Michigan's Flirtation with the Single Business Tax

by

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ABSTRACT

This paper evaluates Michigan's experience with the Single Business Tax (SBT). Michigan adopted the SBT in 1975; the SBT currently accounts for 10 percent of state tax revenue, but is being phased out and is slated for elimination in 2010. The SBT differs from standard corporate income taxes in two ways: first, it applies to all business entities, not only corporations, and second, it is a tax on value-added rather than income. In the original design of the SBT, taxpayers could deduct capital expenditures from the SBT base, but complications stemming from the taxation of multi-state businesses ultimately dictated a regime in which expenditures on capital located in Michigan cannot be deducted but are instead eligible for investment credits. Numerous other credits and exemptions are available for taxpayers subject to the SBT. The SBT is nevertheless imposed at a very high average rate; business income is taxed more heavily by Michigan's SBT than it is by the corporate income taxes of other states. The evidence indicates that the SBT has proven to be a very stable source of tax revenue, one that is much less prone to fluctuate with the business cycle than are the corporate income taxes used by other states. Revenue stability, together with the efficiency of the incentives created by its value-added structure, makes the SBT an attractive tax for Michigan, particularly compared to the leading alternatives.

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1. Introduction.

The State of Michigan requires significant tax revenue in order to finance government expenditures, but is reluctant to impose taxes at high rates on economic activity that might thereby be reduced or encouraged to relocate. In this, Michigan encounters the same dilemma that all taxing jurisdictions face. The problem is most severe with business taxes, since business enterprises are notoriously mobile between states and countries, frequently very sensitive to their tax situations, and always crucial to the economic performance of a state. Michigan rose to this challenge in 1975 by adopting the Single Business Tax (hereinafter abbreviated SBT), an innovative form of business taxation that resembles a value-added tax and thereby differs from the corporate income taxes used by other states. The SBT is a major source of Michigan tax revenue, raising $2.2 billion, or approximately ten percent of state tax revenues, in fiscal year 2001. This is not, however, likely to persist, since under current law the SBT is being gradually reduced, and will be eliminated altogether by 2010. What, if any, business taxes will replace the SBT in 2010 is not yet clear.

The purpose of this paper is to analyze Michigan's 35-year flirtation with the Single Business Tax, its motives in first embracing and later moving toward abandoning the tax, and the implications of Michigan's SBT experience for the future of business taxation in Michigan and other states. The original concept behind the SBT was to impose a form of value-added taxation that would permit firms to deduct 100 percent of investment expenditures from taxable income, thereby encouraging business investment. It was also hoped that the SBT would offer a more stable source of revenue than did its corporate income tax predecessor in Michigan, that the SBT would simplify and broaden business taxation in Michigan, and provide a revenue windfall to address Michigan's short-term fiscal needs. While the evidence suggests that the SBT has

generated a more stable revenue stream than that produced by the corporate income taxes of other states, investment incentives under the SBT differ significantly from those produced by textbook value-added taxes. The SBT also has the vexing property of imposing significant taxes on firms that lose money. In the wake of multiple tax reforms, the SBT became sufficiently unattractive to enough of the state that legislation (passed in the summer of 2002) mandated its removal by 2010.

Problems with the Single Business Tax emerged in the 1990s due to the multi-state nature of many of Michigan's businesses. Michigan legislators were understandably concerned that investment incentives under Michigan's Single Business Tax might reward Michigan firms for investing outside of Michigan. The SBT was designed to minimize the extent to which firms could obtain Michigan tax deductions for out-of-state investment expenditures, but this design feature came under increasing fire from those who maintained that such provisions violate the interstate commerce clause of the U.S. Constitution. The Single Business Tax was amended in 1995 (effective starting in 1997) to permit favorable treatment only for assets put in place in Michigan, but legal challenges to this provision prompted the elimination of capital acquisition deductions in 1999 (effective starting in 2000), and their replacement with a new system of investment tax credits. Among the costs of these frequent changes, however, were political compromises that ultimately led to phased elimination of the Single Business Tax by 2010.

Section two of the paper reviews state practices in taxing business income, and the estimated effects of such taxation. Section three offers a history of business taxation in Michigan, culminating with recent reforms to the Single Business Tax. Section four analyzes the incentives created by SBT provisions. Section five compares the stability of revenue collections under the SBT to those of the corporate income taxes used by other states, finding that

Michigan's SBT revenue source is considerably less sensitive to cyclical fluctuations. Section six draws implications for the future of business taxation in Michigan, and section seven is the conclusion.

2.   Business taxation in American states.

The modern U.S. corporate income tax was introduced following passage of the 16th Amendment to the U.S. Constitution in 1913, but business taxation by American states (who faced no federal constitutional prohibition) has a much longer history. In the early years states struggled with the appropriate design of business taxes, though state governments were small enough, and revenue needs sufficiently modest, that low rates of taxation meant that poor tax design did little to impede economic activity.[1] The modern era in state business taxation followed the introduction of the federal corporate tax in 1913.

2.1   State business taxation in modern times.

The corporate income tax is the primary business tax in all U.S. states other than Michigan that tax business income.[2] State corporate income taxes generally follow the classic pattern established by the federal corporate income tax. A classic corporate income tax is a tax only on incorporated businesses. The base of the tax is corporate income, defined as the difference between revenues and deductible expenses. Deductible expenses include labor expenses, materials and services purchased from other firms (other than investment in plant and equipment), interest expenses, depreciation of capital, and other costs. The effect of the

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[1] Ely (1888) and Seligman (1914), among others, describe early state efforts at business taxation. Hines (2001) reviews the history of federal efforts to tax corporations prior to passage of the 16th Amendment.

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corporate income tax is to extract revenue from corporations at the cost of discouraging

investment in plant and equipment, unless such investment is financed entirely with debt (for

which interest payments are tax-deductible).[3] The corporate income tax does not directly

discourage the use of labor or material inputs, since the cost of such inputs is deductible from

taxable income. The importance of deductibility is illustrated by the fact that a rational firm

considering the purchase of $220 worth of labor and materials, and anticipating that the use of

these inputs would generate more than $220 worth of final sales, will make the purchase in spite

of corporate profit taxation. A corporate profit tax reduces the profitability of labor and

materials expenditures that the firm will undertake in any case, but does not change the actions

of a profit-maximizing enterprise. The situation is rather different in the case of plant and

equipment investment, since firms are not entitled to deduct their capital investment outlays,

instead depreciating such expenditures over typically long horizons. As a result, higher rates of

corporate taxation can be expected to reduce investment spending by corporations.

In the modern era all but six U.S. states tax corporate income, the exceptions being

Nevada, South Dakota, Texas, Washington, and Wyoming, which have no corporate income tax,

and, importantly, Michigan, which imposes the Single Business Tax in lieu of a corporate tax.

Corporate tax rates change over time; Table 1 presents tax rates for 2002, along with some

description of the rate structure. Individual income tax rates are typically progressive, meaning

that tax rates rise with income, while progressivity is less commonly a feature of business taxes.

In 31 of 44 states corporate income is subject to tax at a constant rate, while in 13 states tax rates

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[2] Even New Hampshire, whose Business Enterprise Tax has some features in common with a value-added tax of the income type (see Kenyon, 1996), relies much more heavily on its Business Profits Tax (which is effectively a corporate profits tax) than its Business Enterprise Tax.
[3] Auerbach (2002) reviews evidence of the effect of taxation on corporate financial policies, and Hassett and Hubbard (2002) review evidence of the effect of corporate taxation on patterns of investment in plant and equipment.

increase as taxable corporate income rises. The first column of Table 1 reports the highest and

lowest tax rates at which each state taxes corporate income; the second column of Table 2

indicates the number of tax brackets a state uses, and the third column indicates the income level

at which the lowest tax rate bracket ends, and that at which the highest tax rate bracket begins.

The highest corporate tax rate is 12 percent (Iowa), while the lowest top-bracket corporate tax

rate is 4 percent (Kansas).

One of the important design features of a corporate tax is its treatment of business

enterprises located in more than one jurisdiction. A New Jersey company that also operates in

California earns income that is potentially subject to taxation by both states, so it is necessary to

determine what part of the firm's income and expenses is properly attributable to New Jersey,

and what part is attributable to California. When firms have entirely separate operations that

simply happen to be owned by the same entity (for example, a New Jersey electronics plant and a

California restaurant chain), they calculate profits separately for each business component and

pay appropriate taxes to the state in which it is located.

Matters become considerably more complicated when firms have what is known as

"unitary" businesses, meaning that there are close connections between activities located in

different states. For example, a publishing firm might have editorial offices in New York, a

printing facility in Wisconsin, and a distribution arm in Ohio. In principle, one could determine

the profitability of operations in each state by requiring the use of separate accounting, with

exchanges between related parties conducted under the terms of contracts using arm's length

(market) prices. Such arm's length pricing is routinely used to determine the location of taxable

incomes of multinational firms with operations in multiple countries. Since separate accounting

for the operations of American companies located in different states would require considerable

compliance and enforcement effort in return for modest amounts of tax revenue, American states instead use simple formulas to determine what fraction of a company's total U.S. income they will tax.[4] A common formula is one in which a state requires taxpayers to apportion half of their U.S. income on the basis of sales location, one-quarter on the basis of business property, and one-quarter on the basis of payroll. A taxpayer with U.S. income of $10 million, and 20 percent of its sales, 10 percent of its property, and 40 percent of its payroll in a state using such a formula would then owe taxes on apportioned income of $2.25 million. Since apportionment formulas differ, it is possible for taxpayers to owe state taxes on more or less than their total U.S. income. The use of formulary apportionment to allocate taxable income between states distorts investment and employment decisions by encouraging particularly profitable firms to establish new activities in low-tax states and avoid high-tax states,[5] but persists due mostly to its simplicity.

There are states in which business entities other than C corporations are subject to corporate income taxes, oppressive though that may seem. The left panel of Table 2 offers a quick summary of such expansive taxation. Checkmarks in Table 2 indicate the presence of taxation, so a check in the "C-corp" column indicates that a state taxes the incomes of subchapter C corporations (the same type of corporation that is subject to the U.S. federal corporate income tax). A check in the second column of the left panel of Table 2 indicates that a state also taxes the income of subchapter S corporations, which are small corporations subject to a number of ownership restrictions and whose income is untaxed by the federal government. A check in the

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[4] Separate accounting with arm's length pricing generally produces more efficient incentives than do formula apportionment methods, but can entail additional compliance and incentive costs. For analysis and estimates of the difficulties of enforcing the arm's length standard internationally, see Berry, Bradford and Hines (1992) and Hines and Rice (1994). Hines (1999) reviews empirical estimates of behavioral responses to arm's length pricing rules in the presence of international tax rate differences.

[5] See, for example, the analysis in Gordon and Wilson (1986).

third column indicates that a state taxes the income of local business partnerships, while a check in the fourth column indicates that a state taxes the income of Limited Liability Companies (LLCs). Neither partnerships nor LLCs are subject to federal taxes, their income instead being attributed to their owners and then taxed under the federal individual income tax (if owned by taxable individuals). States likewise tax individual residents on their income derived from S corporations, partnerships, and LLCs, but some states also subject S corporations, partnerships and LLCs to separate taxation at the entity level.

The right panel of Table 2 presents information on state business taxes other than corporate income taxes. Fourteen states impose special taxes on financial institutions, eighteen collect corporate franchise fees,[6] five collect savings and loan association fees, two have special insurance company fees, fifteen states have local government property taxes on business inventories, and two impose taxes on intangible business assets. The most sizable revenue raiser among these supplemental taxes is believed to be the local government property tax on business inventories, though the available evidence suggests that its revenue impact is modest.[7] Consequently, the primary source of state tax revenue from business income is the corporate tax.

Michigan imposes neither a corporate income tax nor the dizzying array of supplemental taxes displayed in Table 2.[8] Instead, the SBT is levied at a (current) rate of 1.9 percent on

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[6] Corporate franchise fees are taxes imposed on rights to establish corporations. Franchise fees commonly include small fixed payments plus a very small fraction of a corporation's capital stock.

[7] Property taxes on business inventories are declining sources of government revenue. In 1966, 44 states taxed business inventories, whereas by 1999 only 15 states did so. Furthermore, of the 15 states with inventory taxes as of 1999, four have enacted legislation phasing them out over time. Appendix Table 1 describes state property taxes on business inventories, including revenue collections for the four states for which it is possible to obtain data. Of these states, only Ohio collects significant revenue from property taxes on business inventories.

[8] There is one additional tax omitted from this table. Since 1987, Michigan has imposed a "retaliatory tax" on insurance companies from outside of Michigan. Most states require insurance companies to pay taxes based on premiums received, while Michigan simply subjects insurance companies to the SBT. Insurers whose home states impose more burdensome taxes on Michigan insurance companies than does Michigan with the SBT are subject to "retaliatory taxes" equal to the difference, so those insurers pay to Michigan in total what they would have paid to their own states on the same activity. The purpose of the "retaliatory tax" is to discourage other states from

adjusted gross receipts, which is the sum of business profits, labor compensation, depreciation, and interest expenses. It is therefore not meaningful to compare Michigan's tax rate with the corporate tax rates of other states, since the tax rates are applied to very different tax bases. Furthermore, noncorporate entities such as partnerships, S corporations, and LLCs are required to pay the SBT, while only selected other states tax such businesses. It is, however, possible to identify the portion of each state's revenue that comes from taxing corporations,[9] and to compare appropriately scaled measures of the tax burden on corporations.

Figures one and two depict two such calculations for Michigan and for averages of other U.S. states (excluding those without corporate taxes) from 1977-1996. Figure one plots ratios of state corporate tax collections to Gross State Product, and by this measure, Michigan's corporate tax burdens are much heavier (typically exceeding 50 percent greater) than the average burdens of other states. Figure two plots ratios of state corporate tax collections to total state tax collections, and once again, it is clear that Michigan relies much more heavily on corporate tax collections than is typical of American states. In the 1990s approximately eight percent of Michigan's tax revenue came from taxing corporations, while other American states with corporate income taxes collected less than six percent of their revenue from corporations. These patterns are consistent with the Michigan Department of Treasury (2002, pp. 54-55) finding that Michigan would have needed an average corporate income tax rate of 14.3 percent (thereby making it the highest in the country) over the 1977-1998 period in order to replace the revenues obtained from the Single Business Tax.

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imposing heavy taxes on Michigan insurance companies, while raising additional revenue for Michigan. The revenue consequences of the "retaliatory tax" are quite modest, however: in 2000, the tax raised $155 million.
[9] In recent years 74 percent of Michigan's SBT collections have come from corporations (Michigan Department of the Treasury, 2002), the remainder from other business entities. The revenue adjustment used to calculate the ratios depicted in Figures 1 and 2 below (and also used to calculate the dependent variables in the regressions reported in Tables 11 and 12) is to multiply Michigan's SBT collections by 0.74. Revenue figures of states other than Michigan

2.2   Impact of state business taxes.

Business taxation has the potential to discourage business formation and expansion, for the obvious reason that firms often have opportunities to relocate or refocus their activities in competing locations based on potential after-tax returns. Until relatively recently, there was a widely held view that business tax rate differences had little impact on business location within the United States. Since state tax rates are rather low, differences between them tend to be rather modest. Furthermore, state tax payments are deductible from taxable income at the federal level, so any tax saving associated with locating in a low-tax state is reduced by the federal tax rate. And most importantly, so the thinking went, business location is the product of many considerations, of which taxation is just one. Firms need to be profitable in order for tax considerations to matter to them, and profitability is affected by the cost of local inputs, government regulations, transportation costs, and a host of other factors. While the fact that there are many important considerations in business location does not imply that any one of them is unimportant, it seemed intuitively that the impact of taxation might be sufficiently minor as not to produce noticeable effects.

The view that state taxation has little impact on business location was reinforced by early studies finding little or no effect. An example is Carlton's (1983) study of the determinants of new firm location, in which high tax rates appear not to discourage new firms. Others, including Newman (1983), Bartik (1985), and Papke (1987, 1991) present evidence that taxes significantly influence the location choices of new businesses, but many of the studies surveyed in Wasylenko (1981, 1991) report little support for the view that state taxes importantly affect business location

that tax S corporations, partnerships, or other business entities are adjusted by assuming that each business type that a state taxes contributes revenue in the same proportion to the total as such types do in Michigan.

within the United States. Wasylenko (1995) subsequently revisits these surveys, noting that more recent studies that use sophisticated econometric techniques or innovative estimation strategies tend to find important effects of tax rate differences on business location. An example is Hines (1996), which compares the location of foreign investment in the United States from firms resident in countries that tax foreign income with investment by firms resident in countries that exempt foreign income from tax. The mechanics of the foreign tax credit system are such that firms in the first group should be largely unaffected by U.S. state tax obligations (since taxes paid to American states generate offsetting foreign tax credits in their home countries), while those in the second group have the usual incentives to avoid state taxes. The evidence indicates that investment from countries that exempt foreign income from tax tends to be concentrated in low-tax states, which suggests that taxes significantly influence business location patterns in the United States.

The responsiveness of investment to state taxation implies that states can have strong incentives to lower their business tax rates in order to attract additional investment that stimulates their economies and in the process replaces some or all of the tax revenue lost from lower tax rates. Much of the additional business activity attracted by lower tax rates comes at the expense of other states.[10] In a setting with perfect business mobility, competitive pressures become so strong that the only stable configuration is the absence of any state taxation of business income.[11] While this is an unrealistic scenario, the significant degree of observed business mobility does have a chilling effect on any intention to finance state governments

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[10] See, for example, Goolsbee and Maydew (2000), who estimate the effects of changing components of apportionment formulas. They report that manufacturing employment increases by three percent when a state reduces the payroll weight in its apportionment formula from one-third to one-quarter, and that this employment gain is perfectly offset by employment reductions in other states.
[11] See Diamond and Mirrlees (1971a,b) for a general analysis, and Gordon and Hines (2002) for a critical survey of the literature on the effects of interstate tax competition.

primarily with business taxes, and has the potential to initiate downward spiraling of state business tax rates.

3.   History of business taxation in Michigan.

Business taxation in Michigan, and indeed, the use of a type of value-added taxation in Michigan, long predates the 1975 adoption of the Single Business Tax. The first Michigan business tax, introduced in 1953, was its Business Activities Tax (BAT).

3.1   *Michigan up to BAT.*

The BAT was the product of a political compromise, as are all major tax initiatives. Michigan had growing state revenue needs in the early 1950s, and at the time did not tax personal or business income. Democratic Governor G. Mennen ("Soapy") Williams was eager to introduce a state personal income tax and a state corporate income tax to finance greater expenditures, but his plans to do so encountered significant political opposition. In that era state-level income taxes were considerably less common than they are a half-century later: in 1953 only 31 states taxed corporate income, and only 27 states taxed personal income. Furthermore, nearby Midwestern states such as Illinois, Indiana, and Ohio taxed neither corporate nor individual income. The Michigan business community was concerned that, once the state legislature introduced a corporate income tax, the rate of tax could easily be increased, and that a corporate tax would particularly discourage investment in the manufacturing activities upon which the Michigan economy depended. Consequently, the business community reluctantly acquiesced to the BAT as an alternative to the looming prospect of corporate profit taxation.

The BAT was a variant of what would now be called a source-based, subtraction-method, income VAT. What this sequence of qualifiers means is that the BAT was a kind of value-added tax (VAT), so firms were taxed on differences between their revenues and expenses incurred to other firms. The BAT rate was initially 0.40 percent of taxable value-added, though it rose to 0.65 percent in 1955 and was 0.75 percent of taxable value-added by the time of its repeal in 1967. The BAT was imposed on value-added by activities in Michigan, regardless of the destination of final products, giving the tax a source basis, and in that way distinguishing it from destination-based VATs currently used in Europe and elsewhere. Corporations and unincorporated businesses alike were subject to the tax, which was one difference between the BAT and many of the corporate income taxes used by other states.[12] A second difference was that Michigan firms might incur BAT liabilities despite being unprofitable, since taxpayers were not entitled to deduct labor expenses and certain other expenses in calculating their tax base under the BAT.

The BAT permitted firms to deduct depreciation expenses for real property investments (typically in commercial and industrial structures), which is characteristic of "income VATs."[13] But one of the curious features of the BAT was that no tax deduction was permitted for expenditures on personal property (primarily equipment) or for depreciation of personal property. As a result, the BAT strongly discouraged equipment investment while taxing returns to investments in structures. This very odd – and highly distortionary – feature of the BAT reflected concern over the mobility of equipment, and in particular, the possibility that firms

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[12] During the same era Michigan also imposed a corporate franchise tax on the net worth of corporations, but its rate was quite low and revenue yield correspondingly modest (Anderson 1960, p. 20).

[13] An "income VAT" is a value-added tax in which taxpayers deduct from the tax base the cost of capital depreciation, while with a traditional, or "consumption VAT," capital expenditures are instead immediately expensed. An "income VAT" effectively taxes the income earned from business investments, while a "consumption VAT" does not, since immediate expensing generates a tax deduction equal in present value to the taxable income produced by marginal investments.

might claim depreciation deductions for property purchased in Michigan but actually used in other states. Concern over proper attribution of depreciation deductions continues to influence the design of Michigan tax policy throughout the SBT era.

The BAT contained a number of other features designed to improve its political attractiveness at the possible expense of neutral treatment of taxpayers in different situations. Financial institutions were exempt from the BAT. Firms had the option of deducting half of their gross receipts (instead of actual expenses incurred to other firms, plus depreciation on real property) in calculating their taxable incomes under the BAT. Firms with high ratios of payroll expenses to gross receipts were entitled to a "labor intensity deduction," and others with low profit rates could claim net income credits to offset part of their BAT liabilities. In addition, all firms were entitled to exemptions of $10,000.[14]

3.2. Michigan drops the BAT: Corporate income taxation, 1968-1975.

Growing state government expenditures in the 1960s led to rising income and corporate tax rates around the country, thereby encouraging Michigan to expand the scope of government activity and to finance this expansion by introducing personal income taxation. Other Midwestern states, such as Illinois, introduced personal income taxation during the same period. There was a strong feeling in some circles, particularly among organized labor, that the imposition of state personal income taxation should be accompanied by state corporate income taxation. The Business Activities Tax was riddled with inefficiencies, notably the differing treatment of equipment and structures investments. Consequently, few rued its passing when, in 1967 (though taking effect in 1968), Michigan replaced the BAT with a corporate income tax. The Michigan corporate income tax was introduced at a 5.6 percent rate on taxable profits,

though the tax rate was increased to 7.8 percent in 1971. Taxable profits were defined for Michigan tax purposes much the same as they were for federal tax purposes, meaning that firms deducted their labor expenses in calculating taxable income, and were permitted to deduct depreciation costs for capital investments in real and personal property.

The Michigan corporate income tax quickly proved unpopular. In addition to firms that felt unduly burdened by the tax, many others in Michigan were concerned about the instability of revenues collected by the corporate tax. There were two U.S. economic recessions in the early 1970s (1970/71 and 1974/75) that severely impacted the profitability of Michigan's manufacturing-intensive corporate sector. As a result, Michigan corporate tax collections fluctuated sharply from year to year. Table 3 presents tax collection figures for Michigan's corporate tax from its inception during the 1968 fiscal year to its last year in 1975. Full-year corporate tax collections started in 1969 at $210 million, fell to $151 million by 1971, rose to $358 million by 1973, and fell again to $236 million by 1975. Not only did corporate tax collections fluctuate sharply over this period, but they did so in a procyclical pattern that contributed to the state's budgetary problems during difficult economic times.

By 1975 Michigan faced a fiscal crisis in which its general fund budget was projected to have a shortfall of at least $200 million due to the economic recession. Since the state customarily increased business taxes during times of acute revenue needs, it was natural to consider higher corporate profit tax rates in response to the 1975 situation. At this time, however, reformers advocated a more systematic tax policy response that might reduce the need for emergency tax increases by attenuating the effect of business cycle fluctuations on business tax collections. The Single Business Tax, introduced in this environment, was thought to offer four advantages over the corporate income tax that it replaced. The first advantage was that the

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[14] See Papke (1960) for further description of BAT provisions and analysis of their effects.

SBT could be designed to raise an additional $200 million in tax revenue upon inception, thereby eliminating Michigan's budget shortfall.[15] The second, and longer-run, benefit was that the SBT was believed to provide a more stable source of tax revenue than the corporate income tax. The third advantage was that the SBT promoted economic efficiency by encouraging capital investment and not distinguishing between incorporated and unincorporated businesses. And the fourth advantage was that the SBT was easier to administer than the taxes it replaced. These arguments proving compelling, the SBT was adopted in 1975.

3.3.   *Michigan embraces the Single Business Tax.*

The Single Business Tax replaced the corporate income tax and six other taxes including local property taxes on business property.[16] (Thus the name "single" business tax.) The SBT rate was a flat 2.35 percent. The SBT is a form of source-based value-added tax, and therefore shares many of the features of the BAT. Incorporated and unincorporated businesses are obliged to pay the SBT, subject to various deductions and credits. In particular, as a gesture toward tax simplification and small-business tax relief, firms with annual gross receipts under $34,000 were exempted from the SBT and were not required even to file an SBT form.

The tax base under the SBT is determined by addition. Specifically, taxpayers calculate taxable value-added as the sum of profits (as defined for federal tax purposes), labor costs, depreciation, and interest expenses. Firms then deduct the cost of capital expenditures as well as interest receipts, dividend and royalty receipts, and any income received from partnerships.

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[15] The additional $200 million was not a permanent increase but instead a one-time tax bonanza, created by the overlap of final annual payments on some of the repealed taxes and the quarterly estimate structure of the SBT.

[16] The SBT replaced the corporate income tax, the corporate franchise fee (which was based on corporate net worth), the financial institutions income tax, the savings and loan association privilege fee, the domestic insurance company privilege fee, local government property taxes on business inventories, and the intangibles tax on business. Local governments were compensated for the loss of revenue with roughly equivalent state revenue sharing, which Barlow and Connell (1982, p. 717) note is approximately 15 percent of SBT revenues.

There are also various small additions and subtractions to the SBT base. The concept behind the SBT is to tax business receipts minus purchases from other firms, excluding financial transactions. Since business profits as defined for federal tax purposes include financial income and subtract depreciation and interest expenses, it is necessary to make some adjustments in calculating taxable value-added under the SBT.

Business investments in real property (commercial and industrial structures) located in Michigan were fully deductible from SBT value-added. The Michigan portion of investments in personal property (consisting primarily of business equipment) were also fully deductible from taxable value-added, but the determination of Michigan location was different for personal property than for real property. Firms located entirely in Michigan deducted all expenditures on both real and personal property. Multistate firms engaged in unitary businesses were entitled to deduct against Michigan value-added an allocated portion of total U.S. expenditures on personal property. The formula used to determine the Michigan portion of personal property expenditures was 50 percent based on the location of business property and 50 percent based on the location of payroll. Thus, a firm with 30 percent of its U.S. employment and 60 percent of its U.S. property located in Michigan would be entitled to a Michigan tax deduction equal to 45 percent (half of 30 percent plus half of 60 percent) of its total U.S. expenditures on business equipment.

Michigan did not apply the same formula to apportion other income and expenses of unitary businesses. These other items instead were allocated based one-third on the location of business property, one-third based on the location of payroll, and one-third based on the location of sales. The reason for the difference is that other states permitted taxpayers to depreciate expenditures on equipment and structures rather than deduct capital spending as it occurs, so Michigan's SBT offered a more generous treatment of investment expenditures than did the tax

system of any other state. Since state formulas apply to investment expenditures undertaken anywhere in the United States, Michigan legislators were concerned that the SBT might reward firms investing in capital projects outside Michigan with generous Michigan tax deductions. In the case of real property, this problem could be addressed by permitting deductions only for investments in structures located in Michigan. In the case of personal property, much of which can be easily moved between states, the location of investment was thought to offer a potentially misleading guide to the ultimate location of use. Instead, the application of equally-weighted property and employment factors to apportion the capital acquisition deduction for personal property seemed like a reasonable approximation to actual use. The effect of this rule for apportioning deductions for personal property expenditures was to encourage investments by firms with significant production in Michigan.

The SBT contained a number of provisions that reduced tax liabilities for small firms and those with low profit rates. Firms with adjusted gross receipts below $34,000 were exempt from the SBT and its filing requirements. Firms with value-added exceeding $34,000 were entitled to claim a $34,000 exemption, but its value was reduced by $2 for every dollar of value-added above $34,000, until declining to zero at value-added of $51,000. The base exemption was scheduled to increase to $36,000 by 1977, but new rules adopted in 1977 instead raised it to $40,000; the exemption was subsequently increased to $45,000 by legislation enacted in 1988. In 1991 firms with gross receipts less than $100,000 were exempted from filing SBT returns; this exemption was increased to $250,000 in 1994, and to $350,000 in 2002.

Taxpayers were entitled to choose between two alternative methods of reducing value-added subject to the SBT. The gross receipts deduction has the effect of reducing taxable value-added to 50 percent of adjusted gross receipts, regardless of the magnitude of actual expenses.

This deduction is of most value to taxpayers with high ratios of receipts to SBT value-added. The excess compensation deduction is designed to reduce the tax base of firms for which labor compensation represents unusually large fractions of their SBT value-added. Firms were eligible to reduce taxable value-added by any fraction that compensation exceeds 65 percent of taxable value-added, up to a maximum of 35 percent. Suppose, for example, that a firm's total compensation were equal to 75 percent of its value-added. Then that firm was entitled to reduce its SBT tax base by ten (75 – 65 = 10) percent. The excess compensation reduction could not, however, be applied if taxpayers also used the gross receipts deduction. In 1977 the value of the excess compensation reduction was increased by permitting firms to reduce their SBT liabilities by any differences between compensation and 63 percent of value-added.

Unincorporated businesses and S corporations are obliged to pay the Single Business Tax, but are also eligible to claim credits to reduce their liabilities. These entities other than C corporations are entitled to credits that reduce their SBT liabilities by 10 percent. Small unincorporated businesses and S corporations could claim larger credits: firms with less than $20,000 of taxable value-added are eligible for 20 percent credits, and those with value-added between $20,000 and $40,000 can claim 15 percent credits. Various other smaller credits are also available.[17]

SBT provisions were frequently amended subsequent to introduction of the SBT in 1975. In 1977 value-added from agricultural production was exempted from the SBT. In the same year Michigan adopted the small business credit for firms with gross receipts under $3 million,

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[17] As originally enacted the Single Business Tax included credits for owners of utility property and contributors to Michigan colleges and universities, public libraries, and public broadcasting stations. There are now many minor credits available toward SBT liabilities, including renaissance zone and brownfield credits, MEGA credits for payroll and business activity expansion, credits for contributions to food banks, community foundations, and homeless shelters, credits for historic rehabilitation, credits for employers of youth apprentices, and a credit for firms engaged in the extraction and processing of low-grade iron-ore.

business income under $300,000, and individual shareholder and officer income under $60,000. The effect of the small business credit is to replace SBT liabilities with obligations based on taxing adjusted business income at a higher rate.[18] Taxes after credits equal the product of adjusted business income, the ratio of the SBT rate and 0.45, and the fraction by which the tax base under the SBT is reduced by deductions and exemptions. For firms not claiming the capital acquisition deduction, the statutory exemption, or the excess compensation or gross receipts deduction, and otherwise subject to an SBT rate of 2.35 percent, the small business credit changes their tax obligation to 5.22 percent of adjusted gross income. Firms that are able to benefit from additional exemptions or deductions reduce their tax liabilities proportionately. Eligibility for the small business credit subsequently expanded in 1982, 1992, and 1995, so that firms are now eligible if they have gross receipts less than $10 million, adjusted business income less than $475,000, and individual shareholder and officer income below $115,000.

For taxpayers unsatisfied with the small business credit, Michigan introduced the alternative tax rate calculation method in 1988. Firms with gross receipts below $7.5 million were entitled to claim an SBT obligation equal to four percent of adjusted business income. The small business credit cannot be used together with the alternative tax rate calculation. The alternative tax rate was subsequently reduced to three percent in 1992, and to two percent in 1994. The Single Business Tax rate itself was reduced to 2.3 percent in 1994.

Large companies account for the bulk of taxable value-added under the SBT, and SBT collections, so small business tax provisions have little impact on total state revenues. Table 4 presents information on SBT liabilities in 1998-1999 by tax base of SBT filer. In that year there were 92 firms with taxable Michigan value-added exceeding $100 million; these firms,

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[18] Adjusted business income for the purpose of calculating the small business credit equals business income plus compensation and director fees of active shareholders and officers.

representing 0.07 percent of SBT filers, had total SBT liabilities of $659 million, or 27.9 percent

of total Michigan collections. More than half of all SBT collections came from the 1.29 percent

of SBT filers with value-added exceeding $10 million.

Table 5 illustrates the impact of deductions and credits on SBT collections from

taxpayers of different sizes in 1998-1999. The capital acquisition deduction is used by taxpayers

of all sizes, accounting for roughly 6 percent reductions in value-added. Deductions for business

loss carryforwards from earlier years are concentrated among taxpayers with lower value-added,

as is the small business credit and the application of statutory exemptions. The gross receipts

reduction reduces the Michigan tax base by 7.25 percent, while the excess compensation

reduction reduces the Michigan tax base by 8.9 percent. Both methods are used extensively by

taxpayers of all sizes, though firms with very little value-added tend to use these reduction

methods less frequently, presumably due to the availability of more attractive alternatives.

Table 6 offers an industrial breakdown of the population of SBT filers in 1998-1999.

Manufacturing firms account for 10 percent of SBT filers, but 39 percent of aggregate SBT

revenues. Firms in service industries provide 19 percent of SBT revenues, followed by retail

trade, at 14 percent of SBT revenues, and communication and utilities, at 7 percent. Table 7

indicates the use of tax calculation methods by firms in different industries. Manufacturing firms

made extensive use of the excess compensation deduction, thereby reducing their aggregate SBT

liability by $95 million, or approximately ten percent of the total $924 million SBT liabilities of

manufacturing firms. The gross receipts deduction was less valuable to manufacturing firms,

accounting for an aggregate tax reduction of only $25 million. Firms in service industries

reduced their SBT liabilities by $75 million using the excess compensation deduction and by $97

million using the gross receipts deduction. Retail trade establishments used the excess

compensation deduction to reduce SBT liabilities by $52 million, while those in finance, insurance, and real estate were able to use the gross receipts deduction to reduce their SBT liabilities by $37 million.

Information is also available on the distribution of SBT liability by ownership form, as presented in Table 8. C corporations had $1.75 billion of SBT liabilities in 1998-1999, representing 74 percent of total SBT collections. S corporations accounted for $368 million of SBT collections, while other business organizations, such as partnerships and LLCs, accounted for $213 million. Retail trade and service industries are more intensively populated with business organizations other than C corporations than is characteristic of manufacturing industries, and SBT collections reflect this pattern.

3.4. *Creeping capital taxation:* Caterpillar *and its aftermath.*

The apportionment formula used to determine the Michigan tax bases of multi-state unitary businesses differed from the formula used to determine the capital acquisition deduction for personal property, thereby encouraging Michigan investment and disadvantaging taxpayers in particular situations. In the 1980s *Caterpillar v. Michigan Department of Treasury* challenged the constitutionality of this application of formulary methods, arguing that it discriminated against interstate commerce by discouraging capital investments outside of Michigan relative to capital investments in Michigan. The Michigan Court of Claims in 1989 ruled that the formula used to apportion the capital acquisition deduction was unconstitutional, and this finding was upheld by the Michigan Court of Appeals in 1991. In 1992 the Michigan Supreme Court overturned these decisions, ruling narrowly that the system of determining capital acquisition deductions was constitutional.

Concern over the constitutionality of the capital acquisition deduction, and fear that courts might impose major changes,[19] drove the Michigan legislature to revise the capital acquisition deduction. Legislation passed in 1991 provided that multi-state firms apportion total U.S. expenditures on real and personal property based on the same three-factor formula used for other elements of the tax base. At the same time, the Michigan three-factor formula was amended to apportion 40 percent of the tax base of multi-state unitary businesses according to sales, 30 percent according to property, and 30 percent according to payroll. The formula was revised in 1993 to a set of 50 percent sales, 25 percent property, and 25 percent payroll weights; its was subsequently revised in 1997 to 80 percent sales, 10 percent property, and 10 percent payroll, and, in 1999, the formula became 90 percent sales, 5 percent property, and 5 percent payroll.

The Michigan legislature became concerned in the mid-1990s that Michigan's generous treatment of investment expenses might, under the new apportionment rules, inadvertently subsidize firms investing in other states. Legislation adopted in 1995 permitted capital acquisition deductions only for investments in Michigan (except for certain categories of mobile property, which were eligible for Michigan tax deductions when used in Michigan); investment expenses were then apportioned according to the same formula that Michigan uses for the rest of its tax base. This system removed any subsidy to out-of-state investment, at the expense of also reducing the tax benefits associated with in-state investments. Concern over the possible legal ramifications of this change is reflected in the 1995 law's provision that, should the courts find the Michigan-only aspect of this change unconstitutional, the capital acquisition deduction would revert to pre-1995 rules. In 1999 the Michigan Court of Claims held in *Jefferson-Smurfit v.*

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[19] This fear was well founded: the Michigan Court of Claims ruling initially struck all capital acquisition deductions, thereby imposing a $500 million additional obligation on Michigan taxpayers.

Michigan Department of Treasury that the 1995 capital acquisition deduction rules represented an unconstitutional barrier to interstate trade, though this finding was overturned by the Michigan Court of Appeals in 2001.[20]

In the meantime the Michigan legislature again changed the tax treatment of capital expenditures. In 1999 the capital acquisition deduction was replaced by an investment tax credit (effective starting in 2000) for purchases of immobile assets located in Michigan, and an apportioned fraction of mobile assets located anywhere in the United States. The apportionment formula used for mobile assets is the same formula used for other elements of the tax base. For firms with adjusted gross receipts over $5 million, the investment tax credit rate is 0.85 percent of investment expenditures; the rate is 1.0 percent for firms with receipts from $2.5-5.0 million, 1.5 percent for firms with receipts of $1.0-2.5 million, and 2.3 percent for firms whose gross receipts are under $1 million. The effect of replacing the capital acquisition deduction with an investment tax credit at a rate below the SBT rate is to reduce the tax benefits associated with investment.

The 1999 political compromise that replaced the capital acquisition deduction with the investment tax credit also included a phased elimination of the Single Business Tax over the succeeding 22 years. The legislation reduced the SBT rate to 2.2 percent for 1999, 2.1 percent for 2000, and successively reduced the rate by 0.1 percent increments until its elimination in 2021. The investment tax credit rate is reduced along with the SBT rate, so the investment tax credit rate was 0.776 percent for large firms in 2000, 0.739 percent in 2001, 0.702 percent in 2002, and so on.[21] As a gesture toward revenue stability and fiscal responsibility, the 1999 legislation provided that annual reductions in the SBT rate would be suspended in any year in

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[20] The *Jefferson-Smurfit* case is still pending before the Michigan Supreme Court.

which the state's Budget Stabilization Fund (ironically known in Michigan as its "rainy day" fund) falls below $250 million. Such a suspension would not change the SBT's sunset date of December 31, 2020, but would increase the SBT rate by 0.1 percent (relative to what it would have been in the absence of such a suspension) in all succeeding years until the tax was eliminated at yearend 2020.

The 1999 legislative reforms were prompted by widespread recognition that Michigan's very generous treatment of capital expenditures under the Single Business Tax created problems in taxing multi-state firms. Attempts to distinguish investments in Michigan from those outside Michigan seemed destined either to distort the behavior of taxpayers or to run afoul of constitutional requirements not to impede interstate trade, and possibly both. The introduction of an investment tax credit was thought to address these problems, but its rate (0.85 percent for large taxpayers) was considerably lower than the rate necessary to make the investment tax credit equivalent to capital expense deductions. In order to muster the political support necessary to enact this reform, business interests – many of whom had grown weary of incurring SBT liabilities in unprofitable years – were given the concession of the gradual elimination of the Single Business Tax.

A weakening Michigan economy in 2001 and 2002 impaired tax collections and produced fiscal strains for the state government budget. As a consequence, the balance in the Budget Stabilization Fund threatened to fall below the $250 million cutoff necessary to trigger suspension of the SBT rate reduction. Since the state budget is under the control of the Legislature, it has the authority to enact tax and spending measures necessary to maintain the Budget Stabilization Fund above $250 million and thereby preserve scheduled SBT rate

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[21] The investment tax credit rate for large firms equals the product of 0.85 and the ratio of the current SBT rate to 2.3 percent.

reductions, though doing so can be difficult and costly in a recession. The political compromise

reached in the summer of 2002 was that the Budget Stabilization Fund would be permitted to fall

below $250 million, and the SBT rate, which was 1.9 percent in 2001, would be maintained at

that rate for 2002. In return, the date at which the SBT is scheduled for elimination was changed

to December 31, 2009, and the filing threshold for the SBT was increased to $350,000. While

these changes do not affect the SBT rate in the years between 2002 and 2009, they were

sufficiently attractive to the business community that they were considered adequate

compensation for the loss of the scheduled SBT rate reduction.

4.   Incentives created by the Michigan Single Business Tax.

As originally designed in 1975, the Michigan Single Business Tax closely approximated

a classic value-added tax, in which costs incurred to other businesses, including the cost of

acquiring capital, are deductible from taxable income. Such a system does not discourage capital

investment in the way that an income-based tax does, despite collecting significant revenue.

This counterintuitive feature of a value-added tax stems from its taxation of cash flows as they

occur. In the absence of any taxation, a firm will undertake an investment if the discounted net

present value of future returns to the investment equals or exceeds the cost of the investment;

otherwise the firm does not invest. A value-added tax reduces the cost of investment by

permitting investment expenditures to be deducted against taxable income, so the net cost falls

by a fraction equal to the tax rate. The tax similarly reduces the after-tax return to investment by

a fraction equal to the tax rate. Since the cost of investment and the return to investment fall by

exactly the same fraction, the effect of a value-added tax is to reduce the magnitude of the

difference between cost and returns, without changing the sign of this difference. Consequently,

the imposition of value-added taxes does not change investment decisions, since projects that would generate positive net returns in the absence of taxation also generate positive (albeit smaller) net returns in the presence of taxation.

The 1975 Michigan Single Business Tax differed from an idealized value added tax in several respects. Small firms, unincorporated firms, and S corporations were entitled to special exemptions and credits that favor small businesses relative to large businesses. Tax benefits for small firms implicitly tax capital investments that cause them to grow beyond a size at which they stop being eligible for favorable tax treatment. Tax benefits for unincorporated firms and S corporations discourage the formation of C corporations (relative to alternate business forms), and discourage growing firms from reorganizing as C corporations. The gross receipts deduction permits firms to replace their SBT liabilities with taxes on 50 percent of adjusted gross receipts. Use of this deduction converts the SBT to something that is equivalent to a 1.175 percent (half of 2.35 percent) tax on gross receipts. Since firms electing to use the gross receipts deduction do not deduct capital acquisition costs, or any other costs, against taxable value-added, it follows that the SBT implicitly taxes the use of capital or other inputs at a rate of 1.175 percent for these firms. If firms anticipate that use of the gross receipts deduction is transitory, so returns to investment today are received in subsequent years in which the firm is subject to the regular SBT, then investments are implicitly taxed at 2.35 percent. The gross receipts deduction is valuable in years in which firms are especially profitable relative to their gross receipts, so the availability of the deduction increases the taxation of investment undertaken in years of high profitability relative to years in which firms are less profitable. This feature encourages investment that runs counter to the business cycle.

Firms using the excess compensation deduction are taxed lightly on returns to labor expenditures and taxed heavily on returns to other expenditures. Consider the case in which firms are eligible to reduce taxable bases by the fractions that compensation expenses exceed 63 percent of taxable value-added. Denoting compensation expenses as c, taxable value-added as y, and the tax rate as t, it follows that a firm's SBT obligation in the absence of the excess compensation deduction would be ty. The excess compensation deduction reduces this obligation by $t(c - 0.63y)$. Hence firms using the excess compensation deduction pay taxes equal to $t(1.63y - c) = t1.63(y - c) + t0.63c$. The effect of the excess compensation deduction is to lower the effective tax rate on labor inputs from t to $0.63t$ for labor expenditures in excess of 63 percent of SBT value-added, and to raise the effective tax rate on everything else from t to $1.63t$. Since new investments are effectively untaxed by the regular SBT, they remain effectively untaxed for firms electing to use the excess compensation deduction, unless taxpayers anticipate discontinuing use of the excess compensation deduction in the future. Transitory use of the excess compensation deduction implies that investment expenses are deducted against taxable value-added when subject to a tax rate of $1.63t$, and investment returns are subsequently taxed at rate t. Consequently, the tax system effectively subsidizes investment (at rate $0.63t$) in years in which taxpayers claim the excess compensation deduction, which are years in which profitability is low relative to compensation. Investment expenses of taxpayers paying the regular SBT but anticipating future use of the excess compensation deduction are deducted against a tax rate of t, while the income they generate is taxed at $1.63t$, thereby effectively taxing such investment at rate $0.63t$. Hence the excess compensation deduction more heavily taxes investment in years in which firms are highly profitable than it does in years in which they are less profitable, thereby encouraging countercyclical investment activity.

Firms with unitary business operations in more than one state are affected by the apportionment of SBT income and (prior to 1999) apportionment of the capital acquisition deduction. The apportionment formula converts the SBT into a profit-based tax on sales, property, and payroll. Taxpayers for whom Michigan payroll and property represent larger fractions of their respective national totals than do Michigan sales benefited from the allocation formula used for the capital acquisition deduction, and as a result, faced lower effective tax rates on capital investment than they would have faced otherwise. Since capital investment is effectively untaxed in the case in which sales, property, and payroll are all the same fraction of national totals, it follows that firms with relatively few Michigan sales have their Michigan investments actually subsidized by the SBT, meaning that Michigan investment levels are higher than they would be in the absence of state taxation. The Michigan allocation fractions themselves further encourage both capital investment and employment by rewarding firms with greater capital acquisition deductions.

Changes to the capital acquisition deduction in the aftermath of the *Caterpillar* and *Jefferson-Smurfit* court cases greatly reduced incentives to invest in Michigan. The 1995 change restricting capital acquisition deductions to investments located in Michigan, and permitting taxpayers to claim deductions only for apportioned fractions of investment expenses, effectively reduced the value of investment expense deductions by the fraction of out of state economic activity. One could imagine a state restricting capital acquisition deductions to in-state investments, or, if that were infeasible or unconstitutional, approximating such a restriction with a formula based on the fraction of total economic activity; but the post-1995 Michigan capital acquisition instead *combined* these methods, thereby greatly reducing the tax deductions available to Michigan investors. Incentives to invest in Michigan (and incentives for Michigan

firms to invest in other states) were thereby significantly reduced, though, as events transpired, this system was in place only for a few years.

The investment tax credit system introduced in 1999 offers significantly lower investment incentives than those produced by the SBT during most of its history. For a system with unchanging tax rates and tax provisions, an investment tax credit equal to the rate at which value-added is taxed produces the same tax benefits and investment incentives as would full deductibility of investment expenses. The current investment tax credit rate for firms with gross receipts over $5 million is only 0.702 percent, while the SBT rate is 1.9 percent, so the investment tax credit system appears to be significantly less generous than would be immediate deductibility of investment expenses with unchanging tax provisions. This conclusion must, however, be tempered with recognition that the planned future reduction in SBT rate reduces the rate at which future returns to current investments will be taxed. The appropriate comparison is therefore the current investment tax credit rate (0.702 percent) with the present discounted value of future tax rates associated with returns to new investments.

In order to calculate the present discounted value of tax rates over the lifetime of a new Michigan investment, it is necessary to incorporate expected statutory tax rate changes and to apply a discount rate that reflects capital depreciation as well as the time value of money. Using a 7.7 percent annual depreciation rate based on calculations for aggregate U.S. business capital reported by Auerbach and Hines (1988), and adding the 2.3 percent current real interest rate on inflation-indexed U.S. government bonds, produces a convenient 10 percent discount rate. Taking the SBT rate to be 1.9 percent in 2002 and 2003, and assuming that it will decline linearly to 1.2 percent by 2009, and become zero thereafter, permits calculation of a sequence of effective lifetime average tax rates on new investments. The present discounted value of tax

rates on new investment in 2002 is, by this calculation, 0.966 percent. The present discounted value of tax rates on new investment in 2003 is 0.862 percent, for investment in 2004 is 0.747 percent, for investment in 2005 is 0.630 percent, for investment in 2006 is 0.511 percent, and continues to decline to 0.13 percent in 2009, and zero thereafter.

Investment tax credit rates decline over this period, but do so more slowly than the present value of tax rates. The investment tax credit rates in 2002 and 2003 are 0.702 percent, in 2004 is 0.665 percent, in 2005 is 0.628 percent, in 2006 is 0.591 percent, and the rate declines linearly to 0.480 percent in 2009. The comparison of investment tax credit rates with the present discounted values of tax rates suggests that, for the years 2002-2004, new investment is taxed somewhat more heavily than it would be under immediate expensing, since the present discounted value of future tax rates exceeds the investment tax credit rate in those years. Investment in 2005 is taxed roughly as it would be under immediate expensing, and investment in years 2006-2009 is subsidized relative to a system of immediate expensing (or no taxation at all). While these calculations rely on investor anticipation that currently legislated tax changes will actually transpire, which is hardly guaranteed, they illustrate the reasonability of the tax credit rates in the years around 2005. With the passage of time, however, investment incentives grow (which is inevitable given that the decline in the investment tax credit rate is tied to current tax rates and not the present value of current and future tax rates), as a consequence of which firms have incentives to delay investments in order to benefit from more favorable future tax treatment.

5.   **Revenue stability.**

This section considers the impact of the Single Business Tax on Michigan tax collections. In order to evaluate the impact of the SBT it is necessary to consider specific tax or spending alternatives, since the loss of SBT revenue would have to be recouped either by raising other taxes, cutting spending, or running smaller state surpluses. The most natural alternative to the SBT is a corporate income tax, and other states' experiences with corporate taxation offer obvious comparison points to Michigan's SBT experience.

Corporate taxation is no more perfect in practice than is the value-added approach embodied in the SBT. States raise and lower their corporate tax rates, they change their allocation formulas, depreciation allowances, loss carryforward and carryback provisions, and a host of other features that affect the stability of tax collections. No doubt some of these changes are designed to stabilize tax collections, while others (intentionally or not) destabilize tax collections. In comparing the actual stability of SBT collections to the stability of corporate income tax collections by other states, discretionary tax changes as well as automatic features of tax systems are implicitly included.

The most notable feature of Michigan's SBT is the very large revenue that it collects, relative both to state income and relative to other revenue sources for the state government. Figures 1 and 2 depict patterns of state revenue collections from corporations, illustrating the relatively higher tax burden imposed by Michigan. Table 9 offers a recent history of total SBT revenues (plus insurance retaliatory taxes, which are reported together with SBT revenues). In fiscal year 2001 the SBT collected $2.2 billion, representing 9.9 percent of total Michigan taxes and 0.76 percent of Michigan personal income. Relative SBT collections have declined since 1980, when they provided 20 percent of state tax revenues and represented 1.3 percent of state personal income.

Business tax revenues fluctuate over time with business cycle conditions. Corporate income tax collections are typically quite sensitive to business cycle influences, for the simple reason that corporate profits are among the most procyclical of economic variables. Since the SBT base is not corporate profits, but instead a variant of value-added, it follows that Michigan's business tax collections have the potential to respond much less dramatically to business cycle fluctuations than do the tax collections of other states.

Table 10 presents statistics describing state corporate income tax collections (including the Michigan SBT) over the 1977-1997 period. For the purpose of the calculations reported in Table 10, state corporate tax collections are adjusted in the same way that they are in constructing Figures 1 and 2, meaning that tax revenues from sources other than C corporations are removed from reported revenues. The four leftmost columns describe variances, means, standard deviations, and coefficients of variation (ratios of standard deviations to means) of state per capita income tax collections. Income tax collections are measured in 1997 dollars. Thus, the 119.456 figure for Michigan's mean indicates that, over this 20-year period, Michigan collected an inflation-adjusted annual average of $119 per resident from taxing corporations with the SBT. Michigan's collections are quite high compared to other states, whose corporate tax collections average only $79 per resident.[22] Only five states (Alaska, Connecticut, Delaware, Massachusetts, and the District of Columbia) have per capita corporate tax collections that exceed Michigan's over this time period.

The variance, presented in the second column of Table 10, is the sum (over the 20 years of the sample) of squared differences between a state's corporate tax collections and that state's average for the sample period. Hence the variance is a measure of the extent to which average

tax collections fluctuate around their mean; the standard deviation, presented in the first column, is simply the square root of the variance. It is a bit difficult to compare standard deviations of tax collections between states, since standard deviations are almost guaranteed to be greater for states with higher corporate tax collections. The coefficient of variation, presented in column 4 of Table 10, is a commonly used measure of variability in such situations. The coefficient of variation equals the ratio of the standard deviation and the mean, thereby implicitly controlling for the magnitude of tax collections. Michigan's coefficient of variation is 0.305, which is typical of American states. The national average is 0.352, though this average is dominated by a few states (such as Alaska and Indiana) with particularly large values. There are 25 states with coefficients of variation that exceed Michigan's, while 20 states have coefficients of variation less than Michigan's.

The right four columns of Table 10 evaluate the properties of corporate income as a share of state tax collections. Michigan's mean share over the sample period is 8.7 percent, which is high among American states: the national average is 5.5 percent, and only two states (Alaska and Connecticut) collect higher fractions of state revenue with corporate taxes than does Michigan. Despite its high mean, Michigan's fraction of state revenue represented by corporate tax collections varies quite little: only four states have smaller variances than Michigan's. Michigan's coefficient of variation for this variable is 8.1 percent, which is considerably smaller than the national average of 23.0 percent; only Alaska has a smaller coefficient of variation.

From this evidence it appears that Michigan's SBT collections from corporations consistently mirror Michigan's tax collections from other sources. This finding makes sense given that the tax base of the Michigan SBT includes items such as labor compensation that are

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[22] This U.S. average would be significantly smaller except for the inclusion of Alaska, whose $680 mean per capita tax collection vastly exceeds that of the next highest state. Alaska obtains this tax revenue almost entirely by taxing

major sources of state revenue through other taxes. Measured as a fraction of per capita state income, Michigan's SBT corporate collections exhibit roughly average variability. It is difficult, however, to interpret these coefficients of variation as indicators of cyclical responsiveness, since they capture long-run trends and do not necessarily indicate whether variability stems from fluctuations with or against business cycle movements.

In order to evaluate the responsiveness of Michigan tax collections to business cycle fluctuations, it is instructive to use the statistical technique of multiple regression to identify the extent to which corporate tax collections are affected by business cycle indicators. Doing so not only indicates the impact of the business cycle on SBT collections, but also produces simple tests of the comparability of Michigan's experience and that of other states. Table 11 presents estimated coefficients from regressions in which the dependent variable is the natural logarithm of per capita corporate tax collections, and the independent variables include unemployment rates, year dummy variables, state dummy variables, and trending variables for each state.[23] Data for all 50 states and the District of Columbia, for years 1977-1996, are included in the regression sample. The table reports heteroskedasticity-consistent standard errors in parentheses.

The –0.085388 coefficient in the first column of Table 11 indicates that, over this time period in the country as a whole, a one percent higher state unemployment rate (e.g., the difference between unemployment rates of 4.5 percent and 5.5 percent) is associated with 8.54 percent reduced per capita corporate tax collections.[24] The regression includes Michigan's

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oil drilling and related activities, making its situation difficult to compare to those of other states.

[23] The dependent variable is expressed as a natural log in order to use simple specifications of state and year dummy variables, and in order to facilitate interpretation of the estimated coefficients.

[24] State corporate tax collection data are reported by the Census of Governments. State and national unemployment rates are reported by the Bureau of Labor Statistics. Since states report tax collection data on a fiscal year (commonly, 1 July – 30 June, though Michigan is 1 October – 30 September) basis, and unemployment figures are reported on a calendar year basis, some adjustment is necessary in order to make these series comparable. For the purpose of the regressions reported in Tables 11 and 12, all series were estimated on a fiscal year basis. This entailed adjusting the unemployment series by constructing average unemployment rates for the current and

unemployment rate interacted with a dummy variable that takes the value one for Michigan observations, thereby permitting the effect of unemployment on corporate tax collections to differ between Michigan and other states. The 0.085612 coefficient in the third row of the first column indicates that, indeed, the responsiveness of per capita tax collections in Michigan differs from that in other states. The estimated effect of higher unemployment in Michigan is the sum of –0.085388 and 0.085612, or almost exactly zero. Hence this specification suggests that SBT collections from incorporated businesses respond little if at all to business cycle fluctuations as captured by state unemployment rates, which is quite different from the experience of other states.

The results reported in column one of Table 11 reflect the effect of long-term trends in corporate tax collections and unemployment, in addition to their short-term variation. Column two of Table 11 reports estimated coefficients from specifications that add year dummy variables to capture year effects that are common across states. The –0.01671 coefficient in the second row implies that one percent higher state unemployment reduces per capita corporate tax collections by 1.7 percent, after controlling for year effects. Once again, the coefficient on unemployment in Michigan interacted with a Michigan dummy variable almost perfectly offsets the general effect of unemployment, implying that Michigan corporate tax collections are unaffected by Michigan unemployment.

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preceding years. Mathematically, the fiscal year unemployment rates were calculated as: $u_t^{FY} \equiv \dfrac{u_t^{CY} + u_{t-1}^{CY}}{2}$, in which u_t^{FY} is the unemployment rate attributed to fiscal year t, and u_t^{CY} is the (reported) unemployment rate in calendar year t.

Column three of Table 11 reports estimated coefficients from a regression that adds a variable that trends separately for each state, while removing year dummy variables.[25] The effect of including the trend variable is to remove any effects of state-specific trends, in order to test whether Michigan's corporate tax collections continue to exhibit business cycle patterns that differ from those of other states. The results confirm that they do: the estimated effect of one percent higher unemployment in other states is to reduce corporate tax collections by 3.5 percent, while the effect of higher unemployment in Michigan is to *increase* corporate tax collections by 3.0 percent! Given that most economic variables, particularly tax collections, are procyclical, this countercyclical feature of SBT tax collections is striking. Certainly it reflects the fact that the SBT base includes not only profits but also other important cost components. Column four of Table 11 reports estimated coefficients from a regression that adds year dummy variables but is otherwise the same as that reported in column three. The results imply that one percent higher unemployment rates increase corporate tax collections by 4.6 percent in Michigan, and reduce corporate tax collections by 2.1 percent elsewhere.

Columns five and six of Table 11 report the results of regressions that omit year dummy variables and use national unemployment rates as business cycle indicators in place of state-specific unemployment rates. The results are similar to those reported in columns three and four. For example, the specification reported in column five implies that one percent greater national unemployment is associated with 3.6 percent lower tax collections outside of Michigan and 5.0 percent higher tax collections in Michigan.

Table 12 reports the results of regressions in which the dependent variable is the ratio of corporate tax collections to total state government revenue, and the independent variables are

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[25] Specifically, the state growth variable is the interaction of a trending variable that equals zero in 1977, one in 1978, two in 1979, and so on, with 51 dummy variables that take the value one for each state, and zero otherwise.

identical to those in the regressions reported in Table 11. The results reported in Table 12 are similar to those reported in Table 11: corporate tax collections decline as a fraction of total tax revenues as unemployment rises in states other than Michigan, while corporate tax collections rise as a fraction of total tax collections at higher unemployment rates in Michigan. The regression reported in column two of Table 12 indicates that one percent higher unemployment rates in states other than Michigan are associated with 0.2 percent lower fractions of total tax receipts accounted for by corporate taxes. The same regression implies that one percent higher unemployment rates in Michigan increase the fraction of total tax revenue represented by SBT collections from corporations. Similar results appear in other specifications in Table 12.

There is evidently something quite different about the Michigan SBT experience and the experiences of other states. Michigan's tax collections under the SBT have been if anything countercyclical, thereby providing important revenue cushions in years in which the state government has most needed revenues. Other states found their corporate tax collections moving with the business cycle, thereby exacerbating revenue shortfalls in recession years.

6.   Implications for Michigan policy.

In spite of the attractive features of value-added taxation, Michigan has struggled to find a long-run answer to the question of how it wants to tax businesses. The Business Activities Tax was replaced by corporate income taxation, which in turn was replaced by the Single Business Tax, and the SBT is itself now slated for elimination by 2010 and presumptive replacement by something else. There are many reasons why a state might want to change its tax policies over time, including changing economic conditions and revenue needs, intensified competition from

other states and foreign countries, legal difficulties with existing policies, changing political

winds, and the adoption of new and better ideas. Michigan's history reflects all of these forces.

The Single Business Tax is a simple and efficient tax.[26] The SBT also has the virtue of

generating a revenue stream that is not procyclical in the way that corporate income taxes are, so

the SBT provides revenue when the state government most needs it. The value-added tax model

on which the SBT is based has the feature that new investment is effectively untaxed, which adds

to the attractiveness of the SBT by raising the possibility that its use might not compromise the

competitiveness of Michigan industry.

Practical considerations led to changes over time in the design of the SBT that

undermined its efficiency. Small and unprofitable firms felt unduly burdened by the requirement

that they pay taxes on the basis of business activities rather than profits, so in order to address

their concerns the value-added structure of the SBT was modified to include the small business

credit, the excess compensation deduction, and numerous other credits and deductions. These

features of the SBT mildly penalize firm growth and introduce other small distortions. The use

of formulary methods to apportion the taxable incomes of multi-state firms made it difficult to

distinguish for tax purposes investments in Michigan capital from investments in capital used

outside Michigan. The unwillingness of the Michigan legislature to extend the generous tax

treatment of investments under the SBT to capital used outside Michigan sparked a sequence of

changes that led ultimately to the abandonment of capital acquisition deductions and their

replacement with investment tax credits. This change, together with the phased elimination of

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[26] The SBT is efficient in the sense of creating efficient economic incentives for taxpayers, particularly compared to the alternative of corporate income taxation. Administrative and compliance costs associated with the SBT are more difficult to assess; the Michigan Department of Treasury (2002, p. 4) notes that the SBT eased administrative burdens by consolidating seven prior taxes into one state office, and replacing taxes collected by multiple local governments with a single state tax. Barlow and Connell (1982, p. 703) maintain that compliance costs are greater with the SBT than with a corporate profits tax, since the SBT must be paid by many more business units.

the SBT, creates investment incentives that change over time and encourage inefficient delay of investment in Michigan assets.

One lesson of the SBT experience is that efficient design features are readily sacrificed at the altar of practical politics. A second lesson is that the remaining efficient properties of the tax system encourage legislators to impose taxes at high rates on business activities. Michigan taxes its corporations more heavily with the SBT than does any other state with corporate income taxes, and Michigan also subjects unincorporated businesses and S corporations to the SBT. While it is difficult to know how heavily Michigan would tax businesses in the current environment if relying exclusively on corporate income taxes, it is unlikely that Michigan would tax corporations at a rate significantly exceeding the highest current rate in the country, and apply the same tax rate to other businesses, as it does currently with the SBT.

Since new investments are taxed lightly if at all by the SBT, it follows that the burden of the tax is borne either by owners of old investments, existing laborers, consumers, or someone else. To the extent that labor is mobile between states, wages in Michigan are determined by a national labor market, and therefore affected very little by the SBT. Most consumer goods are priced on national and even international markets, so Michigan prices are unlikely to reflect SBT burdens – except for goods sold by multistate firms subject to formula apportionment of income for SBT purposes, the prices of which will be somewhat elevated. The bulk of the SBT burden instead falls on sources of economic rent located in Michigan: the excess profitability of local manufacturing, high-technology, and other firms, the value of Michigan land, and the extent to which Michigan wages exceed competitive levels.

The Single Business Tax as originally conceived offered efficient investment incentives, a countercyclical revenue stream, and tax burdens that fell on economic rents. While in practice,

the SBT does not promote efficiency as cleanly as it does in theory, the attractive features of the SBT compare favorably to those of leading corporate income tax alternatives. The primary sticking point for the SBT in the last decade has been the difficulty of taxing multi-state firms without either providing generous incentives for investments in other states or discriminating against interstate commerce. This is a problem that is likely to be surmountable if Michigan is serious about continuing to use the SBT, particularly since the problem stems solely from the use of formulary apportionment rather than arm's length accounting for state income. In particular, the very recent adoption of investment tax credits for site-specific investments offers a promising method of maintaining many of the benefits of the SBT without running afoul of interstate commerce concerns. Rather than abandon the SBT altogether, as is currently planned for 2010, Michigan would be well advised to consider alternatives that maintain the SBT in slightly modified form.

7.   Conclusion.

The Michigan Single Business Tax has proven to be a sizable and stable source of tax revenue since its introduction in 1975. The Single Business Tax is now, however, slated for elimination after 2009, a victim of complications that arose from successive reforms.

The Single Business Tax represents America's closest approximation to a broad-based tax on value added. Such taxes encourage business investment, do not distort financial and operating decisions, and offer more stable revenue streams than do the alternatives among classic corporate income taxes. These desirable properties of value added taxes disappear, however, when tax rates and other tax provisions change frequently. Michigan was compelled to change its treatment of capital expenditures when it became clear that provisions designed to maintain

investment benefits only for in-state capital investments might run afoul of constitutional requirements not to impede interstate trade. Normal politics likewise intruded in the form of growing deductions from taxable income, expanding numbers of credits available against SBT liabilities, and other benefits sought and received by influential taxpayers.

The Michigan experience with the Single Business Tax serves as a reminder that a tax system with properties that would be very desirable if universally adopted and never changed need not maintain those properties in the world in which we live. What the Michigan legislature will do to replace the revenues lost by the Single Business Tax as its rate falls during the 2000-2010 decade, and following its scheduled elimination in 2010, is not clear. The choice of a replacement for the SBT will hopefully be guided by wise anticipation of some of the practical difficulties that tax policies encounter.

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Table 1: State Corporate Tax Rates, 2002

State	Tax Rate(s) (%)	# Brackets	Low/High Brackets (Taxable Income)
AK	1.0-9.4	10	$10,000 $90,000
AL	6.50	1	Flat Rate
AR	1.0-6.5	6	$3,000 $100,000
AZ	6.97	1	Flat Rate
CA	8.84	1	Flat Rate
CO	4.63	1	Flat Rate
CT	7.50	1	Flat Rate
DE	8.70	1	Flat Rate
FL	5.50	1	Flat Rate
GA	6.00	1	Flat Rate
HI	4.4-6.4	3	$25,000 $100,000
IA	6.0-12.0	4	$25,000 $250,000
ID	8.00	1	Flat Rate
IL	7.30	1	Flat Rate
IN	7.90	1	Flat Rate
KS	4.00	1	Flat Rate
KY	4.0-8.25	5	$25,000 $250,000
LA	4.0-8.0	5	$25,000 $200,000
MA	9.50	1	Flat Rate
MD	7.00	1	Flat Rate
ME	3.5-8.93	4	$25,000 $250,000
MN	9.80	1	Flat Rate
MO	6.25	1	Flat Rate
MS	3.0-5.0	3	$5,000 $10,000
MT	6.75	1	Flat Rate
NC	6.90	1	Flat Rate
ND	3.0-10.5	6	$3000 $50,000
NE	5.58-7.81	2	$50,000
NH	8.00	1	Flat Rate
NJ	9.00	1	Flat Rate
NM	4.8-7.6	3	$500,000 $1 million
NY	8.00	1	Flat Rate
OH	5.1,8.5	2	$50,000
OK	6.00	1	Flat Rate
OR	6.60	1	Flat Rate
PA	9.99	1	Flat Rate
RI	9.00	1	Flat Rate
SC	5.00	1	Flat Rate
TN	6.00	1	Flat Rate

UT	5.00	1		Flat Rate
VA	6.00	1		Flat Rate
VT	7.0-9.75	4	$10,000	$250,000
WI	7.90	1		Flat Rate
WV	9.00	1		Flat Rate

The majority of states levy the Corporate Net Income Tax at a flat rate. However, 13 states (Alaska, Arkansas, Hawaii, Iowa, Kentucky, Louisiana, Maine, Mississippi
North Dakota and Nebraska) provide for progressive rate structures. While their structures vary, most of these states utilize no more than 6 brackets which take effect at net income levels from $10,000 to $250,000. The top marginal rates in these states take effect at net incomes between $100,000-$250,000.

Table 2: American states and their business taxes

STATE	Corporate Income Tax				Financial Institutions Tax	Corporate Franchise Fee	Savings & Loan Association Fee	Domestic Insurance Company Privilege Fee	Local Government Property Tax on Inventories	Intangibles Tax on Businesses
	C-Corp	S-Corp	Partnership	LLC						
AK	v			v					v	
AL	v				v	v				v
AR	v			v					v	
AZ	v					v				
CA	v	v		v						
CO	v									
CT	v									
DC			v	v						
DE	v			v	v	v				
FL	v			v						
GA	v			v	v	v			v	
HI	v				v					
IA	v					v				
ID	v									
IL	v		v							
IN	v				v				v	
KS	v			v						
KY	v					v			v	
LA	v	v							v	
MA	v					v	v	v	v	
MD	v			v				v	v	
ME	v				v	v				
MI										
MN	v		v							
MO	v					v				
MS	v								v	
MT	v									
NC	v					v				v
ND	v				v	v				
NE	v									
NH	v	v	v							
NJ	v	v			v		v			
NM	v				v	v				
NY	v	v								
OH	v								v	
OK	v					v			v	
OR	v									
PA	v				v	v				
RI	v								v	
SC	v				v	v	v			
SD			v		v					
TN	v	v	v			v		v		
TX									v	
UT	v					v				
VA	v	v			v					
VT	v				v		v		v	
WA										
WI	v	v								
WV	v	v				v			v	
WY										

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Notes:

Table 3
Michigan Corporate Income Tax Collections, 1968-1975

Fiscal Year	Corporate Income Tax Collections	
	Current dollars	*Constant 2001 dollars*
1968	$38.5	$204.4
1969	210.4	1047.1
1970	188.0	864.5
1971	151.2	649.1
1972	259.0	1049.6
1973	357.8	1346.6
1974	299.5	1014.9
1975	235.7	783.1

Note: dollar amounts in the second column are millions of current dollars; dollar amounts in the third column are millions of constant 2001 dollars.

Source: Michigan Department of Treasury (2002).

Table 4: 1998-99 Tax Liability Breakdown

Michigan Tax Base Class		Number of Firms	Percent of Firms	Cumulative Percent	Tax Liability	Percent of Liability	Cumulative Percent
$100,000,000	and over	92	0.07 %	0.07 %	$658,785,505	27.85 %	27.85 %
$50,000,000 -	$99,999,999	129	0.09	0.16	140,451,466	5.94	33.78
$10,000,000 -	$49,999,999	1,597	1.13	1.29	499,620,252	21.12	54.90
$5,000,000 -	$9,999,999	2,311	1.63	2.92	249,735,200	10.56	65.46
$2,000,000 -	$4,999,999	6,769	4.79	7.71	311,628,596	13.17	78.63
$1,000,000 -	$1,999,999	9,768	6.91	14.61	189,535,488	8.01	86.64
$500,000 -	$999,999	15,843	11.20	25.82	136,179,006	5.76	92.40
$100,000 -	$4,999,999	56,239	39.77	65.58	141,381,742	5.98	98.38
$50,000 -	$99,999	13,433	9.50	75.08	6,400,335	0.27	98.65
$1 -	$49,999	13,415	9.49	84.57	1,553,940	0.07	98.71
$0	or less	21,825*	15.43	100.00	30,482,124	1.29	100.00
	Total	141,421	100.00 %		$2,365,753,654	100.00 %	

* Includes gross receipts short-method filers who do not report their Michigan Tax Base (recorded as zero)

Source: Office of Revenue and Tax Analysis, Michigan Department of Treasury (2002).

Table 5: Tax Adjustments as a Percent of Michigan Tax Base, 1998-99

Michigan Tax Base Class		Net Capital Acquisition Deduction*	Business Loss Deduction	Statutory Exemption*	Gross Receipts Reduction	Excess Compensation Reduction	Small Business Credit**	Other Business Credits***
$100,000,000	and over	7.04 %	1.14 %	0.00 %	4.32 %	4.84 %	0.00 %	2.03 %
$50,000,000 -	$99,999,999	5.53	5.41	0.01	11.91	7.89	0	1.25
$10,000,000 -	$49,999,999	4.52	3.94	0.02	9.59	8.87	n.a.	2.47
$5,000,000 -	$9,999,999	5.15	2.82	0.05	8.54	10.22	0.95	3.03
$2,000,000 -	$4,999,999	5.83	2.87	0.12	6.83	11.52	1.78	3.21
$1,000,000 -	$1,999,999	5.37	3.6	0.28	7.23	12.11	3.48	3.03
$500,000 -	$999,999	6.42	4.88	0.7	6.56	11.23	6.06	2.76
$100,000 -	$4,999,999	7.56	6.32	4.56	5.53	7.75	7.86	3.01
$50,000 -	$99,999	9.45	10.55	33.4	1.14	5.23	5.02	2.42
$1 -	$49,999	5.85	18.38	57.7	1.18	2.22	2.17	1.74
	Total	5.93 %	3.52 %	0.89 %	7.25 %	8.86 %	2.58 %	2.67 %

* Effective deductions and exemptions only

**Claimed credits were divided by the tax rate (.023) to allow for a comparison to other deductions, exemptions, and reductions

***Other credits include unincorporated, public utility, communty foundation, college, homeless, and other credits

Source: Office of Revenue and Tax Analysis, Michigan Department of Treasury (2002).

Table 6: Single Business Tax, 1998-99

Business Sector	Number of Firms	Percent of Firms	Tax Liability	Percent of Liability
Agriculture, Forestry, and Fishing	2,016	1.4 %	$8,511,091	0.4%
Mining	500	0.4	6,422,628	0.3
Construction	14,430	10.2	117,784,450	5
Manufacturing	14,436	10.2	924,413,544	39.1
Other Durable Manufacturers	5,098	3.6	182,661,011	7.7
Non-Durable Manufacturers	3,497	2.5	208,251,644	8.8
Primary Metals	543	0.4	48,382,640	2.0
Fabricated Metals	2,284	1.6	79,137,028	3.3
Machinery--Except Electrical	2,328	1.6	77,812,457	3.3
Transportation Equipment	686	0.5	328,168,764	13.9
Transportion	3,956	2.8	47,366,083	2.0
Communications and Utilities	1,426	1.0	166,482,764	7.0
Wholesale Trade	5,262	3.7	110,029,943	4.7
Retail Trade	34,428	24.3	332,019,018	14.0
Finance, Insurance, and Real Estate	15,699	11.1	129,293,255	5.5
Services	41,474	29.3	429,293,774	19.4
Not Elsewhere Classified/Misc.	7,794	5.5	64,137,104	2.7
All Businesses	141,421	100.0 %	$2,365,753,654	100.0%

Note: Liability figures represent tax years ending December 1998 or January through November 1999
Source: Office of Revenue and Tax Analysis, Michigan Department of Treasury (2002)

Table 7: Michigan SBT Filing Methods, 1998-1999

Business Sector	Excess Compensation Filing Method			Gross Receipts Reduction Methods			Alternate Tax Method			Straight Percentage Method		
	Number of Firms Claiming	Percentage of Firms in Sector Claiming	Reduction in SBT Liability	Number of Firms Claiming	Percentage of Firms in Sector Claiming	Reduction in SBT Liability	Number of Firms Claiming	Percentage of Firms in Sector Claiming	Final Tax Liability	Number of Firms Claiming	Percentage of Firms in Sector Claiming	Final Tax Liability
Agriculture, Forestry, Fishing	558	27.68%	$1,284,288	152	7.54%	$946,548	740	36.71%	$919,759	566	28.02%	$1,439,643
Mining	100	20.00	360,937	43	8.60	889,023	75	15.00	75,859	282	56.40	3,294,205
Construction	4,709	32.63	26,556,939	695	4.82	4,840,582	4,985	34.55	6,577,702	4,014	28.00	19,106,086
Manufacturing	7,301	50.57	93,172,873	1,149	7.96	36,521,384	2,468	17.10	3,666,556	3,518	24.37	296,646,374
Other Durable Manufactures	2,561	50.24	25,296,870	367	7.20	5,790,339	829	16.26	1,146,651	1,341	26.30	44,623,204
Non-Durable Manufacturers	1,674	47.87	19,803,990	200	5.72	12,596,744	599	17.13	885,221	1,024	29.28	71,448,079
Primary Metals	304	55.99	6,534,720	37	6.81	1,553,751	72	13.26	110,903	130	23.94	12,310,459
Fabricated Metals	1,229	53.81	9,494,642	234	10.25	5,762,152	421	18.43	667,130	400	17.51	19,460,710
Machinery-Except Electrical	1,195	51.33	12,338,722	263	11.30	4,528,288	472	20.27	758,597	398	17.10	18,188,397
Transportation Equipment	338	49.27	19,703,929	48	7.00	6,290,109	75	10.93	98,054	225	32.80	130,615,525
Transportation	1,298	32.81	8,015,912	316	7.99	5,334,273	790	19.97	898,629	1,152	39.23	10,007,874
Communications & Utilities	360	25.25	4,716,980	152	10.66	15,683,926	185	12.97	283,916	729	51.12	131,877,298
Wholesale Trade	2,493	47.38	13,821,488	199	3.78	2,397,826	806	15.32	1,120,029	1,764	33.52	40,422,299
Retail Trade	11,690	33.95	56,184,113	772	2.24	9,117,280	10,814	31.41	12,110,207	11,152	32.39	76,346,049
Finance, Insurance, &Real Estate	1,395	8.89	14,056,445	3,245	20.67	34,809,657	2,208	14.06	2,980,299	8,851	56.38	44,617,617
Services	13,647	32.90	83,453,160	8,707	20.99	121,271,143	8,964	21.61	11,541,426	10,156	24.49	56,521,886
Misc.	1,076	13.81	4,193,021	1,367	17.54	18,294,402	1,013	13.00	1,222,235	4,338	55.66	26,844,342
All Businesses	**44,627**	**31.56%**	**$305,816,155**	**16,797**	**11.88%**	**$250,106,043**	**33,048**	**23.37%**	**$41,390,617**	**46,949**	**33.20%**	**$707,123,673**

Source: Office of Revenue and Tax Analysis, Michigan Department of Treasury (2002)

Table 8: Single Business Tax by Type of Firm, 1998-99

Business Sector	Individuals		S-Corporations		Corporations		Other*	
	Number of Firms	Liability	Number of Firms	Liability	Number of Firms	Liability	Number of Firms	Liability
Ag., For., and Fishing	346	$740,801	720	$2,251,316	644	$4,081,484	306	$1,437,490
Mining	32	70,375	128	675,819	228	3,859,054	112	1,815,380
Construction	2,037	3,160,205	5,034	43,857,176	6,402	66,088,384	957	4,678,685
Other Durable Man.	163	239,625	1,422	25,120,086	3,244	152,261,463	269	5,039,837
Non-Durable Man.	122	234,417	963	19,496,404	22,228	179,588,076	184	8,932,747
Primary metals	n.a	n.a	145	6,308,532	368	40,562,024	22	1,481,367
Fabricated Metals	36	71,155	773	24,996,300	1,418	51,955,984	57	2,113,589
Machinery-Exc. Electrical	60	86,685	686	14,950,635	1,501	61,494,494	81	1,310,643
Transportation Equipment	n.a	n.a	179	7,964,055	462	318,333,995	35	1,856,102
Transportaion	328	375,281	1,339	7,231,758	2,000	36,323,457	289	3,435,587
Communications, Utilities	42	106,541	338	2,706,761	851	149,856,150	195	13,813,312
Wholesale Trade	212	300,934	1,565	21,206,308	3,257	83,929,018	228	4,593,683
Retail Trade	4,201	4,355,138	13,581	83,564,085	14,553	231,628,640	209	12,471,155
Finance, Ins., Real Estate	1,650	5,076,188	2,902	13,347,611	3,257	86,686,243	7,890	24,183,213
Services	4,611	15,076,593	12,140	86,862,332	14,969	242,816,579	9,754	114,538,270
Not Elsewhere Class./Misc.	1,024	2,352,294	1,869	7,742,497	2,333	42,018,655	2,568	12,023,658
All Businesses	**14,882**	**$32,293,561**	**43,784**	**$368,251,675**	**57,715**	**$1,751,483,700**	**25,040**	**$213,724,718**

* Includes fiduciary companies, professional corporations, partnerships and limited liability companies
Source: Office of Revenue and Tax Analysis, Michigan Department of Treasury (2002).

Table 9
Single Business Tax Revenue History*

Fiscal Year	SBT Revenue (Millions)	SBT Revenue (Millions of 2001 dollars)	Percent of Total State Taxes **	Percent of State Personal Income***
1980	$1,225	$2,594	20 %	1.3 %
1981	1,053	2,028	17.0	1.04
1982	1,047	1,894	16.4	1.06
1983	1,143	1,980	15.6	1.06
1984	1,384	2,295	16.5	1.15
1985	1,495	2,386	16.7	1.14
1986	1,675	2,600	18.1	1.19
1987	1,638	2,438	17.1	1.12
1988	1,873	2,706	18.2	1.2
1989	1,922	2,682	17.7	1.15
1990	1,877	2,505	17.0	1.07
1991	1,750	2,271	14.9	0.97
1992	1,863	2,373	15.2	0.99
1993	1,979	2,458	15.4	0.98
1994	2,230	2,699	14.8	1.04
1995	2,344	2,757	13.4	1.02
1996	2,393	2,752	12.9	1.01
1997	2,407	2,699	12.4	0.97
1998	2,492	2,747	12.1	0.96
1999	2,560	2,743	11.7	0.94
2000	2,517	2,585	11.0	0.88
2001	2,224	2,224	9.9	0.76

*   Includes Insurance Company Retaliatory Taxes
**   Does not include fees, permits or licenses
***   Based on Bureau of Economic Analysis State Personal Income Data, April 23, 2002 release

Source: Office of Revenue and Tax Analysis, Michigan Department of Treasury (2002).
           Data from State of Michigan Comprehensive Annual Financial Reports
           and Bureau of Economic Analysis.

Table 10: Means and Variances of State Corporate Tax Collections, 1977-1997

	per capita corporate net income taxes				corp income tax as share of total taxes			
	standard deviation	variance	MEAN	coefficient of variation	standard deviation	variance (*1000)	MEAN	coefficient of variation
Alaska	555.000	308025.000	680.431	0.816	0.010	0.109	0.173	0.060
Alabama	11.361	129.071	39.716	0.286	0.009	0.081	0.044	0.204
Arkansas	15.823	250.358	50.572	0.313	0.010	0.110	0.056	0.187
Arizona	19.961	398.456	54.445	0.367	0.010	0.108	0.044	0.234
California	26.636	709.496	110.864	0.240	0.010	0.105	0.076	0.135
Colorado	8.614	74.202	36.997	0.233	0.011	0.113	0.034	0.312
Connecticut	59.459	3535.410	154.044	0.386	0.017	0.277	0.093	0.178
District of Columbia	114.987	13222.010	158.536	0.725	0.033	1.059	0.046	0.712
Delaware	70.647	4990.962	138.212	0.511	0.021	0.449	0.084	0.252
Florida	13.434	180.484	45.571	0.295	0.008	0.072	0.044	0.194
Georgia	18.340	336.352	61.827	0.297	0.011	0.119	0.059	0.185
Hawaii	20.295	411.900	53.196	0.382	0.010	0.093	0.031	0.315
Iowa	12.903	166.494	55.845	0.231	0.009	0.079	0.047	0.188
Idaho	25.945	673.143	57.615	0.450	0.013	0.159	0.055	0.231
Illinois	27.148	736.993	75.400	0.360	0.010	0.101	0.059	0.171
Indiana	46.680	2178.990	60.365	0.773	0.020	0.393	0.049	0.404
Kansas	16.667	277.776	71.805	0.232	0.014	0.209	0.064	0.227
Kentucky	16.523	273.018	61.612	0.268	0.010	0.105	0.058	0.175
Louisiana	12.249	150.031	48.985	0.250	0.013	0.169	0.049	0.266
Masachusetts	45.392	2060.434	139.324	0.326	0.015	0.236	0.089	0.173
Maryland	14.381	206.819	50.339	0.286	0.006	0.034	0.036	0.162
Maine	15.055	226.661	49.278	0.306	0.010	0.099	0.041	0.241
Michigan	**36.400**	**1324.931**	**119.456**	**0.305**	**0.007**	**0.049**	**0.087**	**0.081**
Minnesota	23.793	566.112	96.833	0.246	0.016	0.255	0.064	0.248
Missouri	15.162	229.888	38.682	0.392	0.006	0.034	0.039	0.150
Mississippi	17.837	318.175	42.658	0.418	0.005	0.021	0.045	0.103
Montana	20.894	436.560	65.666	0.318	0.011	0.128	0.058	0.195
North Carolina	30.066	903.949	77.981	0.386	0.009	0.078	0.069	0.128

	std dev	var	MEAN	coef var	stdev	MEAN	var	coeffvar
North Dakota	26.967	727.244	70.551	0.382	0.014	0.198	0.061	0.230
Nebraska	16.211	262.782	45.762	0.354	0.005	0.027	0.040	0.130
New Hampshire	27.213	740.543	81.826	0.333	0.020	0.418	0.098	0.208
New Jersey	28.951	838.170	90.262	0.321	0.012	0.143	0.059	0.201
New Mexico	19.360	374.797	48.343	0.400	0.009	0.076	0.039	0.222
Nevada		0.000				0.000		
New York	43.925	1929.414	117.030	0.375	0.005	0.024	0.060	0.081
Ohio	10.690	114.278	51.562	0.207	0.016	0.247	0.050	0.317
Oklahoma	8.667	75.112	36.473	0.238	0.010	0.102	0.035	0.289
Oregon	15.957	254.613	60.403	0.264	0.016	0.259	0.054	0.298
Pennsylvania	25.743	662.710	91.256	0.282	0.012	0.138	0.075	0.156
Rhode Island	15.278	233.428	64.542	0.237	0.015	0.218	0.052	0.282
South Carolina	9.836	96.738	50.409	0.195	0.017	0.283	0.054	0.314
South Dakota	20.040	401.609	28.083	0.714	0.016	0.244	0.027	0.580
Tennessee	15.269	233.138	48.565	0.314	0.007	0.054	0.054	0.135
Texas		0.000				0.000		
Utah	18.804	353.577	40.512	0.464	0.006	0.035	0.036	0.163
Virginia	7.715	59.521	36.198	0.213	0.008	0.061	0.033	0.235
Vermont	14.088	198.475	55.670	0.253	0.012	0.146	0.047	0.259
Washington		0.000				0.000		
Wisconsin	16.403	269.072	69.059	0.238	0.008	0.068	0.049	0.168
W. Virginia	35.865	1286.327	52.128	0.688	0.021	0.435	0.041	0.509
Wyoming								
	std dev	var	MEAN	coef var	stdev	MEAN	var	coeffvar
Michigan	**36.400**	**1324.931**	**119.456**	**0.305**	**0.007**	**0.049**	**0.087**	**0.081**
average other states	35.154	7463.410	79.052	0.352	0.012	0.170	0.055	0.230

Table 10: Means and Variances of State Corporate Tax Collections, 1977-1997

	per capita corporate net income taxes				corp income tax as share of total taxes			
	standard deviation	variance	MEAN	coefficient of variation	standard deviation	variance (*1000)	MEAN	coefficient of variation
Alaska	555.000	308025.000	680.431	0.816	0.010	0.109	0.173	0.060

Alabama	11.361	129.071	39.716	0.286	0.009	0.081	0.044	0.204
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District of Columbia	114.987	13222.010	158.536	0.725	0.033	1.059	0.046	0.712
Delaware	70.647	4990.962	138.212	0.511	0.021	0.449	0.084	0.252
Florida	13.434	180.484	45.571	0.295	0.008	0.072	0.044	0.194
Georgia	18.340	336.352	61.827	0.297	0.011	0.119	0.059	0.185
Hawaii	20.295	411.900	53.196	0.382	0.010	0.093	0.031	0.315
Iowa	12.903	166.494	55.845	0.231	0.009	0.079	0.047	0.188
Idaho	25.945	673.143	57.615	0.450	0.013	0.159	0.055	0.231
Illinois	27.148	736.993	75.400	0.360	0.010	0.101	0.059	0.171
Indiana	46.680	2178.990	60.365	0.773	0.020	0.393	0.049	0.404
Kansas	16.667	277.776	71.805	0.232	0.014	0.209	0.064	0.227
Kentucky	16.523	273.018	61.612	0.268	0.010	0.105	0.058	0.175
Louisiana	12.249	150.031	48.985	0.250	0.013	0.169	0.049	0.266
Masachusetts	45.392	2060.434	139.324	0.326	0.015	0.236	0.089	0.173
Maryland	14.381	206.819	50.339	0.286	0.006	0.034	0.036	0.162
Maine	15.055	226.661	49.278	0.306	0.010	0.099	0.041	0.241
Michigan	**36.400**	**1324.931**	**119.456**	**0.305**	**0.007**	**0.049**	**0.087**	**0.081**
Minnesota	23.793	566.112	96.833	0.246	0.016	0.255	0.064	0.248
Missouri	15.162	229.888	38.682	0.392	0.006	0.034	0.039	0.150
Mississippi	17.837	318.175	42.658	0.418	0.005	0.021	0.045	0.103
Montana	20.894	436.560	65.666	0.318	0.011	0.128	0.058	0.195
North Carolina	30.066	903.949	77.981	0.386	0.009	0.078	0.069	0.128
North Dakota	26.967	727.244	70.551	0.382	0.014	0.198	0.061	0.230
Nebraska	16.211	262.782	45.762	0.354	0.005	0.027	0.040	0.130
New Hampshire	27.213	740.543	81.826	0.333	0.020	0.418	0.098	0.208
New Jersey	28.951	838.170	90.262	0.321	0.012	0.143	0.059	0.201
New Mexico	19.360	374.797	48.343	0.400	0.009	0.076	0.039	0.222
Nevada		0.000				0.000		
New York	43.925	1929.414	117.030	0.375	0.005	0.024	0.060	0.081

	std dev / var / MEAN / coef var				stdev / MEAN / var / coeffvar			
Ohio	10.690	114.278	51.562	0.207	0.016	0.247	0.050	0.317
Oklahoma	8.667	75.112	36.473	0.238	0.010	0.102	0.035	0.289
Oregon	15.957	254.613	60.403	0.264	0.016	0.259	0.054	0.298
Pennsylvania	25.743	662.710	91.256	0.282	0.012	0.138	0.075	0.156
Rhode Island	15.278	233.428	64.542	0.237	0.015	0.218	0.052	0.282
South Carolina	9.836	96.738	50.409	0.195	0.017	0.283	0.054	0.314
South Dakota	20.040	401.609	28.083	0.714	0.016	0.244	0.027	0.580
Tennessee	15.269	233.138	48.565	0.314	0.007	0.054	0.054	0.135
Texas		0.000				0.000		
Utah	18.804	353.577	40.512	0.464	0.006	0.035	0.036	0.163
Virginia	7.715	59.521	36.198	0.213	0.008	0.061	0.033	0.235
Vermont	14.088	198.475	55.670	0.253	0.012	0.146	0.047	0.259
Washington		0.000				0.000		
Wisconsin	16.403	269.072	69.059	0.238	0.008	0.068	0.049	0.168
W. Virginia	35.865	1286.327	52.128	0.688	0.021	0.435	0.041	0.509
Wyoming								
	std dev	var	MEAN	coef var	stdev	MEAN	var	coeffvar
Michigan	**36.400**	**1324.931**	**119.456**	**0.305**	**0.007**	**0.049**	**0.087**	**0.081**
average other states	35.154	7463.410	79.052	0.352	0.012	0.170	0.055	0.230

Table 11
Corporate Tax Sensitivity to Business Cycles

Dependent Variable: Log of State Net Corporate Income Tax Per Capita

Constant	4.66307 (0.84145)	4.71607 (0.07766)	4.37705 (0.05788)	4.7582 (0.08333)	4.3787 (0.08303)	4.2987 (0.05376)
State unemployment rate	-0.085388 (0.00911)	-0.01671 (0.00938)	-0.03489 (0.00652)	-0.02084 (0.00834)		
State unemployment rate * Michigan Dummy	0.085612 (0.01249)	0.016712 (0.00935)	0.066228 (0.008399)	0.067165 (0.00796)		
National unemployment rate					-0.036318 (0.007900)	-0.023424 (0.005133)
National unemployment rate * Michigan Dummy					0.085946 (0.01740)	0.084597 (0.01124)
Year Dummies?	N	Y	N	Y	N	N
State Dummies?	Y	Y	Y	Y	Y	Y
State Growth Dummies?	N	N	Y	Y	N	Y
R-squared	0.6349	0.8097	0.8452	0.8715	0.6115	0.8456
Number of obs.	934	934	934	934	934	934

Note to Table 11: the dependent variable is State net corporate income tax per capita. The table represents estimated coefficients from OLS regressions; heteroskedasticity-consistent standard errors are in parentheses.

Table 12
Variability of Corporate Tax Shares

Dependent Variable: Net Corporate Income Tax Share of Total State Taxes

Constant	0.055517 (0.00406)	0.054537 (0.004918)	0.06121 (0.003832)	0.579174 (0.005886)	0.05547 (0.003871)	0.056642 (0.003575)
State unemployment rate	-0.00120 (0.0044)	-0.00197 (0.000594)	-0.002173 (0.000431)	-0.001948 (0.000587)		
State unemployment rate * Michigan Dummy	0.004376 (0.00060)	0.004570 (0.000593)	0.004762 (0.000556)	0.004609 (0.0005631)		
National unemployment rate					-0.001141 (0.000366)	-0.001329 (0.00339)
National unemployment rate * Michigan Dummy					0.005615 (0.000813)	0.005634 (0.00075)
Year Dummies?	N	Y	N	Y	N	N
State Dummies?	Y	Y	Y	Y	Y	Y
State Growth Dummies?	N	N	Y	Y	N	Y
R-squared	0.5867	0.6288	0.6703	0.6882	0.5665	0.6665
Number of obs.	940	940	940	940	940	940

Note to Table 12: the dependent variable is net corporate income tax share of total state taxes. The table represents estimated coefficients from OLS regressions; heteroskedasticity-consistent standard errors are in parentheses.

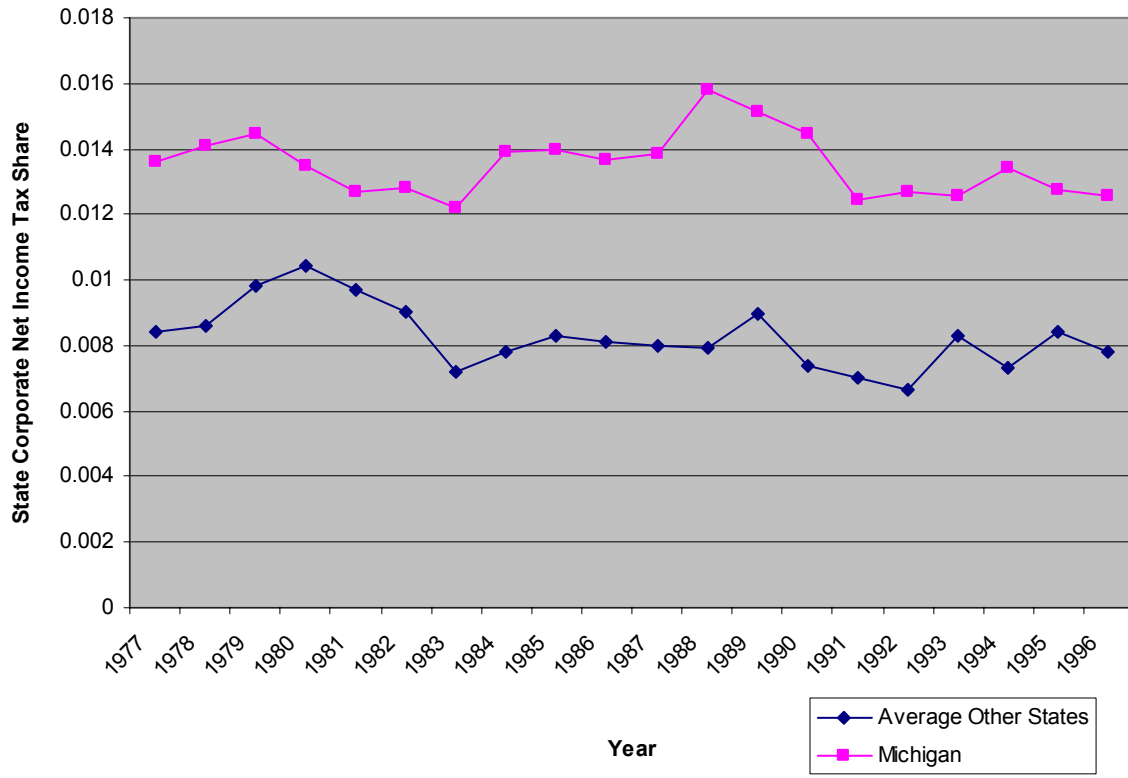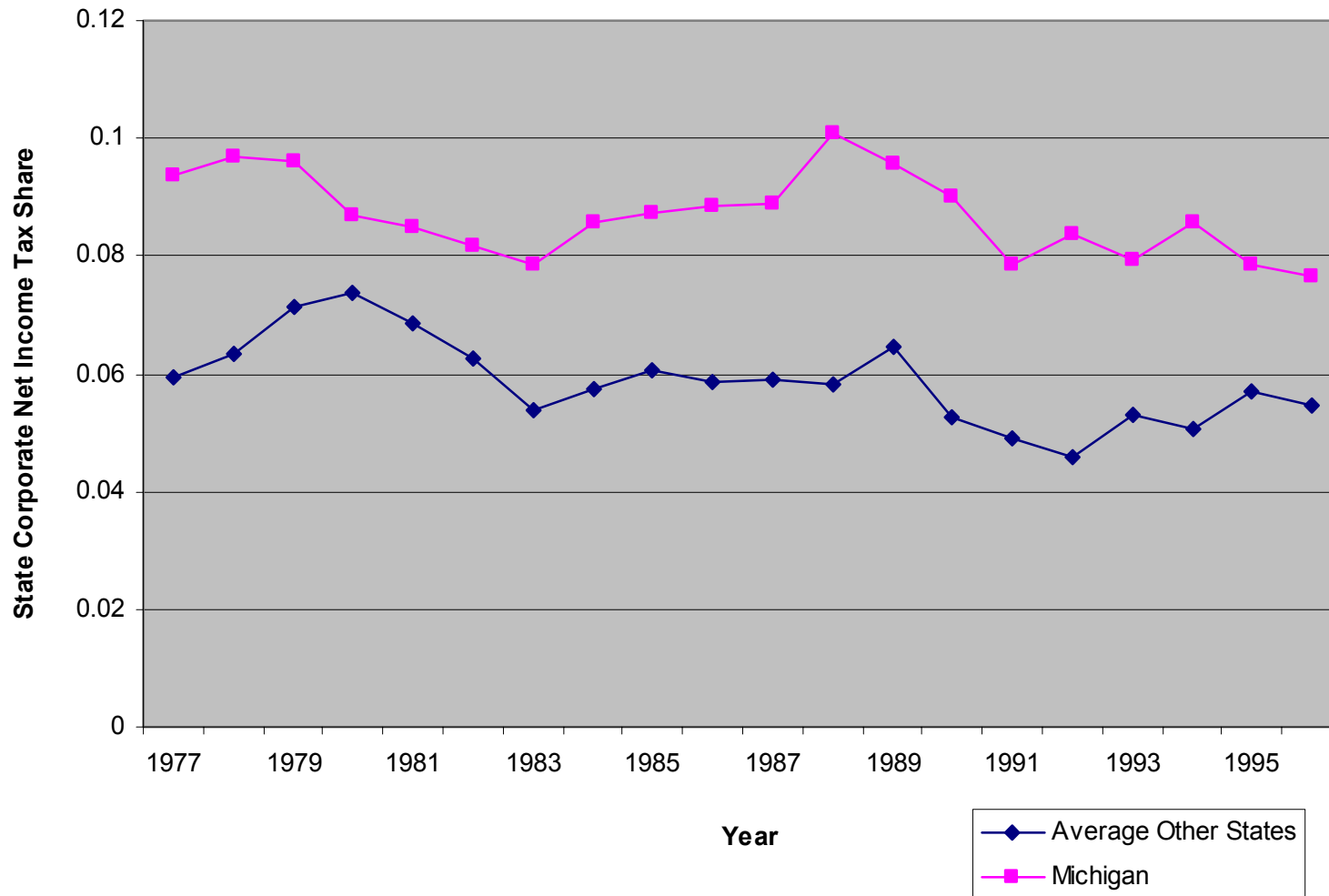**Figure 1: State Corporate Net Income Tax Share of State GSP, 1977-1996**

Figure 2: State Corporate Net Income Tax Share of Total State Taxes, 1977-1996

Appendix Table 1
State Taxation of Business Inventory Property

	State	Inventory Tax (in millions)	Elimination Status
1	Alaska	-	-
2	Arkansas	-	-
3	Georgia	-	-
4	**Indiana**	400	Passed HB1001 on 7/28/02 Phasing out inventory tax in 5 years
5	Kentucky	130	-
6	**Louisiana**	160	Phased out inventory tax in 5 years beginning in 1997
7	Maryland	-	-
8	Massachusetts	-	-
9	Mississippi	-	-
10	**Ohio**	820	Passed HB283 Phases out inventory tax in 25 years, beginning in 2002
11	Oklahoma	-	-
12	**Rhode Island**	-	Passed HB8478 on 6/25/98 Phasing out inventory tax in 10 years
13	Texas	-	-
14	Vermont	-	-
15	West Virginia	-	-

Note: The table lists states taxing business inventory property as of 2001.