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THE ELUSIVE INCIDENCE OF THE CORPORATE INCOME TAX: THE STATE CASE

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ABSTRACT

A recurring theme in the literature on taxation has been uncertainty about the incidence of the corporate income tax. The answer may be even more elusive for state taxes than for federal taxes. As seen by one state, a corporate income tax levied on the basis of formula apportionment of total income is a composite of taxes levied on whatever factors enter the state's apportionment formula. Such a tax is likely to be borne primarily by residents of the taxing state, as consumers, immobile workers, and owners of land and immobile capital. Substantial shifting to consumers or capitalists throughout the nation is unlikely.

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THE ELUSIVE INCIDENCE OF THE CORPORATE INCOME TAX:
THE STATE CASE

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I. Introduction

A recurring theme in the literature on the economics of taxation for much of the last half century has been uncertainty about the incidence of the corporate income tax. The traditional result has been that shifting of a tax on pure profits is impossible under conditions of profit maximization, in either a competitive industry or an industry monopolized by one firm. But a multitude of reasons have been offered why a tax levied on firms that do not maximize profits might be shifted to either consumers or labor, especially under non-competitive conditions that fall short of monopoly.[1] Moreover, it has been noted that the corporate income tax, as actually applied, is not a tax on pure profits, but largely a tax on the return to equity capital. As such, it has important distortionary effects on firms' financial decisions (debt-equity ratios and dividend-payout rates) and production techniques (capital-labor ratios) and on consumers' choices (between corporate and non-corporate output and between labor- and capital-intensive goods) and therefore distorts the allocation of resources in the economy. By changing relative product prices, as well as relative factor returns, the corporate income tax has important distributional effects that are not adequately captured by partial equilibrium analysis and the usual dichotomous alternatives of "shifting" or "no shifting."

These are commonly analyzed using general equilibrium analysis such as that pioneered by Harberger (1962).[2]

During the 1970s the static theoretical literature seems to have come full circle with the Stiglitz (1973) argument that under certain circumstances the corporate income tax does not apply to the return on marginal investment in the corporate sector and therefore does not have the distortionary impacts and effects on relative prices attributed to it by Harberger.[3] Finally, dynamic analysis suggests that unless the tax can be fully shifted in the short run, it is likely to depress saving and have an adverse effect on capital formation,[4] resulting in a lower equilibrium capital-labor ratio and real wage rate.[5] That is, in the long run workers may bear part of the burden of the corporate tax.

Unfortunately, the controversy over the empirical evidence on the incidence of the corporate tax that raged during the 1960s did not really shed much light on the issue.[6] The pioneering econometric effort by Krzyzaniak and Musgrave (1963) reported shifting of 100 percent (or more) of taxes, but was seriously flawed. Other economists have fared far better in finding problems with the K-M and similar efforts than in producing reliable estimates of their own of the degree of shifting. Given this state of theoretical and empirical affairs, it is no surprise that only two-handed economists could give honest policy advice on questions depending on the incidence of the corporate income tax. (For example, discussions of substituting the value-added tax for the corporate income tax were couched in terms of "if, on the one hand, the corporate income tax is shifted ..." and "if, on the other hand, it is not ...")

Some economists have even gone so far as to argue that both theoretical and empirical efforts to isolate the incidence of the corporate income tax are doomed by inherent methodological defects. Musgrave (1959, chapter 10) notes that it is generally unsatisfactory to ask the (absolute) incidence of a particular tax, without specifying the use made of the revenues it raises. But once allowance is made for the use of revenues, the theoretical effects and empirical measurement tend to confound the incidence of the tax in question with the effects of either government spending (balanced-budget incidence) or offsetting tax reduction (differential incidence). Theoretical analysis can be constructed that allows these methodological problems to be handled fairly satisfactorily, at least in the eyes of some. But it is far more difficult to be sure that they are treated adequately in empirical work.[7]

Despite the theoretical uncertainties, methodological problems, and empirical controversies mentioned above, public finance specialists are probably in general agreement about the incidence of corporate income taxes. Most would now probably agree that short-run shifting to consumers or workers is unlikely, but that longer-range shifting to owners of capital outside the corporate sector through the Harberger mechanism or effects on capital formation and wage rates might be somewhat more likely.

All too often discussions of the incidence of state corporate income taxes proceed along the lines outlined above, without notice being taken that the line of reasoning is generally likely to be inappropriate for the question at hand. That is, authors reproduce the standard litany just presented, with roughly the same footnotes. Hardly ever do they tailor their analysis to reflect the fact that the tax they are talking about is levied by one of fifty jurisdictions, rather than by the national government, and that most of the income of multi-state firms is divided among states for tax purposes through the use of apportionment formulas.[8] The purpose of this paper is to attempt to remedy this defect by extending the litany to cover the incidence of state corporate income taxes. It will be seen that the answer to the question "Who pays the corporate income tax?" may be even more elusive for state taxes than the uncertainty of the standard answer suggests and that one cannot even begin to answer the question for state taxes unless one is careful to specify the question more precisely than is usually done.[9]

II. How State Taxes Are Levied.[10]

Before a state can levy its income tax on a corporation, it must determine what portion of the firm's profits throughout the nation it should (or may[11]) subject to tax. The vast majority of corporate income is divided among states through the use of formula apportionment. Under this approach, a state taxes a percentage of the firm's total "business" income equal to the average of one or more measures of the state's share of the firm's overall economic activity conducted both within and outside the taxing state. These measures are commonly payroll, property, and sales, and a simple average of the three is ordinarily used. But some states use fewer "factors" in their formulas and some do not give equal weight to the factors.

Some kinds of income are allocated to specific states, rather than being apportioned by formula. For example, rental income from real estate is ordinarily taxed by the state in which the property is located, and many states provide for income from intangibles, such as interest and dividends, to be taxed by the state of commercial domicile of the recipient corporation. But some states consider dividends from affiliated firms as part of the "unitary" business income of the recipient corporation and apportion them by formula. This is especially true in the case of states that employ unitary combination (to be described below).

It is quite uncommon for states to use "separate accounting," in which operations in various states would be taxed as though carried on by separate legal entities, with profits being determined to an important extent through the use of arm's length prices constructed for the purpose. This approach is, by contrast, used by the federal government in determining whether income of multinational corporations originates within the U.S. or abroad.

Groups of affiliated firms are treated in various ways by different states. Some simply ignore the fact of affiliation, treating each legal entity as a separate tax-paying unit. These are the states most likely to adopt specific allocation for dividends. Others treat dividends from affiliates as income to be apportioned by formula. Of these, some simply include dividend income (including that from foreign affiliates) in the recipient's income to be apportioned, but make no adjustment to the factors used in calculating the state's share in total income.[12] Others adopt a more consistent practice in which the factors of the various affiliated corporations, as well as their income, are combined before the formula is applied to calculate the state's share in taxable income. This is ordinarily done when the affiliated firms are deemed to be engaged in a "unitary" business.[13] Some states (especially California) even go so far as to apply "worldwide unitary combination," under which American firms are required to combine their income and factors with those of their foreign affiliates.

III. The Incidence of State Taxes

The description of state tax practices in the previous section should be enough to cause anyone to pause before simply opening the economist's cookbook to the recipe for "corporate tax incidence" and copying down the federal recipe. There are actually <u>two</u> recipes for the incidence of state corporate taxes. One is basically identical to that for the federal tax; but it is not the relevant one for most policy purposes. The more relevant recipe for the analysis of state taxes gives results that are quite different from the federal results.

A. What is the question?

If all states levied identical corporate income taxes and one were interested in the incidence of the system of uniform state taxes, it would generally be satisfactory simply to inquire about the incidence of an equivalent tax levied at the national level.[14] After all, the fact that the revenue flows to fifty jurisdictions, rather than to one, should have no effect on the incidence of the tax.[15] Of course, state income taxes are not levied on identical bases and at uniform rates, and the factors used to apportion income among states are not identical. But one can, nonetheless, meaningfully ask about the overall incidence of the <u>average</u> state corporate income tax (or the aggregate of all such taxes). The answer to such a question would be useful, for example, if one were interested in including state corporate income taxes in an analysis of the incidence, by income classes, of all taxes levied in the United States.[16] For this purpose the federal recipe would be appropriate, at least as a starting point.[17]

This kind of analysis is not, however, generally applicable if one is interested in knowing the incidence of the corporate income tax imposed in a given state, considered by itself. If, for example, one wanted to know how much of the tax is exported to nonresidents of the taxing state and how the remainder is split among various groups of residents, the existence of corporate taxes in other states would be largely irrelevant, and it would not be correct to make the same assumptions about theoretical results as for the federal tax. Rather, the analysis must be designed to fit the question at hand. This is easily seen by considering the two most commonly accepted alternative theoretical results for the federal tax: burden on consumers and burden on capital.

To the extent that corporations operating in the taxing state sell in national markets, it seems quite unlikely that they would be able to pass the tax forward to consumers throughout the nation. Competition from firms located elsewhere and not subject to the tax would preclude this forward shifting.[18] (Shifting to local consumers is somewhat more likely; this possibility will be examined in greater detail below when we take account of insititutional realities of the way state corporate taxes are imposed and their implications for incidence.) Similarly, if firms operating in the state must compete for capital in national financial markets, it seems unlikely that the state corporate tax would simply be borne by capital, except in the short run. It appears, rather, that if capital is mobile between states in response to differences in net rates of return the burden of the tax is likely to be borne by economic activity specific to the taxing state.

B. Preliminary answers.

To learn more about the likely incidence of state taxes, it is necessary to consider the implications of the way the taxes are actually imposed, as described in section II. As seen from the vantage point of any one state, a corporate income tax levied on the basis of formula apportionment of a firm's income for the entire nation can best be seen as a composite of taxes levied on whatever factors are employed in the state's apportionment formula. The rate of tax effectively applied to the factors in the formula depends on the overall profitability of the firm, as well as on the state's statutory tax rate. This can be seen by rearranging the terms in the following expression for tax liability under the commonly employed three-factor formula:

$$T = t\pi \frac{\left(\frac{S_i}{S} + \frac{W_i}{W} + \frac{P_i}{P} \right)}{3}, \qquad (1)$$

where π is total profits for the entire nation, S is sales, W is payrolls, P is property, t is the statutory tax rate, and T is tax collections in the state in question; i in subscript indicates sales, wages, or property occurring in the taxing state. This can be rewritten as:

$$T = S_i \frac{t\pi/S}{3} + W_i \frac{t\pi/W}{3} + P_i \frac{t\pi/P}{3} \qquad (2)$$

The first part of the expression on the right hand side of equation (2) is the sales-related portion of revenues. The equivalent tax rate applied to sales in the taxing state ($t\pi/3S$) is the product of a) one-third the statutory rate and b) the firm's profit margin on sales throughout the nation. Analogous descriptions apply to the part of revenues related to payrolls and property.[19]

Once the state taxes are seen in this light, their expected incidence becomes clearer. If labor is relatively immobile between states, one would expect it to absorb much of the part of the corporate tax that relates to payrolls, much as it would a tax levied directly on payrolls. The part of the tax that is related to property should have much the same pattern of incidence as a property tax of the standard kind. That is, to the extent that property is geographically immobile, this part of the tax would be borne by owners of property. But if either labor or property is mobile between states, the tax would tend to be borne by economic activity that is specific to the state, such as immobile capital, labor (if immobile), land, and consumers of locally produced goods and services.[20]

Carrying this analysis a step further, it is useful to distinguish between (a) property and payroll that occur because substantial production for markets elsewhere occurs within the taxing state and (b) property and payroll that exist primarily to make sales within the state possible. In the former case the parts of the tax related to property and payrolls are likely to be borne by whatever productive factors are least able to avoid the tax through migration. In the latter case it is reasonable to believe that all the tax, rather than merely the portion attributable to sales at destination (considered in the next paragraph), would be borne largely by consumers in the taxing state, especially if the labor and capital have alternative uses in other states.

The incidence of the sales-related portion of the corporate tax depends on how sales are defined. If, as is common, sales are attributed to the state of destination, the incidence of this part of the tax should be very much like that of a standard sales tax. That is, the sales-related portion of the tax would probably be borne largely by consumers in the taxing state.[21] For that part of a state tax based on sales at origin the proper analogy is to a state production tax. Again, it is unlikely that this portion of the tax could be shifted to consumers in national markets. It is likely to be borne by local workers, local consumers, and owners of land and immobile capital in the state.

The upshot of this analysis is that a state corporate income tax based on formula apportionment is likely to be borne in large part by residents of the taxing state, in their capacities of consumers, immobile workers, and owners of land and immobile capital.[22] But, to repeat a primary point made earlier, substantial shifting of a state corporate tax to consumers throughout the nation or to capitalists in general, as in the case of a federal corporate tax, is not to be expected.[23]

Finally, it should be noted that the conclusions of this paper are not affected by the validity of the Stiglitz assertion that the federal corporate tax does not affect marginal corporate decisions. State taxation makes the economic activity that enters the apportionment formula less attractive in the taxing state, regardless of the nature of the federal corporate tax and the firm's reaction to it. The state tax burden is therefore likely to be shifted to those who cannot avoid it, through the mechanism described above.

IV. Further Complications.

The analysis of the previous section applies to the great majority of state corporate tax revenue. In this section we consider briefly the complications resulting from the use of separate accounting and specific allocation and then turn to the implications of the use of worldwide unitary combination and related means of taxing intercorporate dividends that have been at issue in important recent court cases.

The limited state use of separate accounting that occurs appears to change relatively little the general conclusion of the previous section. A tax levied on the basis of separate accounting could probably not be shifted to nonresident consumers or (except in the short run) to capitalists.[24] Though the exact outcome under separate accounting may differ somewhat from that for a tax levied via formula apportionment, the basic conclusion that geographically immobile local activities would bear the tax seems generally correct.

Determining the theoretical incidence of taxes based on specific allocation ranges from rather straightforward to quite complicated. For taxes levied on rents and royalties allocated to the states where land and natural resources are located, the result would seem to be similar to those for property taxes or, in the second (royalty) case, severance taxes: burden on owners of the land and resources. How to handle taxes based on capital gains and dividends allocated to the state of commercial domicile of the recipient corporation is far from clear, though incidence on shareholders of the recipient firm seems likely.[25] Of course, if the Multistate Tax Commission has its way in having all forms of corporate income apportioned among states on the basis of formula, these difficult theoretical questions will become moot.

To the extent that the arm's length pricing rules of Section 482 of the Internal Revenue Code and the rules relating to allocation of deductions between foreign and domestic operations in Section 861 are effective in isolating income that is truly derived from sources within the United States, omission of foreign considerations in the usual analysis of the incidence of the federal corporate income tax is probably reasonable enough.[26] Similarly, if the states restricted their use of formula apportionment to the water's edge, the analysis presented in the previous section should also be generally accurate.[27] But, as noted in section II, several states extend the application of formula apportionment to income of foreign affiliates, via worldwide unitary combination. It seems, however, that this complication does not seriously affect the basic theoretical argument of the previous section. The state corporate tax can be seen as a composite of taxes on whatever goes into the state's apportionment formula, whether or not formula apportionment and the unitary approach are limited to the water's edge.[28] What is affected by worldwide combination is the equivalent rates of state taxation of sales, payroll and property; these depend on the worldwide profitability of the multi-national group of affiliated firms, rather than the domestic profitability of the firms.

If profitability (as a percentage of sales, payroll, and property) were identical, both within the United States and abroad, the geographic range over which combination was applied would not matter. But inspection of equation (2) indicates that if profitability is not geographically uniform, changing the range of combination is equivalent to changing the effective state tax rate applied to sales, payroll, or property.[29] The reasoning of section III suggests that states that attempt to increase revenues through worldwide combination of domestic operations with more profitable foreign operations cannot get a totally free ride by exporting the greater tax burden to non-residents.

This conclusion comes through even more strongly in cases in which intercorporate dividends are included in apportionable income of the corporate shareholder, but the factors of the firm paying dividends are not combined with those of the recipient firm. Payment of dividends results in an increase in the effective tax rate applied to the combined income of the two firms, regardless of their relative profitability. Of more relevance for the present discussion, this treatment of intercorporate dividends raises the effective rate of tax on whatever enters the apportionment formula, relative to the situation in which a deduction is allowed for intercorporate dividends received.[30]

Given the direction taken in several recent court cases, including one involving arguably foreign-source income, this conclusion is extremely important.[31] It suggests that in the long run taxes on inter-corporate dividends treated as apportionable income of the recipient firm, including dividends that can reasonably be traced to foreign-source income, will be shifted to consumers and workers residing in the taxing state and to owners of land and immobile capital in the state. This is, of course, probably not what those who legislate this kind of tax law anticipate.[32]

V. Concluding Remarks

The analysis presented here, though a useful and necessary addition to the cookbook on tax incidence, is not the end of the story. It is useful primarily in telling one what not to assume automatically and in pointing the direction toward more reasonable assumptions about incidence. But substantial work remains before it can be applied. Ideally one would know how much revenue of the state in question is derived from formula apportionment and how much from specific allocation and separating accounting. Since the incidence results are different for various forms of specific allocation, it is also necessary to know the basis of the specific allocation, if enough revenue is at stake to make this an important question.

Where formula apportionment is used, it is necessary to know which factors are employed and their weights. Beyond that, one must know whether the sales factor is based on origin or destination, precisely what kinds of property enter the property factor, and the nature of the taxed activity. Finally, it must be emphasized that the results given here are intended to describe long-run tendencies. In the short run a state corporate tax is much more likely to be borne by shareholders, as in the traditional theoretical analysis for federal taxes.[33]

FOOTNOTES

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[1]For this standard result see, for example, Musgrave (1959, chapter 13) or Musgrave and Musgrave (1980, pp. 293, 427-36). This (and much of the other literature mentioned below) is summarized in Ballentine (1980).

[2]Harberger's analysis builds on previous work by Musgrave (1959, chapters 10 and 15). For a survey of this literature and a simplified exposition of the Harberger model, see McLure (1975) and McLure and Thirsk (1975), respectively.

[3]For an appraisal and further development of this theme, see King (1974) and (1977).

[4]The corporate tax may adversely affect capital formation, even if it is shifted forward. Suppose that the tax is reflected, in large part, in the price of capital goods. It would, in such a case, reduce both the own rate of return on capital goods and the quantity of capital goods a given amount of saving could purchase. For development of this argument, see Ballentine (1978).

[5]Among the important contributions on long-run incidence of taxes on capital in a growth context are those by Krzyzaniak (1967) and (1968) and Feldstein (1974a) and (1974b). For contradictory empirical evidence on the effects taxes have on saving, see Boskin (1978) and Howrey and Hymans (1978). For a recent appraisal

of the work by Boskin and by Howrey and Hymans, see McLure (1980a). That literature deals only with incentive (substitution) effects of taxation on saving. Differences in the income effects of various taxes may be every bit as important for incidence analysis, unless one engages in a differential analysis that holds income effects constant.

[6]This evidence is summarized in Ballentine (1980), chapter 2.

[7]For efforts to circumvent this methodological quandary, see, for example, Harberger (1962), McLure (1975) and references cited there, and Musgrave, Case, and Leonard (1974). Shoup (1969) and in personal correspondence has expressed strongly the view that for the reasons stated in the text, theoretical analysis building on that of Harberger (1962) and empirical analysis of the incidence of broad-based taxes, such as that of K-M, is doomed to failure.

[8]There seems to be no point in embarrassing authors of these mindless statements by citing their work. It takes little research to verify that those being attacked are not made of straw.

[9]For a similar plea to specify the question carefully before attempting to answer it in the case of property taxes, see McLure (1977a), which is an attempt to clarify and elaborate on the analysis of Mieszkowski (1972).

[10]For further elaboration of how states actually determine their taxable shares of the income of firms, see McLure (1980c) and references cited there.

[11]There are federal constitutional limitations on the states' power to tax the income of multistate corporations. They currently seem not to pose any serious

constraint on the use of the various techniques of state taxation described below. See also footnote 31 below.

[12]This was the result in the recently decided case of Mobil (1980), to be discussed further below. It may be fairly difficult to know how prevalent this practice is, since so much depends on the administration and judicial interpretation of statutes in particular cases. But Vermont's success against Mobil will probably encourage other states to adopt this approach.

[13]The most commonly applied tests used to determine whether a unitary business exists are the "three unities" of ownership, operation and use and the test of "contribution and dependency." For more on this, see, for example, Dexter (1978).

[14]Such an effort would, however, be subject to the kind of criticism raised, for example, by Shoup. (See footnote 7 above and the textual discussion it accompanies.) Analysis of the incidence of the corporate income tax of only one state, the primary focus of this paper, is far less susceptible to these objections. Since in that case a far smaller portion of the total economy is involved, it is far more acceptable to employ partial equilibrium analysis and ignore the use of tax revenues. For convenience the entire discussion of this paper is couched in traditional terms of burdens on various groups. It could be rewritten in terms of effects on relative prices and redistribution of incomes. But to do so would obscure the analysis and make the results less easily understood by non-economists.

[15]This statement abstracts from potential differences in state and federal uses of revenues and from the treatment of dividends described above. Whereas the

federal tax provides a deduction for dividends received from affiliates (and an 85 percent deduction for other dividends) and state unitary combination does so, in effect, neither specific allocation nor formula apportionment that does not include combination does so. Moreover, to the extent that worldwide unitary combination results in the taxation by states of income deemed to be received from foreign sources and exempt under U.S. tax law until repatriated, the state result could be quite different from the federal. Differences in state and federal treatment of intercorporate dividends seem to have little effect on the pattern of incidence. Thus if one abstracts from the international effects of the greater emphasis on taxation of income at source under worldwide unitary combination, the statement in the text should hold, at least to a first approximation.

[16]See, for example, Pechman and Okner (1974) or Musgrave, Case, and Leonard (1974).

[17]If, however, one wanted to know the incidence, by state, of the national system of state corporate taxes, the analysis could not stop here. It would be necessary to consider the effects of state-by-state deviations of corporate taxes from the national average, as well as the effects of the average tax for the nation as a whole. Thus, for example, a state with a particularly heavy corporate tax would be affected quite differently from the way a state with little or no tax would be affected. Analysis of the type presented in the remainder of this paper would be required for the analysis of these differentials, if empirical efforts such as those cited in the previous footnote were intended to provide estimates of incidence of the system on a state-by-state

basis. Similarly, even a study of aggregate tax burdens should consider these effects, since their effects across income classes may not cancel out. This point is not stressed further here, in order to avoid further digression from the main thrust of the paper. But see McLure (1980b).

[18]There may be a tendency to ask whether one state could not easily shift its taxes, so long as they were lower than those levied (on average) by other states. (The analogy of an umbrella readily comes to mind at this point.) The theoretical answer is generally a resounding "No!" Firms are assumed to be in equilibrium before the state in question raises its taxes. If in this situation the taxes of all other states are impounded in ceteris paribus, the effects of one state acting alone to raise its taxes are roughly the same as if other states had no taxes. If all states acted simultaneously to raise their taxes, the answer would be different. But then so would the question; it would be that described above as more properly answered using the traditional analysis of national taxes.

[19]This analysis is developed more fully in McLure (1980b).

[20]See Mieszkowski (1972), where the distinction between "export" goods and "home" goods employed in the next paragraph of the text is also developed. The distinction between mobile and immobile property makes it crucial to know the extent to which land is counted as part of property in apportionment formulas. Of course, owners of land and immobile capital located in the taxing state may be nonresidents; that is an empirical question.

[21]There is, however, an important complication to this conclusion. Sales fac-

tors based on destination do not count only retail sales. Rather, they include sales of intermediate goods. Thus, like cascade-type turnover taxes, even taxes related to a destination-based sales factor could have an important origin component. Conversely, where intrastate sales by wholesalers are important, the part of a tax related to an origin-based sales factor may contain a significant destination component.

[22]The observant reader will have noticed that different corporations operating in the same state can pay different equivalent rates of tax on sales, payroll, and property, depending on their profitability throughout the nation (or the world), and that adequate allowance has not been made explicitly for equilibration in the net returns to geographically immobile factors or in the prices at which various firms can sell in markets within the state (in the case of a destination-based sales factor or of property or payroll-related taxes on firms producing for local consumption). The existence of unincorporated firms complicates the picture even further. No equilibration is expected in the case of monopolists (on the sales side) and factors specific to given firms (on the production side). But frankly, it is difficult to see how this equilibration occurs, in general. Certainly a model that would capture this equilibration would be complex, indeed.

[23]Two points need to be made at this point, for the sake of completeness. First, as noted in footnote 17 above, the analysis of state taxes presented here can be employed for the examination of the incidence of state <u>differentials</u> from the <u>average</u> of all state corporate taxes. The analogous point has been made conspicuously in literature on the incidence of the property tax. (See, for

example, Mieszkowski (1972) and McLure (1977a).) Second, the results presented here for the incidence of a tax levied in one state are in no way inconsistent with the quite different results of analysis of a federal corporate tax or the aggregate of all state taxes. They can be reconciled through an argument much like that presented for property taxes in McLure (1977). For the sake of brevity, these points are not discussed further.

[24]Indeed, it is unlikely that separate accounting would be allowed if the firm had substantial sales to out-of-state consumers. If the firm sold to an affiliated corporation and the latter made out-of-state sales, it is likely that consolidation or combination and formula apportionment would be required.

[25]It might appear that the double state corporate taxation of income giving rise to intercorporate income might simply induce firms and their shareholders to eschew intercorporate ownership of shares. But since portfolio investment of this type prevails and there is no other obvious candidate to bear the burden, one must assume that it rests on shareholders.

[26]Note, however, that if national economies are open to significant trade and capital flows the same kinds of argument can be made about the incidence of national corporate income taxes as has been made above about state taxes. Certainly, for many small countries, it is probably inappropriate to assume that corporate taxes can either be shifted to consumers in world markets or be made to fall on capitalists, except in the short run. A more likely result, to repeat the theme of section III, is incidence on consumers, workers or owners of land in the country. For further development of this kind of argument, see Harberger (1973) and McLure (1977b) and (1979).

[27]Water's edge legislation might provide, for example, that states could tax only that portion of the income of a multi-national corporation that is subject to federal tax. Even this approach would attribute some income originating abroad (e.g., dividends paid out of foreign-source income) to the states. See McLure (1980c) for further discussion of actual proposals for water's edge legislation.

[28]Thus equations (1) and (2) in the text will be valid, but π, S, W, and P will pertain to aggregates for the group of affiliated firms, rather than to quantities for one firm, and will cover all operations for which combination is required.

[29]Thus the sales-related portion of corporate tax collections will differ under worldwide and water's edge combination by

$$\Delta T_S = \frac{S_i\ t}{3} \left(\frac{\pi_w}{S_w} - \frac{\pi_o}{S_o} \right),$$

where w and o in subscript indicate profits and sales under worldwide and water's edge combination, respectively. Similar expressions apply to the parts of the tax related to payrolls and property.

[30]In contrast to the result in footnote 29, the difference in this case between sales-related tax paid by the recipient firm with and without inclusion of intercorporate dividends in the apportionable income of the recipient is

$$\Delta T_S = \frac{S_i t}{3S} (\pi_v - \pi_o),$$

where π_v and π_o differ by the amount of the dividends involved. Of course, the liability of the firm paying the dividends is unaffected.

[31]In Mobil (1980) the Supreme Court upheld the power of a state to include in the corporation's apportionable tax base dividends from domestic and foreign affiliates deriving substantially all of their income from foreign sources. The state had not included in the apportionment formula the factors of the payor corporations, and the Court did not have to reach the question whether it was consitutionally compelled to do so. In Exxon (1980), the Court upheld the power of a state to include all of a corporation's operating income in its apportionable tax base, so long as that income derived from a unitary business. It rejected the argument that the taxpayer's separate accounting demonstration that the income apportioned to the state was excessive had constitutional significance. Exxon did not involve the taxation of dividends or foreign source income, but it did indicate that the state's power to tax by the apportionment method is quite broad. Taken together, Mobil and Exxon plainly evidence a relaxed attitude by the Court on the power of states to tax multistate and multinational corporations by the apportionment method. For an excellent analysis of these two cases and recent proposals for water's edge legislation, see Hellerstein (1980).

[32]Given the magnitude of revenues involved, it may seem unlikely that taxes of this magnitude could come out of wages and returns to immobile capital and land in a small state such as Vermont. But the analysis of Part III suggests that in a free market a consuming state levying its income tax on what is arguably out-of-state (or even foreign-source) income will continue to have access to this tax base in the long run only if its consumers effectively pay the tax through

higher prices. Federal price controls or allocation of energy could, however, make it easier for Vermont to tax an oil company without the risk of forward shifting. New York and Connecticut have recently attempted combining excise taxes on energy with price controls that would prevent forward shifting, but the state ceilings on prices have thus far been found an unconstitutional intrusion on federal energy policy.

[33]It may be well to end by noting that even if conditions were such that a federal tax could be shifted to consumers in the short run via administered pricing, the analogous result for a state tax is quite unlikely, except where consumers within the taxing state are concerned.

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