State-local business taxation and the benefits principle

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In recent years, interest in state and local taxation of business has been fueled by concerns over the possible deleterious effects such taxes may have on economic development and, in particular, on the ability of a jurisdiction to provide jobs for its residents. Much ink has been spilled over whether or not fiscal factors have a significant effect on firm location decisions. However, without analyzing why business taxes are on the books in the first place, it may be impossible to properly evaluate the impact of such taxes on business location. In this article, we advance the proposition that general business taxation should be structured so as to recover the costs of public services rendered to the business community.

Economic development may be but one objective of tax policy. Other objectives, such as fairness, economic efficiency, and sound expenditure policy, are also important. For example, a local community may want to structure its taxes to discourage business activities which produce noxious side effects; state government may wish to restrict business activity in such a way as to promote monopoly power of home enterprise(s) serving an out-of-state clientele. Even in the absence of such motives for growth controls, business taxation may be desirable to recover the cost of government services provided to businesses within a jurisdiction. Not only does this promote fairness, by recouping the costs of such services from those who ultimately benefit from them, it also enhances economic efficiency by causing the prices of goods and services to reflect their full costs of production. Such prices enable people to make appropriate choices among consumer goods. Business benefits taxes similarly promote appropriate choices between private and public goods. Without recovery of the costs of business services, voters may not support otherwise worthy public services provided to business. Alternatively, the voting public and their representatives may believe that business taxes can be ratcheted skyward as a way to subsidize those public services provided to households.

One objective of this article is to develop a comprehensive framework for evaluating the efficacy of state-local business tax structures. This framework will then be applied to existing practices within the U.S., with specific focus upon the Seventh Federal Reserve District, which encompasses Iowa and major portions of Illinois, Indiana, Michigan, and Wisconsin. We will argue that the primary basis for general business taxation is to recover the costs of government services rendered to the business community. It follows that if general business taxes exceed or fall short of the cost of

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providing government services to business, the business tax structure is not neutral with respect to the location of business activity in general. Furthermore, it will not be neutral with respect to consumption patterns for consumer goods and the composition of spending on private goods and public goods.

It should be emphasized that, even where there is correspondence between business taxation and business expenditures, there may remain non-neutral location incentives for specific firms. This will be the case if the business tax structure is not neutral across firm types or if there are wide disparities among firm types in terms of service benefits received from government. In effect, what is true on average may not be true for particular firms. These issues should be considered when designing the optimal business tax structure.

We begin by providing a framework under which businesses might be taxed to optimal effect. Following definition and measurement of current state-local business taxation, we discuss alternative business tax structures. Among these alternatives, the benefits principle is identified as the best by far. Turning to the specifics of how to implement the benefits principle, today's practices are held up against the theoretical standard that business tax revenues should roughly cover direct public service costs. In the final section, we suggest how state-local government might lower taxation of business by levying uniform tax rates on a broad-based measure of business activity—value added.

A framework for business taxation

Definitions

Business taxes are not easy to define. Many business taxes are shifted from the legal or statutory taxpayer to other entities. Tax-shifting mechanisms are frequently subtle and indirect; as a result, theories of tax incidence are sometimes controversial. Furthermore, because only individuals, in their capacities as consumers, workers, entrepreneurs, or suppliers of land and capital, can bear the burden of taxes, the incidence of particular taxes contributes little to a useful definition of business taxes.

Our approach is to define business taxes to include any levy upon a firm's purchase of inputs, its transfer or ownership of assets, its earnings, or its right to do business—in short, any levy which would, in the absence of price adjustments, reduce the firm's bottom line. Included in this definition are corporate profits taxes; real and personal property taxes on business assets; franchise taxes and business license fees; sales and use taxes and gross receipts taxes upon a firm's purchase of equipment, services, and materials; and those payroll taxes for which the firm is the statutory taxpayer.

By this definition, business taxes can be seen to produce a prodigious flow of revenue to state and local governments. Table 1 shows revenues for fiscal year 1992 by category of tax and in total for the U.S. Business taxes accounted for 28.9 percent of all state-local tax revenue, amounting to approximately $160 billion. Among the categories, property taxes were the most significant single item, accounting for 42.8 percent of business taxes. Corporate income taxes, general sales taxes, and payroll taxes (that is, unemployment insurance) each accounted for a sizable share.

TABLE 1

State & local business taxes in the United States, 1992

	Total	Percent of business	Percent of total state-local taxes
Property	$68,644	42.8	12.4
Sales	$23,151	14.4	4.2
Unemployment insurance	$15,489	9.6	2.8
Corporate income	$21,937	13.7	3.9
Insurance	$4,043	2.5	0.7
Utility	$7,397	4.6	1.3
Motor fuel	$9,165	5.7	1.6
Other[a]	$10,687	6.7	1.9
Total business taxes	**$160,514**	**100.0**	**28.9**
Total taxes	**$555,479**	--	--

[a]Other taxes include occupational and business license taxes and selective sales taxes.

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

Together, these four categories accounted for more than 79 percent of all business taxes.

Excluded from our definition, for the most part, are general and selective sales taxes on items purchased by consumers; it is expected that such taxes are shifted to the purchaser.[1] However, if the buyer is a business enterprise, the tax payment will have been captured by our definition above.

We also exclude personal income tax liabilities upon the profits of unincorporated enterprises. While one might expect that profits taxes would be treated independently of the legal form of organization, that is not the case. Corporate income tax is an added layer of business tax; dividends and capital gains of firms that pay corporate income tax are also subject to personal income tax. Personal income tax applies to the returns of all capital investments made by an individual, including those arising from business ownership. Thus, if the individual proprietor failed to engage in business within the state, the assets would have been invested in other pursuits and subject to personal income tax. The only persuasive case for including such taxes as business taxes relates to those proprietors with out-of-state residences. For such individuals, personal income taxes paid to the host state are costs of doing business, which must be compared with costs existing elsewhere. Fortunately, however, the vast majority of unincorporated enterprises are owned by residents.[2]

Rationale for general business taxes

The widespread use of business taxes today does not in itself imply that their level and structure are in accord with the principles of good taxation.[3] In this section, we discuss the rationale for business taxation. Our discussion will be confined to those taxes which are imposed upon business enterprises in general, or on a large subset of business firms, such as corporations. Taxes upon specific activities, such as mineral extraction or chemical production, are not considered. Presumably, the objective of such taxes is to correct for externalities, such as environmental damage, or to capture benefits of natural resources for the citizenry as a whole. The rationale for such taxes does not apply to the argument for general business taxation. There may be a good case for specific business taxes to control for environmental damage or to capture some of the rents associated with a state's unique resources, such as mineral wealth or favorable location. Such taxes should be considered as supplements to the general business taxes that we treat below.[4]

A number of possible motives for state-local taxation have been suggested or can be inferred from current practice. These include ability to pay, tax exporting, political expediency, and the benefits principle. Each was analyzed by Oakland (1992). Only the benefits principle was shown to survive scrutiny. Most other motives were seen to be unattainable or based upon flawed economic reasoning. Only the three most compelling types of rationale will be treated here. The first two may account for the widespread use of business taxation. The third is prescriptive—how business should be taxed.

Ease of raising revenue

Business taxation offers governments the opportunity to collect large sums of revenue from relatively few taxpayers. In addition, because the incidence of business taxes is often uncertain, it may encounter relatively little political opposition. Many taxpayers may perceive that such taxes are paid out of the "deep pockets" of rich corporations and/or absentee rich shareholders. Others may not hold that opinion, but would vigorously oppose attempts to raise their personal taxes; in effect, business taxation may appear to public officials to be the only course available.

While ease of collection is a valid criterion for tax policy, particularly in less-developed economies, advances in tax administration have enabled governments in advanced economies to collect personal taxes at acceptable compliance costs.[5] Hence, collection costs cannot serve as a principal criterion for the choice of tax structure. As far as reducing citizen opposition to higher personal taxes is concerned, this is more properly viewed as a serious disadvantage of business taxes. Good tax policy should confront citizen-taxpayers with the true costs of providing public services. If citizens consistently underestimate these costs, they will support too large a range and level of public services.[6] Viewed in this light, general business taxation has the potential to do serious economic damage and should, therefore, be discouraged.

To export the tax burden

A common rationale for business taxation is that it extends the reach of the taxing jurisdiction to residents of other jurisdictions. We offer as evidence the increasingly disproportionate weighting of sales in allocation formulas to determine the state share of the profits of multistate or multinational corporations when levying corporate income tax.[7] We find further evidence in the rapid spread of legalized gambling activity, apparently prompted by the desire to attract out-of-state gamblers.[8]

Whether it be through taxing the profits of out-of-state shareholders, taxing out-of-state consumers of goods produced locally, or taxing the income of out-of-state landholders, business taxation may be viewed as a means of transferring some of the costs of local government to residents of other jurisdictions. While this may be legitimate if the activity is limited to recovering costs of government services extended to such "foreigners," there is no reason to suppose that the practice would be so limited.[9] The prospect of a "free lunch" has irresistible political appeal.

However, like most free lunches, the benefit is more illusion than reality. The opportunities for successful tax exporting are quite limited, and those that exist can be more successfully exploited by finer instruments than general business taxes. For example, consider the disproportionate use of sales factor by consuming states. The resultant higher taxes increase the cost of selling in the taxing state; this prompts a price increase so that the firm can receive the same net revenue as from selling the item in some other market. In general, the ability to export taxes is restricted to situations where the state has some competitive advantage, owing to superior or unique natural resources. Here the state can successfully capture the "rent" of these resources through taxation. However, the appropriate tax is not one on all businesses but a selective tax on the resource itself (for example, a severance tax) or on a product that uses the resource (for example, a tax on hotels). Hence, the case for general business taxation cannot be based upon tax exportation.[10]

To recoup the costs of public services

Government provides the business community with a legal framework for conducting its affairs, through its civil court system. It also offers direct services to businesses and their employees, such as transportation and public safety. These services make it possible for the firm to produce more efficiently, allowing for lower prices and/or higher wages and profits. Business taxation allows those who benefit from these services, whether within or outside the jurisdiction, to contribute to their costs. It also has the salutary effect of lowering the taxes to citizen-taxpayers, enabling them to make a more accurate assessment of the true costs of public services rendered directly to them and to the business community.[11]

In such circumstances, business taxation promotes the benefits approach to taxation. Without business taxation, this approach would be difficult, if not impossible, to adopt. For example, if the beneficiaries of business services are out-of-state individuals or business entities, the home state simply has no means of taxing them directly. On the other hand, if the beneficiaries are home-state residents, the state would have to know how the services translated into lower goods prices or higher wages and profits—an insurmountable task. By taxing business directly for services received, such computations are unnecessary, and ultimate beneficiaries would be taxed in proportion to the costs incurred by the government sector.

The benefits principle has particular relevance for state and local tax structures. Its rival criterion, the ability-to-pay principle, is difficult to implement at these levels of government because of mobility limitations. For household service provision and taxation, the well-to-do tend to flee from jurisdictions with punitive tax burdens. Mobility becomes a more compelling issue for businesses and may play an important role in economic development. In contrast, business taxes which conform to the benefits principle will be neutral with respect to economic development. They place the jurisdiction at neither a competitive advantage nor disadvantage per se.[12]

Can the benefits principle be implemented?

The merits of the benefits approach to business taxation have been noted in the tax literature. However, many analysts have questioned whether it can be implemented (ACIR 1978). These analysts argue that because most government services are provided to businesses free of charge, there is no objective measure of use by different business entities; ergo, the benefits principle cannot be implemented.

The major premise that business utilization rates of government services cannot be finely measured must go unchallenged. However, it does not follow that relative business utilization rates cannot be approximated. It surely is the case that within a broad industry grouping, for example, the finance, insurance, and real estate industry or manufacturing, larger firms utilize more services than smaller firms. Even among disparate industry groups, it is also likely that government services arising from employment are more heavily used by large employers than small ones. So business size is a likely important correlate of business service costs.

Using size as the sole measure of relative service benefits would undoubtedly be subject to error. However, the degree of error in relative treatment would be far less than that of a policy which charged business nothing for government services. A tax based upon size would eliminate the relative subsidy to large firms. Moreover, the failure to charge business taxes would distort the price facing citizens for their public consumption goods. To get this price right, business taxes in the aggregate should equal the cost of providing business services. Therefore, we believe there is merit in business benefits taxation on the average. While there will remain errors and distortions in the resulting pattern of business taxation, these errors will be smaller than if no tax at all were imposed. In the absence of any other sound basis for business taxation, it follows that the imposition of size-related business taxes is the appropriate policy prescription.

The case for business taxation

On the plus side, business taxes can be used to promote the principle of benefits taxation, which places the burden of taxation on those who enjoy the ultimate benefits of certain public services, and at the same time neither penalizes nor subsidizes economic development. On the negative side, because it may not be perceived as a cost to the citizen-taxpayer, business taxation may be pushed to excessive levels, encouraging wasteful expansion of publicly provided consumption services and leading to a diminution of job opportunities within a jurisdiction. Given that political expediency may prevail over economic efficiency, one might expect general business taxation to be carried to levels beyond that suggested by the benefits approach. In the empirical work to follow, this hypothesis will be examined in the Seventh District and in other regions. In addition, we measure how state-local governments might maintain the current level of business tax collections by levying taxes as a uniform percentage of value added.

Business taxes and business expenditures

Taxes

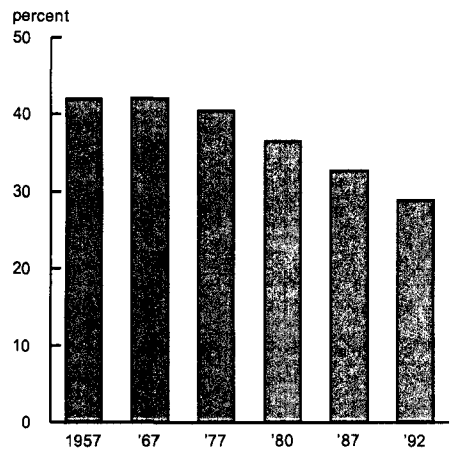
Businesses are taxed by both local and state governments. While authority for particular tax bases varies from state to state, generally speaking local governments rely primarily on the property tax for funding, while state governments generally collect sales taxes and corporate income taxes, as well as the bulk of tax revenues on insurance premiums, motor fuel sales, and the gross receipts of public utilities. In the Seventh District states, corporate income taxes, unemployment compensation, and insurance premiums are major business taxes which are exclusively collected for state government operations; taxes on general sales, public utility gross receipts, and motor fuel are levied at the state level and, to a lesser degree, at the local level. The property tax has been, in recent decades, almost exclusively a local tax source.

Drawing from data collected by the Bureau of the Census and from state fiscal authorities, business tax revenues at both the state and local levels can be distinguished from tax revenues from the household sector. Corporate income tax revenues and business license taxes can be wholly allocated to the business sector. In all other instances, the business and household sectors are taxed under the same statutes. For example, state sales taxes are imposed on the final retail purchases of households and on certain intermediate purchases made by businesses. Accordingly, revenues must be parceled between the household sector and the business sector for major revenue sources, which include the general sales tax, public utility gross receipts, insurance premiums, motor fuel, and property tax.

According to studies of business taxes for states and regions of the United States, business taxes declined from 42 percent of total state-local tax collection in 1957 to 29 percent in 1992 (ACIR 1967, 1981; Tannenwald 1993) (figure 1). The declining share of taxes attributed to business largely reflects the rising

FIGURE 1

Business' share of taxes in the U.S.



Source: ACIR (1981), appendix.

dominance of personal income taxation by states over the past 25 years, rather than any marked slowing in the pace of business tax collections. The rise in personal income taxation corresponds to the growing share of public services provided to households by state-local government—especially health and education.

Variation in the dependence on business taxes (as most commonly defined) in 1992 among regions, as defined by the U.S. Bureau of Economic Analysis, lies within a fairly narrow band. When we update this methodology, originally developed by the U.S. Advisory Commission on Intergovernmental Relations (ACIR), for the 1992 fiscal year, we find that in the Great Lakes region (that is, Illinois, Indiana, Michigan, Ohio, and Wisconsin), business taxes comprise 29.0 percent of state-local taxes, compared with 30.7 percent in the U.S. The Southwest leads with 41.3 percent, because of its heavy use of state severance taxes on energy minerals. All other regions lie within 3 percentage points of the national average (figure 2).[13]

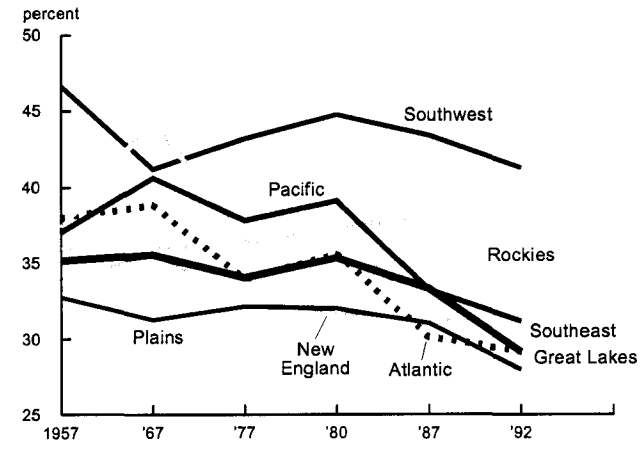
In measuring business taxes for the states of the Seventh District, we differ from much of the literature in both definition and methodology. We exclude from our business tax definition selective excise taxes, such as severance or lodging taxes, because they are often targeted to a specific industry, indicating to us that the intent of the tax is other than to cover the government expense of providing business services. Perhaps these selective taxes are intended to compensate for environmental damage or to expropriate the income on assets of out-of-state owners.

Some taxes that we do include may appear to be selective, such as insurance premiums, public utility gross receipts, and motor fuel tax. We include these because they are applied to a wide spectrum of each state's business sector and can, therefore, be considered a tax on intermediate inputs to business production. For these revenue sources, some care must be taken to apportion tax revenues accurately to the business sector rather than to the government and household sectors. So too, following DeBoer (1992) and Oakland (1992), data provided by state fiscal agencies can often be grouped more finely than nationally reported data for important hybrid taxes such as the property tax. Data collected nationally by federal agencies must understandably compromise some detail in exchange for a broad reporting of data.[14] (See appendix for methodology.)

In reviewing our business tax measurements, property tax collections dominate business tax collections in states of the District (figure 3).[15] An estimated 47 percent of 1992 business tax collections were derived from this revenue source. Corporate income (17.2 percent), unemployment compensation

FIGURE 2

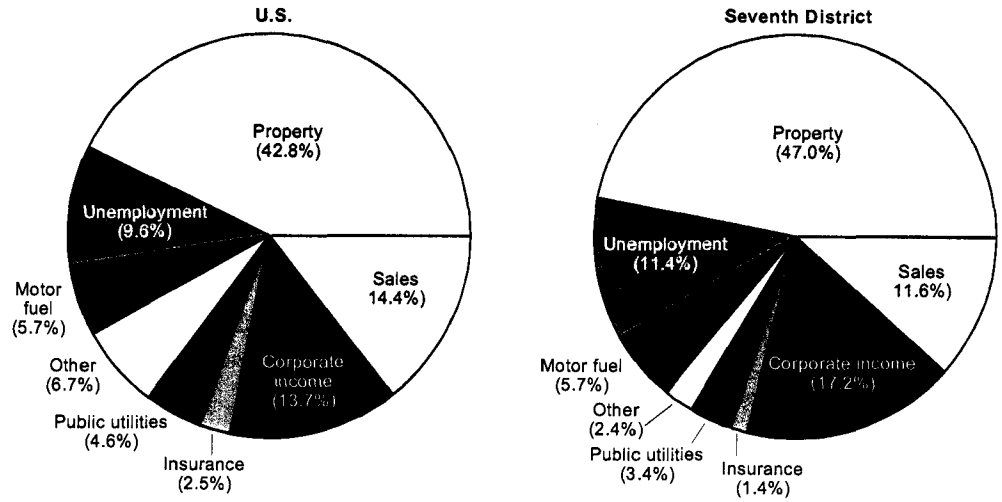
Business taxes paid, by BEA region



Source: ACIR (1981), appendix.

FIGURE 3

Distribution of business taxes, 1992



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

(11.4 percent), and the state sales tax portion collected on intermediate purchases by the business sector (11.6 percent) also represent major business taxes.

While we have chosen to define business taxes by their broad-based application to the business sector, there is at least one noteworthy imbalance in the business tax structure which suggests a lack of evenness and neutrality across types of businesses. Specifically, a heavy share of state-local business taxes in the Seventh District and in the nation is initially imposed on business capital by way of property tax and state corporate income tax. Such a system may skew any burden of taxation toward goods-producing industries and away from the service-producing industries which tend to employ more labor than capital. Heavy state taxation of public utility inputs and sales taxation of tangible inputs to production would only tend to aggravate such an imbalance.

We and others have long noted other imbalances in the structure of state-local business tax systems (ACIR 1978; Stocker 1972). The taxation of profits (within corporate net income tax) would seem to penalize exactly those (profitable) firms that may have desirable prospects for rapid growth and development.[16] Another imbalance may involve the unemployment insurance system, which frequently taxes new firms (having no employment history) at a very high rate. Many such firms tend to be labor intensive, small, and innovative.

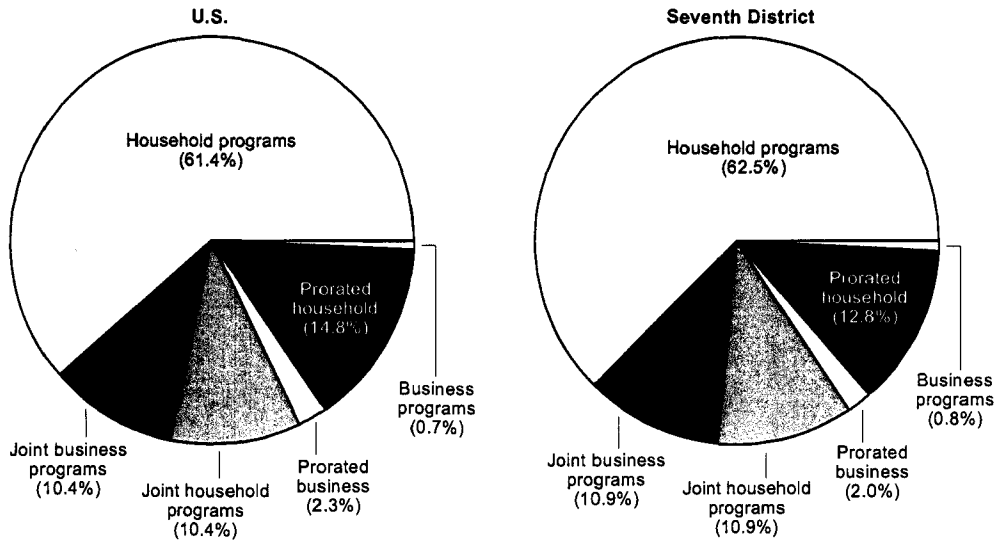
Expenditures

Expenditures by function for state-local governments 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 between state and local governments—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.

In allocating state-local spending to the Seventh District's business sector, we classify expenditure programs into business, household, prorated, and joint (shared). "Business" programs are identified as dedicated solely to

FIGURE 4

Distribution of state and local expenditures, 1992



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

business, for example, agricultural programs and water transportation terminals. These are estimated at less than 1 percent of total state-local direct expenditures in 1992 for the Seventh District states as a whole (see figure 4). In contrast, "household" expenditures comprise 62.5 percent overall, and are assumed to benefit households only, for example, education, welfare, health, parks and recreation, and housing.

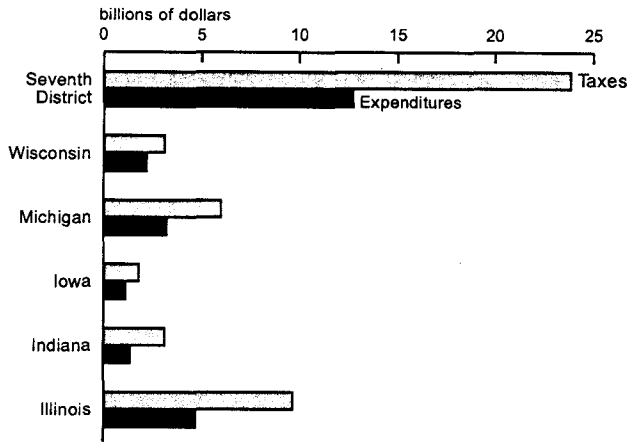
"Prorated" programs include "overhead" functions, such as general public buildings, legislative and financial administration. These expenditures are allocated to the business sector proportionately, based on the share of business expenditures to the total of business plus household expenditures. For the Seventh District, we find that prorated business expenditures account for 2.0 percent, in comparison to the 12.8 percent share commanded by the household sector.

Finally, "joint" or shared expenditures are perhaps the most difficult to allocate between the business and the household sectors, because of the broad categories into which state-local expenditure data are classified. We choose to liberally allocate shared expenditures to the business sector. Accordingly, these programs, which include police and fire, corrections, and transportation, are assumed to be shared equally between the business and household sectors, so that each sector commands 10.9 percent of state-local direct expenditure. All told, public spending that can be classified as an intermediate input to business production amounts to 13.8 percent of the total.

The large remaining share of state-local spending attributable to the household sector may seem disproportionate to some observers. While state-local government does provide essential business services, such as transportation infrastructure and protection of business property, its role has increasingly come to focus on welfare and education. From 1950 to 1992, the share of state-local government's direct general expenditure on education and social welfare (including health and hospitals) climbed from 44.4 percent to 58.9 percent. (Other services such as police, fire, transportation, and general administration are shared by the household sector.) While the business sector arguably benefits indirectly from such services, the direct benefits mainly accrue to households. To the extent that these services raise labor productivity, businesses will pay for higher productivity through wages paid to the household sector. More to the point, our intention here is to measure those expenditures and taxes directly accruing to business and directly paid by business. To the extent that general business expenditures are in alignment with

FIGURE 5

State and local business taxes versus public expenditures, Seventh District, 1992



Source: Staff calculations based on data previously cited (see appendix).

general taxes paid by business, it can be argued that the price signals between the voting public and its government sector are not distorted, so that the correct degree of both business services and household services will be chosen by public decisionmakers.

Even with somewhat generous assumptions about the direct benefits of shared expenditure programs, figure 5 suggests that in the Seventh District states overall and in each state individually business taxes exceed business expenditures by healthy proportions. In fiscal year 1992, business taxes in the District states overall exceeded expenditures almost twofold. This indicates that, taking the benefits principle approach, discussions of tax reform should be directed toward bringing business taxation and business expenditures into closer alignment.

Given the approximate nature of our calculations, especially in classifying expenditures on public services to businesses versus households, individual states have no reason to be alarmed about competitive harm vis à vis neighboring district states due to excess taxation. Expenditure classifications as reported by the Census Bureau are necessarily broad. Rather, the finding that general business tax collections tend to exceed expenditures suggests the need for further study, using individual state and local fiscal reporting systems that more finely distinguish business from household service expenditures.

Based on the 1992 data, states in every Census region appear to have taxed business in excess of direct business service expenditures (table 2). For fiscal 1992, state-local general business taxes in the U.S. exceeded expenditures by 70 percent, on average. Nonetheless, across the nine Census regions, the aggregate ratio of taxes to expenditures lies with a fairly tight band, ranging from 1.45 in the South Atlantic region to a high of 2.08 for the West South Central states. The Seventh District average of 1.87 is close to the national average.

Tax structure: Which business taxes to employ?

It is important to think about the combined effects of all general business taxes employed. It may well be that any particular tax is too narrow in application but that, in combination with some other tax, it provides a suitably

TABLE 2

State and local business taxes and expenditures, 1992

Region	Business expenditures	Taxes	Ratio of taxes to expenditures
	(---millions of dollars---)		
U.S.	$94,136	$160,514	1.71
New England	5,076	$9,022	1.78
Mid-Atlantic	16,762	29,899	1.78
East North Central	15,077	27,781	1.84
West North Central	6,228	$9,843	1.58
South Atlantic	15,735	22,837	1.45
East South Central	4,290	6,768	1.58
West South Central	8,589	17,909	2.08
Mountain	5,471	8,169	1.49
Pacific	16,906	28,285	1.67
Seventh District	12,760	23,816	1.87

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

broad basis of business taxation. It is also clear from the above discussion, that any acceptable system must meet the test of comprehensiveness. The business tax system should reach all segments of the business community. This would rule out taxes such as the state corporation income tax, because there is no countervailing tax that would apply exclusively or mainly to unincorporated private sector enterprises or to nonprofit business enterprises, which do not earn taxable income.

Given that business benefits taxes should be size-related, what measures of size can be used? Here are two possibilities: (1) amounts of specific inputs; (2) amounts of output. It is possible to assess tax liabilities in accordance with labor inputs, capital inputs, or material inputs. The latter is unacceptable, given the widespread use of materials produced outside the jurisdiction. While labor or capital taxes would apply to all business entities, to focus on one or the other would induce the firm to move away from the taxed input to the non-taxed. It also would tend to favor or punish firms with differing degrees of capital intensity. In general, there is no reason to believe that capital-intensive firms consume more public services than labor-intensive firms. For some services, say fire protection, capital may be a preferred indicator. While for others, such as police protection, employment measures may be preferable.

Since neither measure is a superior benefit indicator, avoidance of substitution distortions and inequities is enhanced by a system which utilizes both measures. This raises the question of weights. One attractive weighting scheme would utilize input earnings; this is tantamount to an origin-based value-added tax. The outcome could be approximated by a combination of property taxes and payroll taxes. The quality of the approximation would, of course, depend upon the relative use of the two taxes.

The use of outputs as measures of business services leads to similar conclusions. Basically, there are two possible measures: gross receipts and value added. Gross receipts are an unacceptable measure for the same reason that materials are an unacceptable indicator of input—they include a major component of materials produced outside the district. Gross receipts taxation would also tend to be pyramided to the extent that materials flow from one producer to another within a jurisdiction. Hence, we are left with value added as our output indicator of firm size. Since value added also serves as an adequate measure of input use, it would seem to be the best candidate for allocating the cost of business services.

The administrative costs of levying business taxes according to value added by origin are not formidable for most industries. Michigan has been imposing a form of value-added tax since 1975.[17] Value added can be derived for each firm by summing its payments for factors of production, including payroll, interest paid, capital consumption, rents, and profits. Alternatively, value added can be derived by subtracting firm purchases of intermediate components and services from gross receipts. Either way, the tax base would reflect the degree of productive activities within the state, it would be largely neutral with respect to capital/labor proportions, and it would be neutral with respect to industry and legal form of business organization.

The viability of subnational value-added taxation is best illustrated by the relative ease with which a rough approximation of the state tax rates needed to raise revenue can be presented.[18] The Bureau of Economic Analysis (BEA) publishes annual estimates (by industry) of value added.[19] Taking our estimates of FY1992 business tax collections as a numerator, and BEA value added for the nongovernment sector as a denominator, we produce the uniform *ad valorem* tax rates necessary to raise equivalent business tax revenues in District states (table 3). These figures show that a business tax rate running between 1.5 percent and 2.5 percent of value added would generate the revenue equivalent of all state-local business taxes, based on data for 1992.

These rates are low compared with the statutory rates now on the books for taxing corporate income, gross receipts, sales on intermediate inputs, and the like. These low rates reflect the much broader basis of taxation implied by using value added as a tax base. Using value added would go a long away toward avoiding the skewness of the present system of state-local business taxation which tends to assess many service firms lightly (even though the service sector has become a much larger share of nominal output).

We would expect these low rates to mitigate state-local concerns over competitive fiscal disadvantages arising for certain capital-intensive industrial sectors. Remaining rate

TABLE 3

Taxes as a percentage of nongovernment gross state product

Region	Current business taxes	Hypothetical business taxes
U.S.	**3.1%**	**1.8%**
New England	2.9	1.6
Mid-Atlantic	3.4	1.9
East North Central	3.2	1.7
West North Central	2.8	1.8
South Atlantic	2.7	1.9
East South Central	2.5	1.6
West South Central	3.3	1.6
Mountain	3.1	2.1
Pacific	3.1	1.9
Seventh District	**3.4**	**1.8**
Illinois	3.6	1.8
Indiana	2.9	1.3
Iowa	3.5	2.2
Michigan	3.3	1.8
Wisconsin	3.2	2.3

Note: Gross state product (GSP) is net of government GSP.
Source: Staff calculations based on data provided by the U.S. Department of Commerce, Bureau of the Census, Governments Division and state fiscal agencies.

differences would become smaller as the tax burden is spread over more industries. The tax rates would need to be cut in half if the state-local sector were to bring business expenditures into line with public expenditures directly benefiting the business sector. More importantly, remaining tax rate differences would come to reflect differing public service needs among states as reflected by industry mix. Remaining tax rate differences might also reflect different regional approaches to development policy as some states and local communities, perhaps acting in partnership with their business communities, choose to offer differing levels, mix, and delivery of public inputs to private production.

Conclusion

It should be acknowledged that our approach to business location neutrality departs sharply from the rate-of-return approach in recent studies of state business tax climates.[20] These studies examine how the financial returns on investment are influenced by state and local tax structures. As such, they inherently deny the value of government services that may accrue to businesses at different sites. Also, they focus almost exclusively on taxes on business capital and profits taxes, overlooking important differentials in taxes paid by business firms on their intermediate purchases and on their payroll.

By incorporating all taxes directly affecting business and taking into account the costs of government services offered to the business community, our approach offers a more comprehensive measure of the business tax climate. It also enables us to detect important disparities in the business tax base. While it is true that other properties of a state's fiscal system, such as personal taxes and expenditure on education, may influence business profitability, without a complex general equilibrium model, such effects are difficult to quantify. The absence of such a complete model also rules out the accurate assessment of the marginal fiscal climate. Given these limitations, the best we can do is compare the average fiscal climate of competing states.

Because of their relative simplicity and transparency, our measures offer a useful alternative to complex cost-of-capital models for tax analysts in state capitols, whose job it is to enlighten legislators on the possible consequences of alternative business tax policies. With regard to competitive tax climates in particular, firms may prefer regions that offer a level and mix of business services for which the business community pays a proportionate price and where household expenditures are not subsidized by general business taxes. Taxing business in line with business services can also help the voting public choose the best levels and mix of publicly provided goods and services. Voters and their elected representatives will be able to perceive the accurate price signals for these goods. A dynamic dialogue between the business community and government services providers can develop which can, in turn, stimulate income creation or quality of life improvements in those regions that choose to follow the benefits principle.

APPENDIX

Methodology for business taxes and expenditures

Taxes

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.

General sales tax collected from business—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 takes 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.[1]

One estimation method has been to survey vendors within a state as to their thoughts on who purchases their taxable sales (Fryman 1969; ACIR 1981). Another method applies sales tax rates 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). Other studies use interindustry relationships, perhaps as reported in input-output models, to estimate the volume of business purchases subject to states sales taxation (DeBoer 1992; KPMG Policy Economics Group 1993), while other estimates are derived from reported collections by type of vendor (DeBoer 1992; Oakland 1992).

Our estimates take a decidedly conservative approach, based on the Fryman and ACIR estimates. We adjust and update those earlier estimates by examining changes in tax-base coverage that have occurred over time. For these changes, the business share of the sales tax intake is adjusted by regression elasticities, which capture the sensitivity of sales tax revenues to specific tax exemptions, such as that on industrial machinery and equipment in Illinois during the 1980s.

Estimates of the business sector's share of state sales tax revenue collections are applied to Census Bureau figures of general sales tax collections at the state-local level for fiscal 1991–92 to arrive at estimates of sales tax paid by businesses. By our estimates, the sales tax comprised 14.4 percent of state-local business taxes in the U.S. in fiscal year 1992. The corresponding share in the Seventh District lies close to this estimate at 11.6 percent, with Indiana's 20.2 percent share being the highest among District states. Michigan's relatively low 7.8 percent share for 1992 has increased since that year; Michigan raised its state sales tax from 4 percent to 6 percent in 1994.

Corporate income tax—These collection figures are reported by the Census Bureau for fiscal 1991–92 and, within the Seventh District, all collections derive from state taxes. Michigan imposes its single business tax on the business activity or value added of businesses operating within the state, rather than on corporate net income. Indiana is one of only three states in the nation that taxes gross receipts of corporations rather than net income. The Indiana tax is levied on the greater of tax due from gross receipts or an alternative tax on corporate net income. In some 22 states, taxes are also levied on capital stock or net worth, and then sometimes under a corporate franchise tax. Illinois imposes corporate levies on capital stock or net worth, which may be termed corporate franchise taxes.

Property tax—Beginning with a 1963 study, the U.S. Advisory Commission on Intergovernmental Relations began estimating property taxes paid by commercial, industrial, and agricultural enterprises. These estimates are based on tables of assessment and collection values 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 in the Seventh District. For Michigan only, such collections by class must be estimated.

Taxation of real property is predominantly imposed by local governments rather than by state governments. Because tax rates are usually applied in an even fashion to classes of property, and because business property comprises a substantial portion of real estate, a sizable share of the local property tax falls on business property.[2] The gross assessed value of commercial, industrial, and acreage combine to account for one-third of all value (commercial and industrial combined account for one-fourth).[3]

The practice of taxing personal property (non-realty tangible property) of business firms can also be a great concern for those firms making heavy use of industrial machinery and equipment, and firms that own significant stocks of tangible inventory. Over time, most states have moved toward exempting tangible personal property of both firms and households, as Illinois did across the board in 1979.[4] Most district states liberally exempt business personal property or are moving in that direction.

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.

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. Such estimates are provided courtesy of the Regional Economics Applications Laboratory, which is a joint venture between the Federal Reserve Bank of Chicago and the University of Illinois at Urbana-Champaign. We average the latter estimates with groupings of insurance premiums sold by type for each state, making reasonable assumptions concerning likely types of insurance purchased by the business sector versus the household sector. In contrast, ACIR estimates typically include total insurance premiums, including those sold to households.

Motor fuels taxes—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 taxes—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 versus commercial and industrial sector. These data are collected and grouped 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.

Two categories of expenditures must be allocated. "Shared" expenditures are those for which little information on benefits to business versus 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 the business or to the household sector.

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[1]For state-by-state coverage of consumer items in the sales tax base, see ACIR (1994).

[2]The practices under which tax rates and/or property assessment ratios vary by type of property is called classification. Only a handful of states authorize classification. Among the five district states, classification is authorized only for Cook County, Illinois. There, commercial and industrial property is assessed at a rate more than double that for single-family residential properties.

Of course, there are many selective tax abatements that can be applied (usually on commercial properties) at the discretion of local governments (which may be acting on economic development concerns). So too, state property tax systems often contain "circuit breakers" and "exemptions," which exclude assessed value or offer tax reductions to classes of residential taxpayers, such as the elderly, the poor, or veterans. See ACIR, ibid.

[3]See table 4, U.S. Department of Commerce, Bureau of the Census (1987).

[4]U.S. Department of Commerce, Bureau of the Census (1988) reports in table 2 (p. 4) that personal property comprises 10.3 percent of locally assessed property (not all of which is business property). State-assessed property also includes personal property in some states, especially that belonging to public utilities. However, in total, state-assessed property (real and personal) comprised only 5 percent of overall state-local gross assessed value in 1987.

APPENDIX TABLE A

Seventh District share of state-local expenditures allocated to businesses and households, FY1992

(millions of dollars)

Spending category	Households	Prorated household	Shared household	Business	Prorated business	Shared business	Total
Education	$35,968						$35,968
Libraries	753						753
Welfare	8,706						8,706
Health	4,011						4,011
Hospital	803						803
Veteran services	17						17
Natural resources (fish + forestry)	155						155
Parks and recreation	1,729						1,729
Housing and community development	1,120						1,120
Unemployment insurance	4,467						4,467
Water transport				7			7
Natural resources - agriculture				341			341
Natural resources - n.e.c.				434			434
Financial administration		1,775			285		2,060
General public buildings		645			103		749
General interest on debt		4,988			799		5,787
Other government administration (L+CS)		1,313			210		1,523
All other and unallocable		3,072			492		3,564
Air transportation			26			26	52
Transportation subsidies			9			9	19
Highways			3,619			3,619	7,238
Parking			56			56	113
Fire protection			891			891	1,782
Police			2,185			2,185	4,370
Corrections			1,553			1,553	3,106
Judicial			859			859	1,717
Protective inspection and regulation			276			276	553
Sewage			626			626	1,252
Solid waste management			542			542	1,084
Miscellaneous federal grants			(555)			(555)	(1,111)
Total	**57,729**	**11,794**	**10,087**	**782**	**1,890**	**10,088**	**92,370**
Share of total	**62.5%**	**12.8%**	**10.9%**	**0.8%**	**2.0%**	**10.9%**	**100.0%**

Total household share 86.2% **Total business share 13.8%**

Note: Columns may not add up due to rounding.

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

APPENDIX TABLE B

Business taxes: A comparison of measurements, FY1992

ACIR method	Total	Property	Sales	Corporate income	Insurance	Utility	Unemployment	Motor fuel
	(millions of dollars)							
Illinois	7,945	3,285	1,135	970	198	1,171	922	0
Indiana	3,200	1,461	642	755	123	0	180	0
Iowa	1,382	6374	204	193	97	6	150	0
Michigan	6,934	3,111	550	1,730	178	44	1,113	0
Wisconsin	2,478	939	241	438	69	254	359	0
Seventh District	21,939	9,433	2,772	4,086	665	1,475	2,724	0

Oakland/ Testa	Total	Property	Sales	Corporate income	Insurance	Utility	Unemployment	Motor fuel
	(millions of dollars)							
Illinois	9,670	5,284	1,135	970	83	649	922	480
Indiana	3,191	1,305	642	755	64	0	180	217
Iowa	1,819	1,003	204	193	50	3	150	133
Michigan	5,994	2,063	550	1,730	92	23	1,113	298
Wisconsin	3,142	1,532	241	438	36	131	359	228
Seventh District	23,816	11,187	2,772	4,086	324	806	2,724	1,355

Note: Figures may not add up due to tax categories omitted from this table.
Source: Staff calculations based on data from U.S. Department of Commerce, Bureau of the Census, Governments Division.

NOTES

[1]If the tax cannot be shifted forward, then this procedure is flawed. For example, if a state levies a sales tax on petroleum products refined in a particular state, and the price of refined products are determined in world markets, the tax would have to be added to the firm's cost of doing business within that state. Fortunately, such situations are not commonly the case.

[2]For small states, however, this point is more telling. Business owners in the New York metropolitan statistical area may have the option of relocating their businesses in several states, making the issue of personal income taxes a relevant factor in the location decision. However, this is mitigated by the common practice of crediting taxes paid by host states.

[3]These issues are dealt with at greater length in Oakland (1992).

[4]Indeed, the motor vehicle fuels tax could be treated under either rubric. It could be viewed as a user charge for the wear and tear and highway congestion associated with business transportation. However, fuel consumed is not a good measure of general environmental costs, such as congestion and other nonpriced costs. Accordingly, we choose to treat motor fuels tax revenues as part of general business taxation.

[5]In many instances the administrative cost advantages are exaggerated because they include costs shifted from government to the taxpayer.

[6]A substantial body of empirical studies provide evidence that voters respond to the perceived cost (that is, "tax price") in making public expenditure decisions (see Rubinfeld 1985).

[7]Typically a three-factor formula is employed for such purposes: payroll, capital investment, and sales. States with few production facilities often put heavy, sometimes exclusive, weight on the sales factor to capture a larger share of the profits of multistate corporations. Multistate corporations in Iowa can use sales by destination as the sole factor in apportioning taxable income.

[8]Now, the main objective may be to stem the outflow of gambling money to other jurisdictions or, in effect, to reduce tax importing.

[9]One might think that if all states adopt the practice, there will be no such "other" market; hence the firm will have to absorb the tax. However, from the taxing state's vantage point, the policies of other states are irrelevant. In the case under discussion, local residents would enjoy lower prices than consumers elsewhere if the tax were not imposed.

[10]If the superior resource provided competitive advantages to all production activities within the jurisdiction, a general tax might be in order. This might be true for certain local governments—for example, cities with outstanding harbors. However, even here the ubiquitousness of the advantage is questionable.

[11]While the business community can exert political influence, only individuals can vote. Therefore, support for desirable business services requires that voters not perceive a fiscal loss.

[12]Of course, if other jurisdictions do not implement the benefit principle, this neutrality would be vitiated.

[13]For details see Greco, Oakland, and Testa (forthcoming).

[14]Our finer measurements are carried out, not for each region, but only for the states in the Seventh District.

[15]The state of Michigan has since reduced its reliance on property taxes and hiked its reliance on general sales taxes for funding elementary and secondary education in the state. However, we do not believe that overall reliance on taxes imposed on the business sector has changed; property tax reductions, if any, have probably been offset by increased business tax payments made under the state's now-higher sales tax rate. See Courant, Gramlich, and Loeb (1995). A reduction in property taxes in Wisconsin is also imminent, but the sources of revenue compensation have not yet been decided.

[16]States may be implicitly changing the nature of their corporate taxes away from "profits or capital" taxes and toward a type of sales or import tax. Specifically, states have been changing the formulas by which they allocate the tax base of multistate companies. By "double-weighting" the allocation factor which counts the proportion of the firm's sales that are in-state, the corporate income tax implicitly taxes the sales of out-of-state firms that are being sold in the home state. That is, the tax liability correlates, not with firm profits, but with sales of imports into the home state. To the extent that the firm sells to a national market, such a tax would tend to raise the price of the goods sold in the home state.

[17]The single business tax (SBT) is levied on a tax base of value added for firms in the state, calculated by adding factor payments including interest paid, business income, depreciation, and labor compensation. The tax base deviates from value added by origin in that multistate firms are allowed to apportion business activity according to a formula that gives 50 percent weight of the taxable base to the firm's Michigan share of sales to total sales nationwide, and 25 percent weight each to the Michigan location of firm property and payroll. Other reductions or credits involve small firms, low-profit small firms, and all firms characterized by labor compensation bills which exceed 63 percent of the tax base. See Citizen's Research Council of Michigan (1995). The state previously imposed another form of the tax, the business activities tax, from 1953 to 1967.

[18]Value-added taxes are used by many countries, and a lively debate is now under way in the U.S. over whether to impose the tax at the national level. Such a tax would likely differ in intent and structure from that envisioned herein for state governments. A national tax in the U.S. is often envisioned as a "consumption-type" value-added tax, a national sales tax which would be imposed on consumption and might be designed to replace some existing revenue sources to encourage national savings behavior. In contrast, the tax base for state value-added taxation could include capital consumption, thereby relating more closely to business benefits received as reflected in total business activity in a state.

In many other countries, value-added taxes were enacted to eliminate significant imbalances in "turnover" type taxes, which tended to tax the gross receipts of firms at each stage of production.

[19]These value-added data by industry sector are derived by both the addition method and the substraction method. See U.S. Department of Commerce, Bureau of Economic Analysis (1985). Gross state product is equivalent in concept to national gross domestic product (which included capital consumption and indirect taxes in its definition).

[20]Such studies often follow the "rate-of-return" approach developed by James Papke. For example, see Tannenwald (1993).

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