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# The Use and Misuse of Interstate Tax Comparisons

RICHARD D. POMP\*

Interstate comparisons of the tax burdens imposed on corporations and individuals have become a standard feature of debates over state tax policy.<sup>1</sup> Too often, however, these studies have been used without any candid discussion of their inherent weaknesses. This lack of discussion is unfortunate, because the utility of interstate tax comparisons for state policy makers is problematic; serious questions can be raised concerning their use and abuse.<sup>2</sup>

This article provides a framework for evaluating interstate tax comparisons. The first section discusses the role of these comparative studies in formulating tax policy. The second section criticizes some of the measures that are commonly used in comparing the tax burdens of the states. The article concludes by recommending two approaches that attempt to eliminate some of the limitations that characterize tax burden studies.

## Uses and Misuses of Comparisons

### *Are Taxes Too High or Too Low?*

One of the most common uses made of interstate comparisons is to answer the question whether taxes paid by individuals or businesses are "too high." Although it is simple to state, this question is exceedingly difficult to answer. In the abstract, it is easy to agree that taxes are too high. Who would not like a tax reduction? On a more concrete level, however, the relevant inquiry is whether the amount of taxes paid represents

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fair value for the level of governmental goods, services, and transfer payments received by a state's residents. More specifically, how does the level of taxation compare with the quantity and quality of the goods, services, and transfer payments that such taxes finance? How do these goods and services compare with those that are desired by the electorate? If taxes were lowered, what would be the impact, if any, on the quality of life in a state?

These are critical questions in determining whether taxes are too high, but not ones that are explicitly addressed by interstate tax comparisons.<sup>3</sup> By their nature, such comparisons deal with only the revenue-raising side of the budget, not with the spending side. Thus, those comparisons provide an incomplete picture.

To begin with, differences in taxes might reflect differences in the scope or quality of governmental goods, services, and transfer payments. State and local governments differ from each other in terms of their size, location, demographics (e.g., population density, the number of families below the poverty level, and the number of elderly), degree of urbanization, commercial development, tax bases, and social philosophy. It is not surprising to find that residents of jurisdiction X prefer a higher level of goods, services, or transfer payments than do residents of jurisdiction Y. A study can determine that taxes are higher in X than in Y, but, on this basis, no inference could be drawn that taxes are too high in X. After all, "taxes are what we pay for civilized society,"<sup>4</sup> and jurisdictions differ in their views about what constitutes a civilized or just society.

Second, differences among states in levels of taxation might reflect differences of nomenclature, not differences in the scope or quality of governmental goods and services. For example, residents of jurisdiction X might "pay" for garbage collection, water, or sewerage through their property taxes, whereas residents of jurisdiction Y might pay for a similar level of services through user charges paid to either the public or the private sector. Thus, although the taxes of X might be higher than those of Y, there might be no difference between the two jurisdictions in point of expenditure.

Finally, differences in taxation might represent differences among the states in the cost of government. Residents of state X might pay more in taxes than do residents of state Y for the same level of goods and services because state X pays more to provide those services than does state Y. Costs can vary among states because of differences in climate, topography, demographics, age and condition of the infrastructure, degree of urbanization, or amount of bureaucratic waste and inefficiency. For example, the cost of maintaining a highway in a state that is subject to extremes in weather conditions is likely to be greater than that in a state having a temperate and more stable climate.

Another problem in providing a satisfactory answer to the question whether taxes are too high is specifying on whose behalf the question is being asked. For example, is it being asked whether taxes are too high for individuals or whether they are too high for corporations? If the former, what types of individuals are of concern? Commuters? Retired persons? Chief executive officers? Middle management? Blue-collar workers? Young professionals? People living at the poverty level? Taxpayers with capital gains, interest, or dividends? Married couples with two incomes?<sup>5</sup> Or, which corporations are of concern? Multistate corporations or intrastate corporations? Capital-intensive or labor-intensive corporations? Those that are part of a family of related corporations? Corporations selling primarily within or outside the state? Those that lease rather than own their property? As various studies have made abundantly clear,<sup>6</sup> a state tax structure can treat taxpayers with the same economic income very differently, so that the "too high" question cannot be answered without clearly defining the taxpayer. Put differently, the taxpayers of interest vary depending on why policymakers are asking this question.

Even after the relevant individuals or corporations are defined, studies of comparative tax burdens cannot answer the question whether taxes are too high relative to the quantity and quality of publicly provided goods, services, and transfer payments. Taxes represent only one-half of that question. Because the other half of the question—that requiring a comparison of the level and quality of government expenditures—presents significant methodological difficulties, the temptation is to focus on only the tax side of the question. Nevertheless, a systematic analysis of public expenditures is required before the "too high" question can be satisfactorily answered.

Interstate comparisons are sometimes used to determine whether taxes are "too low." Typically, the "too low" question is phrased in terms of whether an underutilized source of revenue exists. To be sure, in some cases, the underutilization of a tax base represents a conscious policy decision, such as that resulting in the lack of a broad-based income tax in Connecticut.<sup>7</sup> In other cases, however, policymakers in one state may be unaware that they are relying less heavily upon a particular tax base than are their counterparts in neighboring states. In any event, the "too low" question raises the same types of issues raised by the "too high" question.

### *Are Taxes Discouraging Economic Development?*

A second use of tax comparisons is to determine the effect of a state's tax system on attracting and maintaining businesses and their employees—an issue that is related to the "too high" (or "too low") question. Numerous and complex factors influence a business's decision on where to locate. In addition to taxes, these factors include: the cost of real estate, labor, raw materials, transportation, and energy; the condition of a state's

infrastructure—particularly, that of its schools and highways; the location of a business's market; and the quality of life that a state offers to executives and other employees. A state with low taxes may actually be unattractive to businesses and individuals if low taxes reflect an inadequate supply of those public goods and services that firms and their employees value. Indeed, taxpayers in various parts of the country have actually urged tax increases to finance education reforms<sup>8</sup> in attempts to attract businesses and their employees. Furthermore, if a low level of public goods and services in state Y results in businesses' having to provide for themselves what is publicly provided in state X, any advantages of Y's lower taxes may be offset by its higher costs of doing business.<sup>9</sup>

The factors that influence the location decisions of businesses have been studied by economists for at least 30 years. Much of the evidence raises serious questions regarding whether state business taxes play a significant role in location decisions.<sup>10</sup> Perhaps for this reason, attention has recently turned to the role played by a state's personal income tax.

The level of a state's personal income tax can indirectly affect a business's location decision in at least three ways. First, it might influence the decision of a corporation's chief executive officer to live in neighboring state Y rather than in state X, and the residence of the executive might influence a subsequent decision regarding the place where the business might expand or relocate. Second, for similar reasons, the level of taxation might discourage rank-and-file employees from living in state X. Unless workers are willing to commute from Y to X, the latter state may lack the labor pool necessary to attract certain businesses. Third, high personal income taxes might be reflected in higher wages; the increased cost of labor might make a state with such taxes less attractive to businesses.

At present, no rigorous empirical data exist that provide much insight into these issues. Furthermore, without an analysis of a state's public services and the whole panoply of factors that are embodied in the notation of "quality of life," comparisons of income tax levels are of limited utility, especially if a state's low income taxes are offset by a heavy reliance on other taxes.<sup>11</sup>

### *Are Taxes Out of Line With Those of Other States?*

A third use made of interstate comparisons is to determine whether a state is out of line with other states because its taxes are too high (or too low). As a matter of logic, a state can be out of line either because its taxes are too high (or too low) or because the taxes in other states are too low (or too high). In many cases, however, raising this issue is a way of asking whether a state's taxes are too high and expressing concern over the negative impact that the tax system might be having on a state's economy. In other cases, it is a way of identifying a potentially underutilized tax base.

Occasionally, the "out of line" argument is used as evidence of waste or inefficiency in government. For example, if the taxes of state X are higher than those of state Y but taxpayers in X receive less in governmental goods and services than do taxpayers in Y, the difference might be attributable to waste and inefficiency. Before this conclusion can be reached, however, differences in the cost and quality of governmental goods and services and the reliance on user charges need to be explored.

### *Are Taxes Fairly Distributed?*

A fourth, less frequent, use of interstate tax comparisons is to evaluate the fairness of the distribution of a state's tax burden. This inquiry has at least two aspects: the distribution of the tax burden between businesses and individuals, and the distribution of tax burdens among individuals or businesses. Theoretically, issues of fairness involve value judgments that should be independent of those reached by other states. Realistically, however, some constraints are imposed on policymakers. For example, many persons view a progressive tax as a fair tax. A conflict may arise, however, between the progressivity of a state tax system and the need to attract businesses and employees. At some point, a state tax system may be so progressive that it encourages middle- and high-income persons to live elsewhere, a consideration that may be especially relevant for states having metropolitan areas located within commuting distance from other states. Similarly, a state is not unconstrained in the proportion of its taxes that it can raise from businesses.<sup>12</sup> Ultimately, however, the economic effects of how a state distributes its tax burden cannot be determined without taking into account the identity of those who benefit from the provision of public goods and services.

### **Commonly Used Measures**

The first section of this article focused on the uses and limitations of studies comparing tax burdens among the states. For the purpose of that discussion, it is unnecessary to examine how the tax burdens were determined. The usefulness of a comparative study of tax burdens, however, depends upon the questions that such a study is intended to answer and the merits of the methodology used.

In the context of state debates over tax policy, the most commonly asked questions are whether a state's taxes are too high (or too low) and whether the level of taxation has harmed (or helped) the economy. The traditional approaches to answering these questions can differ, depending on whether the tax comparisons are for individuals or corporations. This section discusses three measures that are especially common in comparing the taxes on individuals:

1. Taxes per capita: the dollar amount of total tax collections divided by the population of a state;
2. Taxes as a percentage of personal income: the percentage resulting from dividing the dollar amount of total tax collections by the personal income of a state's residents; and
3. The representative tax system capacity and effort index: an index developed by the Advisory Commission on Intergovernmental Relations that is intended to measure the extent to which a state is exploiting its tax base.

These three approaches have become conventional measures of interstate tax burdens of individuals because they provide a consistent method of comparison and are easier to summarize and use than other, more sophisticated, measures. Each of these approaches, however, has serious limitations. As usual, a trade-off exists between simplicity and accuracy; the simpler the measure, the less information it typically conveys. After discussing these three conventional measures of personal income taxes, this section concludes with a discussion of those approaches that are commonly used for comparing the tax burdens of businesses.

The thesis of this section is that the most commonly used measures of interstate tax burdens do not provide a very useful basis upon which to formulate state tax policy. These measures are inadequate because they encourage policymakers and the public to use imprecise and broad generalizations instead of more precise and meaningful approaches. Two examples of the latter sort of approach are described in the next section.

### *Taxes per Capita*

The measurement of taxes<sup>13</sup> per capita is one of the most commonly used methods of determining tax burden because it is so easy to perform and understand. Unfortunately, it is also one of the least meaningful of all measures.<sup>14</sup> States with the same population may be very different in other critical respects that bear directly on the ability of their residents to pay taxes. Such a measurement ignores these other aspects and treats each member of a state's population identically, regardless of age, wealth, income, employment status, and marital or family status.

For example, assume that both state A and state B collect \$4,000 in taxes and that each state has four residents. Each resident in state A is employed and single, whereas the residents in State B consist of a family of four, with one wage earner. Assume that both states have identical tax systems.

Because both states collect the same amount in tax and have the same population, they have identical measures of taxes per capita ( $\$4,000/4 = \$1,000$ ). The identical per capita measure, however, ignores the fact that



A's revenue is derived from four members of the work force, whereas B's revenue is derived from one family, which has only one wage earner.

More generally, because the measure of taxes per capita is an aggregate measure, it provides no information about the specific tax burdens of particular taxpayers. The measure reduces the entire state tax system, with all of its complexities and nuances,<sup>15</sup> and the entire population, with all of its diversity, to one simple ratio. Such a measure cannot provide information about what kinds of persons or entities pay what kinds of taxes, and cannot capture differences in taxpayers' ability to pay.

Another way in which the per capita measure is weak is that it ignores the "incidence" of taxation—that is, the ultimate resting place of a tax, which can be very different from the person that pays the tax initially. For example, if the corporate income tax reduces the amount of dividends paid by the corporation, the incidence of the tax falls on shareholders. If, however, the corporation increases the price of its products by the amount of the tax, the incidence of the tax falls on consumers. Other incidence effects (or combinations of effects) are also possible. Moreover, determining the incidence of the tax is even more complicated, because shareholders (or consumers) adjust their behavior in response to their lowered dividends (or higher prices), and these adjustments have further economic repercussions. The taxes per capita measure assumes that the incidence of a state tax falls on the person who pays it. A realistic appraisal of the distribution of the tax burden, however, requires a determination of the ultimate incidence of a tax.

The taxes per capita measure ignores the ability of a state to export its taxes to residents of other states. For example, if a state corporate income tax reduces the amount of dividends paid, the tax falls on shareholders. But, some of these shareholders might not reside within the taxing state. Similarly, some of the consumers on whom a tax falls by dint of the increased price of a corporation's products might also reside in other states. Consider the fact that Alaska consistently ranks near the top when states are ordered on the basis of their taxes per capita. This high ranking, however, reflects Alaska's heavy reliance on the taxation of oil—taxes that, presumably, are paid by nonresidents. Furthermore, tax exporting is not limited to business taxes; other types of taxes can also fall on nonresidents. Part of a state's sales tax, for example, is collected from nonresidents—for example, commuters, business visitors, and tourists.

Conversely, the measurement of taxes per capita ignores tax importing. Taxes exported domestically by one state represent taxes that are imported by the residents of other states. A complete assessment of the level and distribution of tax burdens requires knowing not only which taxes are exported to nonresidents, but also which taxes are imported from other states.<sup>16</sup>

Yet another weakness of the taxes per capita measure is its failure to account for the federal offset. Because state and local taxes are an itemized deduction for purposes of the personal income tax,<sup>17</sup> their out-of-pocket cost is reduced by the savings that result from the concomitant decrease in the federal tax. For every \$100 in state and local taxes that are deducted, a taxpayer subject to a federal marginal tax rate of 50% saves \$50 ( $\$100 \times 50\%$ ) in federal taxes. Because state and local taxes are deductible only by taxpayers who itemize, the taxes per capita measure overstates the tax burden in such states as New York, which has a disproportionately large number of itemizers.

### *Taxes as a Percent of Income*

The measurement of taxes as a percent of personal income is another method commonly used in interstate tax comparisons. By dividing taxes<sup>18</sup> by the aggregate personal income of the residents of a state, this measure attempts to improve upon the taxes per capita measurement, which ignores such income. As a straightforward illustration of the differences between the measurement of taxes per capita and that of taxes as a percent of income (often expressed as taxes per \$1,000 of income), assume that state A has four residents, each earning \$10,000, and that state B has four residents, each earning \$100,000. States A and B both collect \$4,000 in taxes. The per capita burdens of the two states are the same—\$1,000 ( $\$4,000/4$ )—suggesting that the burdens on the taxpayers in each state are similar. However, taxes expressed as a percent of personal income are quite different: \$100 per \$1,000 personal income for state A [ $(\$4,000/\$40,000) \times \$1,000$ ] and \$10 per \$1,000 personal income for state B [ $(\$4,000/\$400,000) \times \$1,000$ ].

Although it is an improvement over taxes per capita as a measure of tax burden, the measurement of taxes as a percent of personal income shares many of the problems discussed above. It ignores the incidence of a tax, the federal offset, issues of tax exporting and importing, and how the burden of the tax is distributed among income groups. An additional problem involves the definition of income. There is a lack of accurate data on a comprehensive measure of economic income. Among the possible measures of income, none of which is comprehensive, are money income, resident personal income, disposable personal income, income by place of work, adjusted gross income, and taxable income.<sup>19</sup> The differences among these measures can be significant.<sup>20</sup>

Another weakness of this method is that it assumes that the numerator of the measure, tax collections, and the denominator, personal income, are independent of each other. In many cases, however, this assumption is weak. For example, some of the personal income included in the denominator is paid out of tax revenues (e.g., the salaries of state employees). More

significantly, government spending has a multiplier effect—that is, money spent by the state for public purposes flows through the economy, generating additional income. The government expenditure multiplier depends on the amount of government expenditures, the mix of public and private employment, and the types of goods and services purchased by the government; it is therefore likely to vary from state to state. Unfortunately, none of the measures of tax burden can easily incorporate this multiplier effect.

### *The Representative Tax System*

The representative tax system (RTS), developed by the Advisory Commission on Intergovernmental Relations (ACIR), uses three measures of interstate tax comparisons:

1. Tax capacity, which is intended to represent a state's overall ability to raise revenue, not to measure tax burdens;
2. Tax effort, which is intended to represent the degree to which a state exploits its tax capacity and is used by some groups as a measure of tax burden; and
3. Fiscal pressure, which compares the tax effort index to the rate of change in that index over a recent period of time.

The ACIR developed the RTS for use in federal grant-in-aid formulas that are intended to provide some fiscal equalization. Nonetheless, the ACIR recognizes that the RTS has had a wide appeal among those monitoring state and local tax trends and suggests that the RTS can be used by officials who are interested in making comparisons between their states and others.<sup>21</sup> The following subsections analyze separately the concepts of tax capacity, tax effort, and fiscal pressure; however, the latter two are based on the former and thus are derivative concepts, and incorporate all of its limitations.

**Tax Capacity:** The concept of tax capacity, or a government's ability to raise revenue, is not new. The issue of measuring tax capacity first arose in the United States in the debate over allocating the expenses of the national government among the states when the Articles of Confederation were being drafted.<sup>22</sup> More recently, formulas used for distributing certain grants—for example, general revenue sharing, Medicaid, and Aid to Families with Dependent Children<sup>23</sup>—among the states have incorporated this concept.

Several federal aid programs use per capita income as a proxy for fiscal capacity. This measure shares many of the weaknesses of the taxes per capita measure discussed above. Tax capacity as used by the RTS replaces per capita income with a more sophisticated approach. The RTS calculates tax capacity by estimating the hypothetical amount of revenue that

each state would raise if it were to apply a nationally uniform set of tax rates. The rates used in the calculation are "representative" because they are national averages for each type of tax. Differences in estimated tax yields among the states calculated on the basis of the RTS reflect only the differences in state and local tax bases. Tax capacity thus pertains only to the amount of economic resources in a state that is potentially taxable, regardless of whether, or at what rates, such resources are actually taxed.

The ACIR has developed a "tax capacity index," which compares each state's per capita tax capacity to the average for all states. An index of 100 is the average. These tax capacity indices provide a measure for comparing the states' tax profiles. For example, according to the ACIR, a state with an index of greater than 100 has more ability to raise revenue than does the "average" or "representative" state; an index of less than 100 represents a below-average ability to raise revenue.<sup>24</sup>

The concept of tax capacity and the ACIR's tax capacity index are often used in studies of tax systems. Although some measure akin to tax capacity is no doubt required when federal money is being distributed among the states—and the ACIR deserves credit for improving upon earlier measures—the concept has at least eight weaknesses that limit its usefulness for purposes of formulating state tax policy.

First, the tax capacity index is not independent of changes in state tax rates or structures. Consider, for example, that the average national personal income tax rate reflects Connecticut's lack of a personal income tax on earned income. If Connecticut were to adopt a broad-based income tax, its action would increase the average national rate of personal income taxation and, thus, the tax capacity of other states. However, taxpayers in these other states would not experience any increase in their economic well-being or ability to pay because of Connecticut's action.

As another example, consider that the average rate of sales tax is derived by dividing the amount collected under all state and local sales taxes by the amount of retail sales and receipts from selected services.<sup>25</sup> If one state were to increase its sales tax, or institute a sales tax for the first time, total collections would increase, thus increasing both the average rate of sales tax used by the RTS and the tax capacity of the other states.

Second, the ACIR methodology ignores the interrelated nature of the various tax bases. For example, the RTS measures the capacity of a state to tax property based on the aggregate value of property. State A and state B can have identical property values and, therefore, identical property tax capacities without having identical abilities to tax property.<sup>26</sup> If the residents of state A have higher incomes than do the residents of state B, A can impose higher property tax rates. It therefore has a greater capacity to tax property than does B, if it is assumed that property taxes are paid

out of current income. If A taxed income more heavily than did B, however, its capacity to tax property would be less than B's.<sup>27</sup>

Third, the size of a state's tax base may not be independent of a state's choice of rates. New Hampshire, for example, has a high capacity to tax liquor (as measured by its high per capita liquor sales) and a low tax rate. One of the reasons it might have a high capacity, however, is because its rates are low relative to its neighboring states, which helps attract out-of-state consumers. Its capacity to tax liquor might "dry up" if the state attempted to exploit this capacity by increasing its rates.<sup>28</sup>

Fourth, the RTS seeks to answer the question of how much revenue each state could generate if it used the national average rates. However, it is unclear what economic effects would occur if all states were to impose taxes at the national average rate for each tax included in the RTS. It is quite possible that no state would raise the revenue suggested by the RTS.<sup>29</sup>

Fifth, in order to update the RTS more quickly, the ACIR has simplified its methodology, which has reduced the value of the end product. For example, data on state and local jurisdictions were merged in 1973 so that there are no independent estimates for local jurisdictions.<sup>30</sup> Such estimates may be particularly relevant in such states as New York, where the interaction of state and local taxes presents policymakers with the problem of being able to increase local taxes only if revenue sharing between the state and its localities is decreased.

Sixth, despite simplifications in the RTS methodology, serious measurement difficulties remain. Residential property values, for instance, are reported by the Census Bureau every five years, and the techniques available for extrapolating the values for intervening years are less than perfect.<sup>31</sup> For example, if property values in an urban area during the late 1960s had been estimated by a linear regression based upon data for the preceding years, the property values would have been overstated because of the migration to the suburbs. Conversely, property values in suburban areas would have been understated.

Seventh, a methodological problem arises because each tax base used by the RTS must be determined on a state-by-state basis. In some cases, the information needed to make this determination does not exist. For example, the RTS includes the corporate income tax. In order to answer the question of how much revenue a state would raise by levying the average national rate, it must first be determined how much corporate income is allocated to that state. States typically use an equally weighted three-factor formula—one-third payroll, one-third property, and one-third sales by destination—to allocate a corporation's income. However, state-specific data on corporate property and sales are not available. Because state-specific information on payroll is available, the RTS assumes that prop-

erty is distributed in the same fashion as is payroll. To estimate sales by state, a national input-output table is used. It is unclear whether this approach is accurate.

Finally, the concept of tax capacity is open to misinterpretation. The nomenclature may suggest some fixed ability to raise revenue that is beyond the control of the state. This interpretation is incorrect, however, because deliberate government action can affect the size of a state's tax base. Zoning laws, for example, can affect the value of property. The legalization of gambling can provide a base for parimutuel taxes that previously did not exist, as well as increasing revenue from taxes on amusements and liquor.<sup>32</sup> The point is not that a state should pursue these actions, but only that, to some extent, a state's tax capacity is not immutable, and can be increased (or decreased) through its laws.

Notwithstanding these limitations, the ACIR's approach is a marked improvement over the less-sophisticated measures currently used for distributing federal grants. Once a decision is made to distribute funds, legislators must have some means for determining how much each state should receive, and the ACIR's work helps rationalize the programs of federal grants. What role the RTS can play for state tax policymakers, however, is less obvious. As the ACIR very carefully noted:

The use of a representative set of tax rates for capacity measurement in no way implies that a state should use the representative rates in practice. . . . The common set of tax rates used by the RTS reflects the typical behavior of all states and is not meant to be ideal or prescriptive.<sup>33</sup>

Despite its shortcomings, the RTS is a fertile source of data for tax policymakers, and is useful in identifying national or regional trends.

**Tax Effort:** A measure that complements the RTS tax capacity index is that of "tax effort." Whereas tax capacity concerns the relative size of a state's potential tax base, tax effort pertains to the degree to which the aggregate tax base is "exploited." Mathematically, a state's tax effort is the ratio of its actual tax collections to its tax capacity.<sup>34</sup> The ACIR has created a tax effort index by dividing each state's tax effort by the average for all states. An index of 100 is average.

A tax effort factor can be used in intergovernmental aid formulas, and the RTS approach is an improvement over less sophisticated measures. However, tax effort determinations are sometimes used as a measure of a state's tax burden—although, for the following reasons, the concept of tax effort is ill-suited to this type of use.

To begin with, the concept is derived from the RTS concept of the tax capacity of a state. Consequently, it suffers from all of the weaknesses inherent to this latter concept. Second, tax effort measurements do not adjust for tax exporting. A high tax effort does not translate into a large

burden on residents if the taxes are shifted to nonresidents. By relying heavily on taxes that can be shifted, a state may not have to so rely on its other tax bases.<sup>35</sup> Third, like all aggregate measures, tax effort measurements are not intended to reflect the tax burdens of *specific* taxpayers. Fourth, such measurements ignore the federal offset. Perhaps anticipating this misuse of the measurement, the ACIR warns that although the concept is a useful device to compare state tax policies, it should not be used to measure resident tax burdens.<sup>36</sup>

**Fiscal Pressure:** A third ACIR measure is the so-called fiscal blood pressure index, a "two dimensional measure which provides a view of how state tax efforts have changed over time, as well as their level at a given point in time."<sup>37</sup> The measure is expressed as the ratio of the current tax effort index to the tax effort index of a prior year. An index of 112/80, for example, indicates that a state's effort is 12% above average and that it has fallen by 20% since the previous year.<sup>38</sup>

The index was developed because it was thought that a static measure of tax effort did not adequately portray a state's fiscal strain. According to the ACIR, "the rate at which a state's tax effort is changing is a significant indicator of state fiscal stress because it reflects how *taxpayer burdens* are shifting." [Emphasis added.]<sup>39</sup> It is difficult, however, to reconcile this description with the ACIR's earlier warning that tax effort, upon which the fiscal blood pressure index is based, "fails to gauge accurately *resident tax burdens*." [Emphasis added.]<sup>40</sup>

Unlike the concepts of tax effort and tax capacity, the fiscal blood pressure index was not developed by the ACIR in order to rationalize the process by which the government distributes aid among the states. One of the reasons that the weaknesses in the tax effort and tax capacity measures are palatable is that some means must be developed for distributing federal grants as long as such funds exist. Certainly, a more sophisticated, albeit imperfect, measure is preferable to a less sophisticated, and more imperfect, measure. For purposes of state tax policy, however, the inevitable weaknesses in the tax effort and tax capacity measures, which are incorporated in the fiscal blood pressure measure, combined with the limited role that interstate comparisons play, limit the utility of these concepts in formulating state tax policy.

### *Special Measures Used for Businesses*

There are three common methods of measuring the tax burden of businesses. The first employs aggregate data on tax collections, gross profits, sales, and other items, and computes summary measures that might be considered "average rates" of business taxation. Typical of this approach is the ACIR's 1981 study, "Interstate Tax Competition," which measures

the business tax burden in a state by dividing taxes having an initial impact on business by total tax receipts. Many of the weaknesses discussed above apply to this approach, and these weaknesses help obscure much of what is of interest to policymakers.

The second approach focuses on the tax liabilities paid by a representative firm in a specific industry in each state. A one-year tax liability of the firm is calculated, and the states are then ranked according to this liability.

The third approach uses a computer model to simulate the tax treatment over time of specific representative firms at different locations. In order to isolate the effect of taxes alone, all other costs and revenue differences are held constant. The performance of each firm is simulated over a period of time, assuming a constant before-tax rate of return at a number of alternative locations. The after-tax rate of return is then calculated for each firm at each alternative location. Variations in after-tax rates of return are attributable solely to differences in tax treatment at the various locations. For reasons discussed below, the use of after-tax rates of return has significant advantages over the other approaches.

### **Preferred Approaches to Interstate Tax Comparisons**

Although the utility of interstate tax comparisons as ends in themselves is debatable, such comparisons are a necessary step in answering some of the more fundamental questions discussed in the first section of this article. Accordingly, they should be conducted as rigorously as possible.

Advanced computer technology and a generally greater level of technical sophistication have allowed researchers to improve upon the earlier types of comparisons discussed above. This section sketches two approaches to measuring tax burdens on corporations and individuals: taxpayer profiles for individuals, and after-tax rates of return for corporations. Although each approach has its own weaknesses, both hold the promise of facilitating more meaningful and better-refined comparisons.

#### *Taxpayer Profiles*

The use of taxpayer profiles allows a precise comparison of specifically defined taxpayers. Under this approach, samples of target taxpayers of particular interest to policymakers are identified—for example, young professionals, chief executive officers, retired couples, dual-income families, and commuters. Using state-specific data based on tax returns filed with the taxing state or IRS, or those based on other sources, the composition of the average target taxpayer's income (e.g., wages, capital gains, and pensions) and deductions (e.g., interest, medical expenses, and local taxes) at different income levels is determined. The items of income and



deductions for each taxpayer at each income level constitute the "taxpayer profile." The state and local income, sales, and property taxes paid by the representative taxpayers at locations in the taxing state and outside the state are then calculated and compared.<sup>41</sup> The federal income taxes paid by these taxpayers are calculated and the savings resulting from the deduction of state and local taxes—the federal offset—are also calculated. The amount of state and local taxes is reduced by the federal offset. The net out-of-pocket cost of state and local taxes can then be compared for all taxpayers at all sites. The computations of federal and state income taxes can be performed easily using commercially available software.<sup>42</sup>

The taxpayer profile approach has a number of significant advantages over the methods that rely more heavily on aggregate measures (e.g., measurements of taxes per capita, tax effort, and taxes per \$1,000 of income). Tax systems usually contain a plethora of special exemptions, exclusions, deductions, and credits that affect taxpayers differently. For each tax imposed, states employ their own definitions of the tax base and their own rate structures. The large variance in tax bases and rate structures is most graphic in the case of personal income taxes: States differ in their taxation of such items as capital gains, pension income, deductions allowable for business and personal expenses, provisions for personal allowances and exemptions, and availability of joint returns for married couples. Rate schedules illustrate similar diversity: States differ in their reliance on flat rates, mildly progressive rates, sharply progressive rates, and separate rates for earned and unearned income. Starting rates, top rates, and bracket widths also vary.

To be meaningful for comparing tax burdens, interstate studies of personal income taxes require a detailed description of such items as a taxpayer's income and deductions, marital status, and size of family. Consequently, a significant advantage of the taxpayer profiles is that they include a variety of taxpayers, with different amounts and composition of income and deductions, and different marital and family characteristics. This approach provides insight into how taxpayers in different economic circumstances are affected by state and local tax structures.<sup>43</sup>

A second advantage is that the taxpayer profiles include sales and property taxes, as well as income tax. Some studies focus only on the personal income tax, which can be misleading in such states as Connecticut, where the lack of a broad-based income tax results in that state's heavy reliance on property and sales taxes.

Another advantage of the taxpayer profile approach is that it reflects the effect of the federal offset. Because the federal offset mitigates some of the interstate differences in taxation, its incorporation into any study of comparative tax burdens is critical.

A recent study<sup>44</sup> employing the use of taxpayer profiles demonstrates

the dangers of relying on oversimplified approaches for comparing the tax burdens on individuals. The results of that study differed significantly from those of other studies using more aggregate measures. The differences, which were dramatic, suggested that meaningful comparisons require a detailed description of items such as the composition of a taxpayer's income, deductions, exemptions, marital status, sales taxes, and property taxes. Relying on more aggregate approaches, such as measurement of taxes per capita or taxes per \$1,000 of income, can be misleading.<sup>45</sup>

### *After-Tax Rates of Return*

Comparisons of firms based on their after-tax rates of return have at least six major advantages over the two other common approaches discussed above—the use of average rates based on aggregate data, and the use of one-year tax liabilities. First, the use of after-tax rates of return allows tax differentials to be completely isolated from other factors that may influence a firm's profitability. This approach allows a state or a firm to determine how significant other cost advantages have to be to overcome a tax disadvantage (or vice versa). Because the more aggregate studies cannot isolate tax differentials, they present a less accurate picture.

For example, consider the studies that use total tax collections divided by total business costs as their measure of tax burden. One problem with this approach is that costs and profits vary extensively by state and by industry. A high ratio of aggregate tax-to-business costs may not mean that a state is taxing heavily relative to other states; it may simply mean that nontax costs are low. A more fundamental defect in this approach, however, is that taxes and business costs are not always independent of each other. If government-provided goods and services reduce costs that a corporation would otherwise incur, a state with a high tax-to-cost ratio may actually be a better place in which to do business than a state with a low tax-to-cost ratio.

Other studies compare business tax burdens by dividing business taxes by total tax receipts, an approach that can also be misleading. The resulting ratio indicates only the proportion of state taxes paid by businesses, not the overall level of taxation. A state with a high ratio may actually impose a lower tax on businesses than does a state with a low ratio. Finally, any aggregate type of measure, whether taxes-to-business costs or business taxes divided by total taxes, cannot possibly reflect the range of special tax provisions that exemplify state tax structures. As one group of researchers stated: "It makes little sense to talk of State A being a higher taxing state than State B except in terms of particular firms and then only in relation to specific marginal investments."<sup>46</sup>

A second major advantage of using after-tax rates of return is that this method precisely captures the federal offset. For a firm subject to a 46%

federal marginal rate, a \$10,000 local property tax results in a net out-of-pocket cost of only \$5,400 [ $\$10,000 - (46\% \times \$10,000)$ ]. Conversely, a state investment tax credit of \$10,000 increases a firm's after-tax profits by only \$5,400, not by the full amount of the credit. This interaction between the federal corporate tax and state and local taxes is particularly important when considering policy changes. Unless this interaction is considered, the benefits to the firm cannot be accurately weighed against any revenue forgone.

Indeed, the federal offset highlights an inherent inefficiency in the use of state tax incentives. By lowering a corporation's state taxes, a tax incentive has the effect of increasing the corporation's federal taxes. For a corporation subject to a 46% federal marginal tax bracket, every \$100 of state tax savings increases its federal taxes by \$46. In other words, a state forgoes \$100 in tax revenue, but the corporation receives only \$54 ( $\$100 - \$46$ ) in net benefit, with the federal government receiving \$46 of increased revenue. Put differently, to reduce a firm's taxes by \$100, a state must forgo \$185 in taxes, with the federal government benefiting by \$85. This "reverse revenue sharing," which is inherent to state tax incentives, is fully captured by the use of after-tax rates of return.<sup>47</sup>

Third, the use of after-tax rates of return helps determine whether tax provisions may affect different firms in different ways. Firms earning identical before-tax profits may pay different taxes in the same jurisdiction. Tax liabilities may vary with asset composition (personal versus real property), the location of sales (in state or out of state), and the size of the firm. As an example, the accelerated cost recovery system enacted into federal law in 1981 provides significant advantages to firms with a large proportion of their assets in depreciable property. "Decoupling," that is, not incorporating these federal changes into state tax law, thus affects some firms more than it does others.<sup>48</sup> Similarly, a New York-based manufacturing firm that sells a substantial portion of its product out of state can take advantage of New York's investment and employment tax credits,<sup>49</sup> the "double-weighted" receipts factor<sup>50</sup> in the business income allocation (apportionment) formula, and the ability to allocate its income outside the state, regardless of whether it has a regular place of business outside New York. Another firm with identical profits will pay higher taxes if it sells all of its output within the state or if it is ineligible for the investment tax credit. In formulating state policy, it is important to know whether the tax system favors or disfavors firms with particular characteristics or those in specific industries. Unlike the more aggregate measures of corporate tax burden, the use of after-tax rates of return is designed specifically to capture these differences.

Fourth, after-tax rates of return capture both the level and patterns of tax liabilities over time. A firm contemplating a new investment is con-

cerned not only with the taxes it will pay in the first year of its investment, but also with its tax liabilities over time. A one-year measure of tax liability is misleading because taxes vary from year to year. A corporate income tax, for example, is not paid during loss years (typically occurring during a start-up period), whereas property taxes are. The use of after-tax rates of return readily accounts for the level, pattern, and duration of the firm's tax liabilities.

Fifth, the effects of changes in the tax law on the profitability of firms can be evaluated using after-tax rates of return. Changes in such parameters as depreciation rates, allocation formulas, tax credits, and tax rates can be simulated and the impact on profits—often surprisingly small—can be measured.

Finally, a corporation considering a new investment in one state is concerned with the effect of that investment on its tax liabilities in other states. Because states divide up the income of a corporation in various ways for income tax purposes, the taxes paid in state A can be affected by a corporation's expansion into state B. A calculation of after-tax rates of return captures this interaction, whereas a one-year snapshot of the taxes paid to state B does not.

## Conclusion

The value of interstate tax burden comparisons for state policymakers is limited. If such comparisons are made, they should be conducted in a rigorous and meaningful manner. Methods better than the traditional measures used to compare interstate tax burdens are currently available. The use of taxpayer profiles for comparing individuals and the use of after-tax rates of return for comparing corporations offer significant advantages over cruder methods or those that rely more heavily on aggregate measures, such as approaches based on taxes per capita, taxes as a percent of income, or average rates of business taxation. The traditional approaches might be useful in identifying broad trends over time, but that information, by itself, may mask rather than expose critical issues.

The diversity and complexity of tax systems make it misleading to talk about "the income tax" or "the franchise tax." Most tax codes are the aggregation of many tax codes, with rules that vary depending on the kind of activity or investment, type of taxpayer, or composition of income and deductions. Provisions that adversely affect certain taxpayers may benefit others. Naive measures that fail to capture this lack of a "level playing field" are of limited value to state policymakers.

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1. See, e.g., Rhode Island Public Expenditure Council, "Taxes on Business in 1976: Rhode Island Compared to 11 Competitor States" (April 1977); "Report by the California Tax Reform

Advisory Commission" (February 11, 1985); "State and Local Government Finances in Rhode Island in the 1980's: Major Findings and Recommendations of the Governor's Advisory Commission to Study the Financial Operations of State and Local Governments and the Interrelationships in Delivering Public Services" (December 30, 1982); "Funding Texas State Government: An Analysis of Taxes and Non-Tax Revenues, A Report to the Joint Select Committee on Fiscal Policy" (January 1985); Strauss, "Equity and Economic Impact of Business Taxes, A Research Report of the West Virginia Tax Study Commission" (March 1984); "Idaho Taxes: Comparative Analysis, Evaluation and Recommendations, Report of the Governor's Committee on Taxation" (September 1978); "The Revenue Gap and Distribution of the Tax Burden, Part I of the Report of the New Jersey Tax Policy Committee" (February 23, 1972); "Final Report of the Pennsylvania Tax Commission" (March 1981); Federal Reserve Bank of Boston, "Options for Fiscal Structure Reform in Massachusetts," Research Report 57 (March 1975); Lile, "Tax Options for Kentucky State Government," Policy Paper Series No. 11, Kentucky Council of Economic Advisors (October 1981); Rogers, "Financing Fiscal Reform in Connecticut" (December 1976); "The Connecticut Bipartisan Commission on State Tax Revenue and Related Fiscal Policy," Final Report (1983); and J. Papke, ed., *Indiana's Revenue Structure: Major Components and Issues* (West Lafayette, Ind.: Purdue University, undated).

2. Professor Zubrow issued a similar warning 25 years ago:

The measurement of comparative state and local tax burdens constitutes one of the more formidable if not wholly intractable tasks in the field of public finance. This is usually recognized by students of taxation despite the fact that special tax committees, industrial development agencies, representatives of business and sundry other special interest groups are continually "proving" that the tax burdens in their respective states or communities are either higher or lower than those prevailing elsewhere.

Zubrow, "Some Difficulties with the Measurement of Comparative Tax Burdens," *Proceedings of the 54th Annual Conference of the National Tax Association* (1961), p. 151. The temptation to continue to misuse such studies is apparently irresistible.

3. *Id.*

4. *Compania General de Tabacos de Filipinas v. Collector of Internal Revenue*, 275 U.S. 87, 100 (1927). See also Hall, "Tax Comparisons," 12 *Nat'l Tax J.* 73 (March 1959):

Customarily, high per capita state and local tax collections are interpreted as meaning heavy tax burdens on the citizens of a state. To the extent that taxes paid to state and local governments finance governmental services which, singly and in the aggregate, have a marginal utility equal to or greater than the marginal utility of goods and services which might alternatively have been purchased from the private sector of the economy, the services of government represent a "good buy" and a wise use of personal income. As citizens, we do not regard the reduction in disposable income required to purchase a loaf of bread, a suit of clothes, or a car as representing a "burden." Rather, it is a process of converting our dollar income into goods and services which represent our desires for consumption. Dollars for goods and services is an exchange of equivalents—a *quid pro quo* in a different form. So it is with the services of government for which we pay a price in the form of taxes.

Of course, not all expenditures are equally beneficial to every taxpayer. Public spending might be high to provide benefits that a large number of persons enjoy, to provide benefits that relatively few (but influential) persons enjoy, or to alleviate problems that have been involuntarily imposed upon a state, such as a disproportionate share of the nation's poverty, unemployment, urban decay, or crime. Whether particular individuals or corporations view a state's taxes as being too high will depend on how they value the mix of public goods, services, and transfer payments.

5. See text accompanying note 43 *infra*.

6. See Reports by the Staff of the New York Tax Study Commission, "The State Personal Income Tax: Taxation of the Family and Low Income Relief" (June 20, 1984); "The Article 9-A Franchise Tax: The Deduction for Corporate Income Taxes Paid to Other States" (June 7, 1984); "The New York State Investment and Employment Tax Credits" (March 11, 1985); "The Article 9-A Franchise Tax: The Double Weighted Receipts Factor" (August 23, 1985);

"The New York State Personal Income Tax: An Overview" (May 29, 1985); "The New York Personal Income Tax: Provisions Affecting the Determination of Gross and Adjusted Gross Income" (July 25, 1985); "The New York Personal Income Tax: The Itemized Deductions (Part I)" (February 18, 1986); "The New York Personal Income Tax: The Itemized Deductions (Part II)" (forthcoming); "Interstate Tax Comparisons: Individual Taxpayers" (August 7, 1985); "Who Pays New York Taxes?" (August 16, 1985); and "Interstate Tax Comparisons of Manufacturing Corporations" (July 8, 1985).

7. It is widely believed in Connecticut that the lack of a broad-based income tax has resulted in an influx of corporations, especially into the southern part of the state. No empirical data exist proving or disproving this proposition. Research into this issue is complicated, because the absence of a broad-based income tax presumably explains why Connecticut has some of the heaviest excise taxes, property taxes, and corporate income taxes in the nation and, consequently, any negative effect of these taxes must be taken into account in evaluating the overall effect of low income taxes. Moreover, although Connecticut does not have a broad-based income tax, it does tax interest, dividends, and capital gains at substantial rates (7% for capital gains and up to 13% for dividends and interest).

8. See, e.g., *The New York Times*, April 23, 1983, p. 7.

9. But, see *supra* note 4 (last paragraph).

10. The evidence is reviewed in Report by the Staff of the New York Tax Study Commission, "Interstate Business Locational Decisions and the Effect of the State's Tax Structure on After-Tax Rates of Return of Manufacturing Firms" (December 31, 1984). See also Pomp, "The Role of State Tax Incentives in Attracting and Retaining Business," *Reindustrializing New York: Partnerships for Economic Growth* (forthcoming 1986); reprinted in Multistate Tax Commission Review (August 1985), 29 *Tax Notes* 521 (1985), and *Colorado Municipalities* (March-April 1986), p. 28; and excerpted in 13 *People and Taxes* 1 (September 1985). The argument in the text should not be misinterpreted as an invitation for a state to cavalierly increase its taxes on business—at some point, deleterious effects can be expected.

11. The author's experience as a tax lawyer suggests that persons who make the location decision for a firm, such as chief executive officers, are sufficiently tax conscious to have already minimized their federal income tax liabilities. Because most state income taxes are tied into the federal income tax either directly or indirectly, chief executive officers who have minimized their federal income tax have also minimized their state income tax as well. In such a case, interstate income tax differentials can have little impact on a personal decision regarding where to live. More idiosyncratic factors, such as proximity to sailing or skiing or having enough land to keep horses, can easily be decisive. A quantitatively oriented study based on personal income tax rates cannot easily capture these factors and can, therefore, reach misleading conclusions.

12. See *supra* note 10.

13. Taxes can be defined in various ways—e.g., all state and local taxes or a subset of all taxes such as business taxes or personal income taxes. For the purposes of this discussion, the exact definition is irrelevant.

14. Zubrow, note 2 *supra*, at 154:

Of course, we all recognize that [taxes per capita] generally conceal more than they reveal and further discussion would be somewhat akin to beating the proverbial dead horse if it was not for the fact that our desks are flooded by a constant stream of tax studies, bulletins, compendia, and special reports in which the analysis and conclusions are drawn on the basis of per capita data.

15. See text accompanying note 43 *infra*.

16. For a study of tax incidence, tax importing, and tax exporting in New York, see Report by the Staff of the New York Tax Study Commission, "Who Pays New York Taxes?" (August 16, 1985). This report was based on a paper prepared for the New York Tax Study Commission by Professor Donald Phares. Professor Phares has done extensive work on the exporting, importing, and incidence of state taxes. For his work in this area, see *State-Local Tax Equity: An Empirical Analysis of the Fifty States* (Lexington, Massachusetts: Lexington Books, 1973) and *Who Pays State and Local Taxes?* (Cambridge, Massachusetts: Oelgeschlager, Gunn and Hain, 1980). See also McLure, "The State Corporate Income Tax: Lambs in Wolves' Clothing," *The Economics of Taxation*, ed. H. Aaron and M. Boskin (Washington, D.C.: Brookings Institute, 1980), pp. 327-46.

17. President Reagan has recently proposed that the itemized personal deduction for state and local taxes be eliminated. See *The President's Tax Proposal to Congress for Fairness, Growth and Simplicity*, May, 1985. As this article goes to press, it appears that with the possible exception of that for sales tax, the Congress is unwilling to eliminate the deduction.

18. See *supra* note 13.

19. See Advisory Commission on Intergovernmental Relations (ACIR), "Tax Capacity of the Fifty States: Methodology and Estimates" (March 1982) (hereinafter "ACIR Tax Capacity Methodology, 1982") pp. 6-7.

20. *Id.*, Table 1, at 8-9. ACIR statistics, which are a commonly used source of data, are based on the U.S. Commerce Department's Bureau of Census estimates that include only money income and ignore in-kind payments, imputed income, and income that has accrued but has not yet been realized. A state with an above-average percentage of taxpayers below the poverty line has an artificially inflated measure of taxes as a percent of income, because the definition of income does not capture some forms of income received by the poor—e.g., subsidized housing and food stamps. A state with an above-average percentage of wealthy taxpayers has an artificially depressed measure of taxes as a percent of income because of the failure to include accrued but unrealized gains.

Another difficulty arises because a person's annual income, which is the basis of the Census data, may be less than his or her average annual income when measured over a larger period of time. This is, a person may have an annual income that is lower than usual because of temporary unemployment, sickness, or recent retirement. Such a taxpayer would appear less poor if income were averaged over a period of time longer than a year.

Finally, it is believed by some researchers that people who have low incomes tend to purposely underreport their actual income in surveys such as that conducted by the Census.

21. *Id.* at iii.

22. *Id.* at 1.

23. *Id.* at 2 and 3.

24. *Id.* at 22.

25. *Id.*, Table 2, at 18 and 19.

26. *Id.* at 13, citing Akin, "Fiscal Capacity and Estimation Method of the Advisory Commission on Intergovernmental Relations," 26 *Nat'l Tax J.* 280 (June 1973). See also Akin, "Estimates of State Resource Constraints Derived from a Specific Utility Function: An Alternative Measure of Fiscal Capacity," 32 *Nat'l Tax J.*, (March 1979), pp. 66-71.

27. ACIR Tax Capacity Methodology, 1982, *supra* note 19, at 13.

28. *Id.* at 14.

29. *Id.*

30. *Id.* at 12.

31. *Id.*

32. *Id.* at 14, citing Reischauer, *Rich Governments—Poor Governments*, pp. 3-48.

33. *Id.* at 11.

34. *Id.* at 43.

35. The ACIR excludes Alaska's severance tax from that state's measure of capacity in an effort to reduce the distortion that would otherwise result. ACIR, 1981 Tax Capacity of the Fifty States (hereinafter, "1981 Tax Capacity"), p. 14.

36. ACIR Tax Capacity Methodology, 1982, *supra* note 19, at 48.

37. *Id.*

38. *Id.*

39. *Id.*

40. *Id.*

41. If reliable data existed, user charges and other types of taxes could also be incorporated into a study based on taxpayer profiles.

42. For a detailed presentation of this approach, see Report by the Staff of the New York Tax Study Commission, "Interstate Tax Comparisons: Individual Taxpayers" (August 7, 1985); see also Lile and Soule, "Interstate Differences in Family Tax Burdens," 22 *Nat'l Tax J.* 433 (December 1969).

43. The statements in the text are equally true of other taxes, such as estate taxes. Taxpayer profiles can be easily used with respect to estate or inheritance taxes, although for

this purpose, the composition of a taxpayer's wealth, rather than his or her income, would be the relevant characteristic.

44. See Staff Report, *supra* note 42.

45. The use of taxpayer profiles described in the text assumes that the incidence of the income, sales, and property taxes falls on the individual. Although this assumption is unlikely to be equally true for all three of these taxes, the more aggregate measures that are used for interstate tax comparisons typically make the same assumption.

46. Vasquez and deSeve, "State/Local Taxes and Jurisdictional Shifts in Corporate Business Activity: The Complications of Measurement," 30 *Nat'l Tax J.* 293-294 (September 1977). See also Papke and Papke, "The Competitiveness of Indiana's Business Tax Structure," *Indiana's Revenue Structure: Major Components and Issues*, ed. J. Papke (West Lafayette, Ind.: Purdue University, undated).

47. A reduction in the rate of the franchise tax would also have the effect described in the text. A state program structured to provide a tax-free benefit to a corporation would not have such an effect, provided that the program did not reduce a cost that a business would have otherwise incurred.

48. For a discussion, see Report by the Staff of the New York Tax Study Commission, "The Article 9-A Franchise Tax: Should New York Adopt ACRS?" (December 31, 1984).

49. For a discussion, see Report by the Staff of the New York Tax Study Commission, "The New York State Investment and Employment Tax Credits" (March 11, 1985).

50. For a discussion, see Report by the Staff of the New York Tax Study Commission, "The Article 9-A Franchise Tax: The Double-Weighted Receipts Factor" (August 23, 1985).