e_{it} is a random disturbance term. Substituting into (1),

(3) $A_{it} = \lambda B' X_{it} + (1 - \lambda)A_{i,t-1} + z_{it}$

where $z_{it} = le_{it} + m_{it}$, the disturbance term. Subtraction of $A_{i,t-1}$ from both sides yields the functional form:

(4) $A_{it} - A_{i,t-1} = \lambda\beta' X_{it} - \lambda A_{i,t-1} + z_{it}$

See Timothy J. Bartik, "The Effects of Property Taxes and Other Local Public Policies on the Intrametropolitan Pattern of Business Location," in *Industry Location and Public Policy*, Henry W. Herzog, Jr., and Alan M. Schlottmann, eds., The University of Tennessee Pres? , Knoxvi[le, ñ98? .

[23]T? e ceoice`to exam? ne growt• the ma? ufacturi g is ap? ropriate<for two? reasons.
The se? tor is l cationa ? ly footl:ose. S? condly, úuch of ? ach statu=s busi? ess tax >tructur? is skew0d towar? s capita -intens? ve indus.ries su? h as manufacturing. In particular, property taxes and state corporate income taxes can, if not shifted, fall on returns to capital.

Table 4
OLS Estimates of State Manufacturing Growth: 1989-1996

Dependent Variable	Percent Change in Mfg. Employment	Change Mfg. Employment	Percent Change in Mfg. GSP	Change Mfg. GSP
Intercept	.09 (.59)	-82.8 (1.02)	.62 (1.00)	-479.2 (.07)
Mfg. (1989)		.04 (.82)		.40 (5.83)
Hourly Earnings (1989)		7.56 (.99)		10.35 (.01)
Percent Change Hourly Earnings	-.60 (1.18)		.24 (.11)	
Avg. Low. Temp. (Jan.)	-.009 (4.38)	.67 (.89)	-.009 (1.14)	63.7 (1.03)
Direct Fed. Spending (1989)		-.003 (2.67)		-21 (-2.50)
Percent Change Fed. Spending	.38 (2.13)		.40 (.60)	
(Business Tax Less Bus. Benefits)/GSP	.033 (.009)	-78.2 (.06)	-13.8 (.98)	6,850.6 (.06)
Right to Work Law	.23 (5.51)	43.0 (2.35)	.23 (1.40)	1,896.3 (1.30)
n	48	48	48	48
$\bar{R}^2$	.45	.40	-.02	.67

Note: t-statistics in parentheses.

		Mean value n=48
MFGGSP89	Gross state product in manufacturing, 1989 ($ millions)	21,035.4
MFGEMP89	Total employment in manufacturing, 1989 (thousands)	395.7
HERN89	Avg. Hourly earnings of payroll workers in mfg., 1989 (nominal dollars)	10.30
TEMPJANLO	Average daily low temperature in January degrees centigrade	22.1
RTW	Existence of “right to work law” (zero or one)	
FEDTOT89	Direct federal spending, 1989 ($ millions)	18,364.7
BTEGSP0	Estimated state and local business taxes less costs of business-related government expenditures, fiscal year 1995, divided by nongovernment gross state product (1995)	.00577
PCMFGGSP		.4736
PCMFGEMP		.0517
PCWAGE		.2161
PCFED		.4983

(PC = % change in same DIVIDED BY 100)

independent variable is specified as the excess of business taxes over business service-related public expenditures in the base period. This excess of taxes over services is further scaled by the size of each state=s gross state product. Therefore, the explanatory variable is structured much like a *net* tax rate on productive activity. The resulting absence of partial correlation between net business tax and growth holds for both the empirical Aequilibrium@ specification as well as the Adisequilibrium@ specification.

It is of passing interest to note the statistical significance of two explanatory variables, direct federal spending and right-to-work laws. Federal spending on national defense fell 23 percent in real terms over the sample period, selectively impacting those states with high concentrations and cutbacks of defense-related manufacturing (Warf and Glasmeier, 1993). Right-to-work laws are also commonly implicated in the literature as significantly attracting manufacturing activity (Holmes 1995 and Moore and Newman 1985).

While we find little evidence that those states that have overtaxed their business communities in relation to services rendered have experienced slower manufacturing growth, one might further hypothesize that states act Aas if@ services matter, and that they act to keep their business tax/business services aligned with neighbor. However, if we regress a state=s net business tax on those of its neighbors, we again find no relationship (results not reported).[24] It may be that states do not act as if business taxes and business service levels matter to growth and development; or it may be that the measure itself is too aggregative to reveal such behavior.

[24]The border measure is a vector of identical weights between zero and one, with the weights being the inverse of a state=s number of neighboring states (having significant stretches of border).

The upshot of these empirical explorations is open to interpretation. It may be that business taxes in relation to services rendered are not important to regional growth and development. If so, this runs contrary to many studies which have explored such impacts of individual business services such as public infrastructure on regional growth. Alternatively, the census data may be too aggregated in constructing business tax and service costs to reveal the relationship. Further explorations of this nature may do well to focus on more refined interstate measures, perhaps using finer accountings of business-related services such as those that can be obtained from individual state and local financial and budgetary documents. The Census data appear useful only in illustrating the approximate dimensions of what an overall single business tax would look like if fashioned on the benefits principle.

Conclusions

All too often, tax structures emerge without much thoughtful planning and design. No doubt, this occurs over many decades under the pressures of the immediate needs of revenue urgency, administrative feasibility, and political expediency. In the case of state-local business taxation, such evolution has given rise to much confusion with regard to optimal tax policy. For example, current debates over the efficacy of selective tax abatements to lure new investment appear to be nowhere near consensus, and long-standing business taxes such as state corporate net income taxes continue to be revised and amended without a clear conceptual underpinning of how business entities ought to be taxed. In both these instances, the overarching goal as publicly stated appears to be the promotion of regional growth and development. Yet, in thinking over the strongest foundation on which to construct a system of business taxation, it is clear that the benefits principle would be a

substantial improvement over the current array of state-local business taxes. The benefits principle prescribes that general business taxes should be fashioned so as to align with the costs of services provided by the state-local government sector to business entities. This allows a healthy competition among regions so as to provide the correct level of services to business at maximum cost efficiency. It also allows state and local governments, with the blessing of the local electorate, to reach out of state businesses and to charge them for services rendered. At the same time, it does not distort the Aprices@ that the local household sector should view and use in evaluating and articulating their own preferences for services from state and local government. If followed, such as system of business taxation can only promote growth and welfare.

In practical application, insofar as the government sector provides services to a very wide array of business, business taxes themselves should be broad-based and closely correlated with the extent of each business= activity. We have suggested that the basis of such taxation should be something closely akin to the value added activity of each business within a state=s boundaries. Such a system implies that all general costs of services to business entities in Midwest states might be financed by a tax rate varying from 2-3 percent annually of business activity.

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Appendix I
Business Taxes: Fiscal Year 1995
($ millions)

	Total	Property	Sales	Corporate Income	Insurance	Utility & Business Licenses	Unemployment Insurance	Motor Fuel
Illinois	13,012.8	5,782.7	1,511.6	1,630.1	60.3	705.0	2,227.3	1,095.9
Indiana	5,257.5	2,331.7	1,083.9	918.9	54.3	2.6	485.0	381.1
Iowa	2,906.4	1,394.8	518.2	312.9	48.0	12.9	298.7	321.0
Michigan	10,696.7	3,540.1	1,994.4	2,265.9	76.9	48.9	2,047.4	723.1
Minnesota	5,211.1	2,042.0	1,047.7	827.1	61.3	26.0	701.9	505.1
Ohio	9,869.7	3,937.3	1,401.6	1,455.1	100.7	434.9	1,601.5	938.6
Wisconsin	5.041.5	1,902.0	868.6	807.6	50.8	162.8	801.2	448.5
Midwest	51,995.6	20,930.6	8,426.0	8,217.5	452.3	1,393.0	8,163.0	4,413.2
United States	255,504.9	78,196.5	65,998.3	36,423.4	3,304.4	13,933.0	37,224.7	20,424.7

Source: Staff calculations based on data from the U.S. Department of Commerce. Bureau of the Census, Governments Division, and from state revenue departments.

Appendix II
State-Local Tax Financed Expenditures on Households and Businesses
United States, FY 1995
(in millions of dollars)

Spending Category	Households	Prorated Households	Shares Households	Business	Prorated Business	Shared Business	Total
Higher Education	42,111						42,111
Elem./Sec. Education	240,555						240,555
Libraries	5,284.7						5,284.7
Welfare	77,310.4						77,310.4
Health & Hospital	47,864.2						47,864.2
Veteran Affairs	204.4						204.4
Fish & Forestry	2,696						2,696
Parks & Recreation	13,260.6						13,260.6
Hous./Comm. Devel.	2,734.2						2,734.2
Unemploy. Insurance	37,224.7						37,224.7
Water Transport/Terminals				386.1			386.1
Natural Resources—Agriculture				3,080.8			3,080.8
Natural Resources—N.E.C.				5,115.1			5,115.1
Air Transportation			-72.4			-72.4	-144.8
Transportation Subsidies			7,519.4			7,519.5	15,039.0
Highways			25,902.4			25,902.4	51,804.8
Parking			-146.3			-146.3	-292.7
Fire Protection			8,504.7			8,504.7	17,009.5
Police Protection			20,527.3			20,527.3	41,054.5
Corrections			17,928.4			17,928.4	35,856.9
Judicial			9,584.1			9,584.1	19,168.2
Protective Inspection & Regulation			3,618.2			3,618.2	7,236.3
Sewerage			1,581.4			1,581.4	3,162.7
Solid Waste			3,176.7			3,176.7	6,353.4
Legislative		1,465.6			300.2		1,765.7
Financial Administration		18,575.3			3,804.6		22,379.9
General Public Buildings		5,869.8			1,202.2		7,072.0
General Interest on Debt		47,285.2			9,684.9		56,970.1
All Other and Unallocable		9,510.8			1,948		11,458.8
Total	**469,245**	**82,706.7**	**98,123.9**	**8,582**	**16,939.9**	**98,123.9**	**773,722**

Source: U.S. Dept. of Commerce, Bureau of the Census, Governments Division.

Appendix III: Methodology for Business Taxes and Expenditures

Taxes:

1. Unemployment insurance tax—Taxes are imposed by both the federal and state governments on the basis of payroll of those workers covered by unemployment insurance. We report state collections only, as reported by the Governments Division, Bureau of the Census, U.S. Department of Commerce.

2. General sales taxes collected from businesses—The hybrid nature of the sales tax as consumer-business tax presents formidable obstacles in distinguishing the business sector's share of revenues from that of consumers. State revenue departments typically report data by type of store or vendor from which the sale take place, with no information about the buyer. The existence and variety of exemptions and partial exemptions for business purchases further complicates the matter, as does the varying exemption and coverage of certain consumer items, such as food, clothing, and prescription drugs. We apply sales tax rate to government-reported data of consumer expenditures; the residual represents an estimate of business and tourist payments of the sales tax (Ring, 1989; Blume, 1983). For example, Illinois consumers' share of sales tax is 71.6%. We subtract 71.6% from 100% to find the business's share of sales tax. The difference is 28.4%. We use the business percentage to multiply to the government-reported overall sales tax revenue data. Estimates of the business sector's share of state sales tax revenue collections are applied to the Census Bureau figures of general sales tax collections at the state-local level for fiscal year 1994-1995 to arrive at estimates of sales paid by businesses.

3. Corporate income tax—These collections figures are reported by the Census Bureau for fiscal year 1994-1995 and, within the Midwest states, all collections derive from state government taxes.

4. Property tax—Beginning with a 1963 study, the U.S. Advisory Commission on Intergovernmental Relations (ACIR) began estimating property taxes paid by commercial, industrial, and agricultural enterprises. These estimates are based on tables of assessment and collections valued reported at five-year intervals by the *Census of Governments*. We depart from that practice and instead use property tax collections as reported by individual state fiscal agencies for business classes of property.

5. Business licenses and fees—We follow the ACIR practice of including fees and taxes imposed on the right to do business, at the state or local level. These data are collected and grouped by the Governments Division of the Bureau of the Census.

6. Taxes on broad-based inputs to production—We exclude selective taxes such as those levied on tobacco, alcohol, and amusement. Presumably, these are intended to be shifted forward to consumers, or their taxation is intended to discourage the activity rather than to act as a broad-based payment for government services rendered. Likewise, taxes on specific industries, such as motel/hotel or severance taxes, are not broad-based business taxes but are intended to discourage or compensate for damages imposed on the state or local community. In contrast, we do include the following selective sales taxation of items which are broadly purchased as intermediate inputs by the business community:

   Insurance—Most states tax the premiums on insurance sold in the state. Since businesses broadly purchase insurance, we estimate the business sector's share of such purchases in allocating total insurance premium tax collections. The sector's share is calculated for reported premiums sold by in-state companies to other businesses in each of the respective states. Using *The Fact Book 1996 Property/Casualty Insurance* Facts (published by Insurance Information Institute), we sum all the categories that deal with businesses and divide by direct written premiums by state; thereby producing a ratio. We multiply that ratio to the government-reported data to estimate the insurance business taxes.

   Motor fuels tax—Following DeBoer (1992), we estimate motor fuel purchases by the business sector as opposed to households in allocating revenues collected. These data are collected and grouped by the Governments Division of the Bureau of the Census.

   Public utility gross receipts tax—The business portion of revenues is allocated using data on investor-owned public utilities. The *Statistical Yearbook of the Electric Utility Industry* reports gross receipts derived by sector, household vs. commercial and industrial sectors. These data are grouped and collected by the Governments Division of the Bureau of the Census.

Expenditures:

Expenditures by function are reported annually by the Governments Division of the Bureau of the Census, U.S. Department of Commerce. Total direct expenditures by function include all payments to employees, suppliers, contractors, beneficiaries, and all other final recipients of government payments. Intergovernmental expenditures—payments and grants to other governments between state and local—are excluded. Such expenditures become expenditures of those governments where the funds come to rest. Since we are interested only in those expenditures made by state-local government, federal grant monies by function are netted out of these same functional expenditures. Similarly, revenues derived from user charges and fees (such as college tuition and roadway tolls) are netted out of appropriate expenditures made by state-local government. The remainder represents those direct

expenditures by function that are funded by state-local own-source tax revenues. When a negative remainder of the direct expenditures exists, it means that federal intergovernmental grants and/or user charges are greater than the total direct expenditures.

Two categories of expenditures must be allocated. "Shared" expenditures are those for which little information on benefits to business vs. households are available, for example, police, fire, transit, sewerage, sanitation, and parking. For these, a liberal 50 percent is allocated to the business sector.

Those expenditures representing general government overhead, such as all financial administration services, all general public buildings, all other miscellaneous government, interest on general debt, all legislative, and other-unallocable, are assigned to the business sector on a prorated basis. The proration reflects the share of business expenditures, plus shared business expenditures to total direct expenditures (net of prorated expenditures).

Other categories of spending are allocated directly to business or to the household sector.