Tax Reform: Implications for the State-Local Public Sector

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he Tax Reform Act of 1986 should provide valuable information which will allow economists to distinguish among competing models of the determinants of state and local spending and taxes. This paper outlines the implications of current public finance theory and empirical work for the direction and (where possible) likely magnitudes of the effects of the tax bill after it is fully in effect in 1988. We analyze separately the effects of the bill on the level and distribution of state and local spending, and on the mix of revenue sources employed by state and local governments.

The effects of the tax reform in this area will be fairly small; we expect state and local spending to fall by between 0.9 percent and 1.9 percent, with the lower end of the range the more plausible. A reduction in the number of itemizers—taxpayers who will be unable to deduct their state and local income and property taxes—will account for about half of this change. The elimination of sales tax deductibility, which also makes citizens pay more for state and local government, accounts for slightly more than a third of the decrease in spending. Finally, reductions in marginal tax rates, which make the deductions for income and property taxes worth less to taxpayers who continue to itemize, accounts for the rest. Moreover, states will probably shift away from sales taxes toward deductible sources of revenue, thereby making the effect of the tax reform on state spending smaller still.

The conclusion that aggregate spending is unlikely to change very much does not imply that the Tax Reform Act is unimportant to the state and local public sector. The fiscal and economic circumstances of state and local governments vary enor-

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mously, and the federal tax reform will therefore affect them very differently. Local governments with relatively large numbers of high income homeowners can be expected to reduce their expenditures substantially and to expand their reliance on user charges. The relative fiscal attractiveness of localities within metropolitan areas will be altered, leading to changes in population distribution and house values, and increasing the incentives for higher income households to segregate themselves from lower income households. From both an efficiency and an equity perspective, these effects on local governments are likely to be much more important than the aggregate effect on either state or local spending.

The Tax Reform Act has the immediate effect of changing state revenues; most states will enjoy an increase at current rates, while some will lose revenue. Over the longer run, apart from the obvious incentive to move away from the non-deductible sales tax to other deductible taxes, the effect of tax reform on the mix of revenue instruments is difficult to predict. The new tax bill also has major implications for bond financing: it limits the use of the tax-exempt bond instrument (since industrial development bonds have been cut back and regulations regarding the use of tax-exempt bonds generally have been tightened), and may also change the relative attractiveness of the instrument in financial markets.

The Effect of Tax Reform on Aggregate State and Local Expenditures

Voters' demands for state or local government spending can be modeled the way economists model demands for private goods—as functions of income, prices, and social, economic, and demographic variables that are proxies for voters' tastes. Based on the preferred spending levels of each voter, political processes determine the level and content of public spending. Unfortunately, viewing the problem in this way is not very helpful, since the data required to calculate the distribution of demands for public spending and to specify the political algorithm that determines spending would be expensive to obtain even if it were conceptually clear how to do so. An alternative that has been widely employed is to model the level of expenditure in a given jurisdiction as depending on the preferences of the "decisive voter"—a hypothetical individual whose voting behavior best explains the choices made by the electorate of the jurisdiction as a whole.

Decisive voter models pose both theoretical and empirical pitfalls; one must be especially wary of drawing welfare implications from demand functions for public

¹Ideally, each component of public spending should be examined separately. Here we aggregate everything, partly to keep the exposition simple, and partly because to do otherwise would stretch our knowledge.

²The distinction between political and market forces is not a clear one. To the extent that voters can choose a jurisdiction in which to reside, local governments can effectively create a market in locally provided public goods. The implications of this idea, which was introduced by Charles Tiebout (1956), will be discussed when we turn to the heterogeneity of the effects of the Tax Reform Act.

spending that are estimated in this way. Yet, such models have done well in predicting the behavior of local governments, the area in which they have been used most. No one would claim that there is an identifiable "decisive voter," and even if there were, the identity of such a person would change in response to a change in the environment. But here, as in many other cases, it has proven useful to model as if such a person existed.

Models of Expenditure Determination

In one form of the model, the decisive voter is taken to be the "median voter," the voter with the median demand who, given prices and incomes, separates into equal-sized groups voters who want more and less spending. In most empirical work that employs the median voter model, the median voter is identified as the individual or household with the median income, although the conditions under which this assumption is warranted are quite restrictive. The median voter construct is an appealing one because the desired spending level of the median voter will defeat any other spending level in a majority rule referendum.³ Richer forms of the decisive voter model take into account the fact that intensity of preferences and the structure of political institutions, rather than just a desire for "more" or "less" spending, generally affect spending outcomes.⁴ The "mean voter" model is perhaps the simplest of this class.

In the "mean voter" model it is assumed that voters are able to organize matters (presumably through political institutions) so that the intensity of preferences matters. Indeed, under the mean voter model it is assumed implicitly that all potential gains from trading income for votes are realized. (This assumption is not so farfetched when one considers the practice of "logrolling," in which proponents of one element of public spending form coalitions with those who favor another and vote to have both, and the fact that voter turnout is positively correlated with intensity of preference.) In the mean voter model, the entire distribution of tastes for public spending affects the outcome. It is conceptually difficult to chose a single measure of income and tax price that reflects the entire population distribution. In this paper, we choose the easy way out by using measures of mean income and mean price for the jurisdiction. A more sophisticated analysis would look for the characteristics of the mean voter, which may well differ from the mean characteristics of the jurisdiction.

Clearly, the difference between the median and mean voter models will be greatest when the distribution of preferred spending levels is most skewed. For

³This conclusion requires the additional assumption that if a voter prefers spending level x to level y, the voter also (weakly) prefers y to any level farther from x than y, for all x and y. Preferences of this form are termed "single-peaked."

⁴See Inman (1987) for a review of the median voter model and some analysis of models in which the mayor, governor, school administrator or other politicians may exert influence over the choices that voters and legislators face.

example, where many voters prefer a small amount of spending and a few prefer a much larger amount, the median voter model will predict a lower level of spending than will the mean voter model.

In using either form of the decisive voter model to predict responses to the Tax Reform Act, we look at the effects of the Act on the income and tax price faced by the decisive voter. The tax price P can be interpreted as the cost to the taxpayer of a one dollar increase in tax-financed per capita public spending. This concept can be expressed by the formula

$$P = ns(1 - gt)$$

where n is the population of the jurisdiction, s is the share of total taxes in the jurisdiction that the individual pays (it would equal the individual's taxable income divided by aggregate taxable income if all public spending in the jurisdiction were financed by a proportional income tax), t is the individual's federal marginal tax rate, and g is the proportion of state and local taxes that the individual may deduct from federal taxable income. The ns term weights individuals by how much tax they pay relative to the mean in their jurisdiction; ns will equal 1 if the individual pays an average amount of tax, 2 if he pays twice the average, and so on. The term in parenthesis adjusts for what share of the individual's state and local tax payments are deductible. If the individual does not itemize, gt falls to zero and the tax price reduces to ns.

Of course, the same taxpayer will face different tax prices for state government and local government expenditures, provided that the individual accounts for different shares of the taxes paid in the two cases. Thus, any discussion that combines the tax price of state and local government, like the one that follows, involves a degree of averaging that masks much variation in the population.

Effects on State and Local Spending

The major effects of the Tax Reform Act on the tax price facing voters in states and localities are through a lower federal marginal tax rate t and the reduction in the deductibility of state and local taxes g, which falls both because sales taxes are no longer deductible and because many taxpayers who currently itemize will no longer do so. To estimate the effect of the tax reform, then, first we estimate how the tax reform will affect the federal marginal tax rate of the decisive voter and the percentage of state and local taxes g that voter can deduct; then we calculate the percentage change in the tax price P of state and local spending; and finally use estimates of the price elasticity of demand for tax-financed state and local expenditure to calculate the change in expenditure demand. Fortunately, we can and do assume

that the populations within jurisdictions (n) and each individual's share of state and local taxes paid (s) do not change.

In 1982, 40.8 percent of all taxpayers itemized deductions, and 81.8 percent of state and local taxes were deductible. The average marginal tax rate of itemizers was .284, ranging from .307 in the District of Columbia to .210 in Mississippi (Kenyon, 1985, p. 37). Those figures imply that the average level of P for tax-financed state and local spending was .905 in 1982. In fiscal year 1984 general sales taxes accounted for 23.5 percent of state and local tax revenue (U.S. Bureau of the Census, 1985, p. 4). Assuming that this ratio still holds, making sales taxes non-deductible will reduce the deductible share g of state and local taxes paid by itemizers to .583. The federal tax rate facing the average itemizer will fall to about 25 percent under the Tax Reform Act, and the fraction of taxpayers itemizing will fall to about .26. Thus, the average level of P will rise in 1988 to .962 (that is, $1 - .26 \times .583 \times .25$), an increase of 6.3 percent over its 1982 levels.⁵

Our reading of the current literature places the price elasticity of demand for state and local spending between -.50 and -.25, implying that increasing P by 6.3 percent will reduce tax-financed state and local spending by from 3.2 percent to 1.6 percent.⁶ The Tax Reform Act does not alter the taxpayer's cost of (and thus demand for) expenditure financed by user charges and federal grants. These latter two categories accounted for 41 percent of state and local general revenue in 1983-84, leaving 59 percent of state and local spending that was tax-financed. Assuming that marginal changes in public spending are tax financed, our best estimate from the mean voter model is that total spending will fall by from 1.9 percent to 0.9 percent relative to what it would have been.8

The median voter model cannot be applied meaningfully to national averages. Since the median voter is not an itemizer, such a model would imply that changes in g

⁵For the median itemizer, the change is much greater—the tax rate will fall from 25 percent to 15 percent. 6 We believe that the true elasticity is closer to -.25 than to -.5. Bergstrom, Rubinfeld and Shapiro (1982) provide a discussion of the current literature on the subject. Our reason why estimated price elasticities have been moving towards zero is that the better recent studies use microdata in which household income is observed directly and the set of control variables that serve as proxies for taste can be applied to the individual. This method is especially important for income, which is a proxy for a number of variables relevant to local demands for spending, and can be entered separately in studies that use microdata. Studies which used aggregate variables consistently yield estimated price elasticities that are higher in absolute value.

⁷U.S. Bureau of the Census, table 3, p. 4. We exclude utility, liquor store, and insurance trust revenue from general revenue.

⁸These calculations ignore the increase in household disposable income arising from the Tax Reform Act. One argument for leaving out income effects is that there is no change in disposable income once it is realized that corporate taxes (which increase by the same amount as the reduction in personal taxes) are also, in the end, part of household incomes. To the extent that households perceive that disposable income has increased, they will increase spending on the state and local sector by between .5 and 1.0 times the increase in income. With income net of personal tax rising by .7 percent, in the extreme case where households are unaffected by increased corporate tax liabilities, where the income elasticity of demand for state and local spending is 1.0, and where the price elasticity is -.25, there will be essentially no effect on aggregate state and local spending.

and t for itemizers should have no effect on state and local spending. Some estimates of the effect of the Tax Reform Act on state and local spending have been made assuming that the median voter is the median itemizer. Such estimates imply reductions in spending that are many times larger than the ones we present here, but we do not believe the underlying assumption. We present mean voter estimates here because we believe that the appropriate version of the decisive voter model should represent an amalgam of the preferences of all influential interest groups in the jurisdiction. This view implies that expenditures will fall in jurisdictions with a substantial number of itemizers, whether or not the median voter is an itemizer, but they will not fall by as much as is predicted by models in which only itemizers matter.

The Effect of Tax Reform on Individual Communities

That the average effects on state and local spending will be fairly modest does not imply that they will be small in all cases. High income communities in which the median voter is an itemizer whose tax rate falls from 50 percent to 28 or 33 percent will experience large increases in the tax price facing the decisive voter. In the extreme case of a change from 50 percent to 28 percent (a very high income suburb) the tax price for local public services would rise by 44 percent, or enough to reduce expenditures on public schools by over ten percent. Of course, this increase in tax price is an increase in the relative price of public education, and built into the elasticity estimates is some shift towards private education. Such substitution towards private spending is implicit in all of our estimated responses to increases in tax prices. Similarly, states that rely heavily on sales taxes will have much greater than average increases in the tax price of state expenditures, although not as high as 44 percent. On the other hand, local jurisdictions in which almost no one currently itemizes will experience smaller than average effects on spending.

Because the effects on tax-price will vary greatly among jurisdictions, the change in federal rules should provide a natural experiment for distinguishing among models of expenditure determination. By examining household microdata within communities, it should be possible to discover which form of the decisive voter model predicts best. Ideally, such new studies of the determinants of state and local expenditure will also characterize the effects of the different types of rules (referendum, elected city council, and so on) under which public choices are made.

Mobility Effects and Capitalization

The preceding analysis implicitly assumes that voters will not relocate in response to changes in their state and local tax burdens. But in some cases the relative fiscal attractiveness of different locations will change appreciably, especially for high income residents of relatively high tax jurisdictions with lower tax jurisdictions nearby. What matters here is not so much relative changes in tax-price as changes in the total tax bill paid; for high income itemizers, these can be quite large. The most important

consequence of this change is that reductions in federal marginal tax rates may increase the pressures for economic segregation.

Deductibility tends to reduce the differences in tax-prices and tax bills between locations that have different tax rates, since it reduces big tax bills in localities that generally pay high federal marginal rates more than it will reduce smaller tax bills in localities that pay lower federal marginal rates. 9 This increased differential by itself is probably not sufficient incentive to move, given the transaction costs involved, but it surely is enough to alter the location choices of some households that are new to the area or that were planning to move within the area for other reasons. Thus, reducing the deductibility of local taxes will: (1) lead to some shift in population towards low-tax, low-spending jurisdictions; (2) lead to a reduction in the price of high income housing in high-tax, high-spending jurisdictions relative to the price of similar housing in low-tax jurisdictions, to compensate for the fact that less of a local property tax bill can be deducted; 10 and (3) reduce spending more in high-tax jurisdictions than in low-tax ones (where spending may even rise) because of the effects that (1) and (2) will have on the property tax base.

Edward Gramlich (1985) points out that deductibility of local taxes currently serves as a bribe to higher-income households to live in high-tax, lower income communities, because much of their increased tax share is returned through the federal income tax. Gramlich thus argues that one unfortunate consequence of reducing federal marginal tax rates (indeed, in this view, the only unfortunate consequence) is that the reduction will tend to enhance the already powerful fiscal incentives for higher income households to segregate themselves from lower income households by living in high income, lower-tax jurisdictions. Gramlich argues that reductions in federal tax rates will tend to widen income differentials between Detroit and its suburbs. Similar incentives will exist between New York City and its suburbs. some of which are in low-tax states, making the fiscal differentials larger to begin with and more affected by the new federal tax rates. 11 The same analysis should apply to large metropolitan areas throughout the country.

For these same reasons, tax reform will tend to increase business tax differentials across communities, too. Corporations will still be allowed to deduct all state and local

⁹Consider a case in which all local spending is financed by a property tax and there is a metropolitan area in which one community has a property tax rate of 1.5 percent and another in which the property tax rate is three percent. A homeowner with a \$200,000 home in the first jurisdiction, facing a marginal federal income tax rate of 50 percent, will pay net property taxes of \$1500, while in the second jurisdiction, in a house with the same value, she would pay \$3000 after federal deductions. The new tax law will widen the spread considerably. In the first community net tax payments rise to \$2160, and in the second they rise to \$4320. The difference increases from \$1500 to \$2160, implying that the annual tax saving available for this taxpayer by moving from the second jurisdiction to the first is \$660, absent other adjustments.

¹⁰In the example in the preceding footnote, if nothing else changes, the new tax differential, capitalized at a ten percent interest rate, would be \$6600.

¹¹See Chernick and Reschovsky (1986) for an analysis on the effect of deductibility on New York and Boston, They, like Gramlich and almost everyone else who wrote on this topic in the last year (such as Netzer, 1986), considered the repeal of deductibility of all taxes, rather than the repeal of deductibility of sales taxes in conjunction with reduced federal tax rates. Senator Packwood may be a hero of tax reform, but he surely sandbagged several good applied analyses of deductibility.

taxes paid, but will face a marginal rate of 34 percent rather than 46 percent. If state and local fiscal policy is unchanged, the net differential between tax rates in different locations will increase by .12 (the change in the federal marginal rate) times the statutory differential; similarly, the differential in tax payments will rise by twelve percent of its previous value. The incentive for businesses to locate in lower-tax jurisdictions will be increased, and recent evidence indicates that business is somewhat responsive to such differentials. Again, the implication is that tax reform will tend to reduce tax bases and expenditures in high-tax communities relative to low ones.

Public finance economists have long argued that redistributive activity is best undertaken at the federal level because if state and local governments engage in such behavior, lower income households will tend to migrate towards the "generous" jurisdiction and higher income households tend to migrate away. By making low-tax jurisdictions relatively more attractive to both households and businesses, the Tax Reform Act further reduces the ability of state and local governments to engage in redistributive activities. Were the federal government to establish a national system of income maintenance, this effect would not be a problem. Reducing the implicit federal subsidy to state and local spending would only enhance economic efficiency, partly because it would bring the relative prices of privately and publicly provided goods closer together. In the world we live in, where many of the largest (and highest tax) states and localities engage in greater than average levels of income redistribution, and where federal programs are very limited in their coverage, this poses a genuine problem. The incentives to migration set up by the Tax Reform Act will increase economic efficiency in the allocation of resources, but absent a nationwide program of income redistribution, they will also reduce the ability of more generous localities to implement their preferences for redistribution.

Effects on the Property Tax Base

The conclusion that the aggregate spending effects of the new tax bill are small, although the effects on some individual jurisdictions will be larger, must be tempered by the possibility that the value of the local property tax base may change. It is impossible to predict with any accuracy how important this possibility may be, but we can list some important considerations.

First, the cost of capital net of tax used for owner-occupied housing will tend to rise (especially so for the most expensive housing), because fewer individuals will be itemizing and those individuals who do will generally face lower marginal tax rates (so that the mortgage interest deduction and property tax deduction are worth less). Additionally, rental housing will receive much less favorable tax treatment, as the new law severely limits the extent to which "passive losses" in real estate (and other

¹²See Wasylenko and McGuire (1985) for a review of the recent evidence, which until now had provided mixed support for the hypothesis that taxes affect business location. As in the case of distinguishing among public choice models, the new tax bill should provide a nice natural experiment for estimating the effects of tax differentials on business location.

activities) can be used to offset other income, and also reduces the value of depreciation allowances for rental real estate. All other things equal, then, the value of the residential tax base should fall.

But all other things are not equal. From the perspective of the overall portfolio effects of the tax bill, owner-occupied housing continues to do well because other forms of capital investment are treated even less generously. (Under the Tax Reform Act, mortgage interest is the only kind of personal interest that remains deductible.) Commercial and industrial capital are also in the local property tax base. Since the effect of the tax bill will be to reduce the attractiveness of essentially all forms of domestic investment relative to investment abroad, the local property tax base may fall farther still. On the other hand, if the decreased demand for capital lowers interest rates, the present discounted value of the net income stream that remains will go up, raising property values. And in any case, macroeconomic policy can be used to influence both the real interest rate and the fraction of wealth that is held in the form of government debt and not subject to property taxation, thus indirectly affecting the value of the property tax base in ways that may overwhelm the effects of the Tax Reform Act.

The overall effect of the tax reform act on the local property tax base is impossible to predict, but it is potentially important. Given the long-standing reliance of the local public sector on property taxes, major changes in the property tax base would cause major shifts in the mix of revenue instruments used by local government.

The Effect of Tax Reform on the Mix of Revenue Instruments

The income tax statutes in most states define state income liability as some function of federal taxable income or federal tax liability. Thus, unless and until offsetting actions are undertaken, the Tax Reform Act has the immediate effect of changing state (and in some cases local) income tax revenue. These effects will differ among states. The eight states that use federal taxable income—adjusted gross income less deductions and exemptions—as their income tax base will enjoy increased revenues at current tax rates because of the broadening of the federal tax base. Similarly, the seventeen states that use federal adjusted gross income and some but not all deductions and exemptions in defining taxable income all get substantial revenue increases at current rates, because federal adjusted gross income will rise and deductions will fall. The seven states that use federal adjusted gross income have smaller increases.¹³ The effect will be similar but smaller in those states that have tied their corporate income taxes to the federal corporate income tax. However, the four states that piggy-back their income taxes directly on federal personal income tax collections will lose revenue, because they collect fixed shares of federal income tax revenue, which will fall as federal corporate taxes increase.

¹³The source of the data in this paragraph is "Governor's Weekly Bulletin," May 16, 1986, pp. 1-3.

The response of states to these windfall revenue changes (mostly windfall gains) will be of some interest to political economists. The classic static equilibrium models of budget determination suggest an immediate adjustment of tax rates to offset the federal changes (except insofar as they affect the demand for state and local public services, as discussed above) while dynamic political and economic models predict a more gradual response; that is, states with positive windfalls will be able to improve their fiscal positions because of the tax reform while those with negative windfalls will have to "eat" some of their losses. In almost all states, however, these direct effects on state income tax receipts should be large enough to prompt a major political examination of state tax structures.

The dynamic responses of state and local governments to budgetary windfalls has been a subject of substantial recent debate. The empirical literature provides some evidence for a "flypaper effect," in which windfalls are spent publicly rather than returned to the citizenry as tax reduction ("money sticks where it hits") and theoretical treatments have approached the issue as well (for example, Courant, Gramlich and Rubinfeld, 1979). The Tax Reform Act of 1986 should provide a natural experiment to help resolve the question of the size and existence of the "flypaper effect."

Long Run Effects on Revenue Sources

Tax reform will have a number of effects on the way that state and local governments raise revenue. First, state and local governments will almost surely move away from the sales tax and toward deductible taxes. In considering a repeal of all personal deductions for state and local taxes, Feldstein and Metcalf (1985) argued that state and local governments would shift toward business taxes, which would remain deductible. But given that income and property taxes remain deductible for households under the new tax bill, and given the tremendous competition among states and localities to foster a favorable "business climate", it seems likely that the shift will be toward income taxes at the state level and property taxes at the local level, but not toward business taxes at either level. States that currently rely most heavily on sales taxes may encounter pressure to shift to a value-added tax, which would act much like a sales tax but also be deductible by business. Since federal tax reform will result in a windfall increase in personal income taxes in most states, one obvious response would be let at least some of that windfall stand and use the proceeds to reduce sales taxes.¹⁴

Second, the higher tax-price associated with the use of deductible taxes encourages the recent trend towards an increased reliance on user charges, especially at the

¹⁴We do not expect the shift away from sales taxes to take place rapidly. In many states specific portions of the sales tax revenues are earmarked to go to localities, school districts and the like. To obtain political agreement to shift away from sales taxes, it may be necessary to prevent harm to many of the beneficiaries of such existing rules, and that, in turn should require some revenue increase.

local level. This change appeals to those who view goods provided by the local public sector as essentially private in character, since user charges generally resemble prices more than property taxes do. In fact, one of the efficiency arguments against the deductibility of state and local taxes is that it leads to a bias against user charges even when the latter would be more efficient. Reducing federal tax rates reduces this bias.

Third, the Tax Reform Act has major implications for bond financing. It curtails severely the ability of local governments to issue industrial development bonds by limiting the volume of such issues to \$50 per person (or \$150 million per state, whichever is less), compared to \$100 per person under previous law. It also makes interest on industrial development bonds subject to the alternative minimum tax in the personal income tax, reducing the value of such bonds as a tax shelter. These changes, in combination with an extremely complicated set of new regulations designed to prevent localities from using tax-exempt issues to invest in private financial instruments, will clearly reduce the incentives to issue tax-exempt bonds.

However, if the spread between tax exempt and taxable bonds rises, there may be a (partially) offsetting increase in the incentive to use tax-exempt bonds. On the face of it, the spread should fall because federal tax rates will fall, and being exempt from a lower tax rate has less value. However, the sharp curtailment of other kinds of tax shelters under the personal income tax—notably the curtailment of deductions for investing in IRAs and other supplemental retirement programs and the treatment of capital gains as ordinary income—makes municipal bonds more attractive to investors seeking tax-exempt financial instruments. Whether the portfolio effect (making bonds more attractive) outweighs the effect operating through changed tax rates is unclear. Given that the spread between tax-exempt and taxable issues has been low by historical standards in recent years, and this phenomenon is widely alleged to be due to the many other methods of tax-preferred saving available, we believe that municipals will become relatively more attractive and the yield spread will rise.

In any event, the municipal bond market aspects of tax reform should not have much effect on municipal spending in the aggregate. The new tax law sharply increases the restrictions on direct arbitrage, whereby governments issue tax-exempt debt and invest in private-sector financial instruments with the proceeds. But nothing in the new law prevents indirect arbitrage, issuing tax-exempt debt as a substitute for taxation.¹⁵

This indirect arbitrage mechanism is especially attractive to low income communities with few itemizers and low personal tax rates, as it enables residents of such communities to "borrow" (by substituting the issuance of debt for tax levies) at the municipal bond rate and invest, privately, at the after-tax rate on private financial

¹⁵Of course, some state regulations require that debt be used only for capital projects, but it is not hard to label many kinds of spending as capital. Gordon and Slemrod (1986) have shown that on average, at least, this constraint is not binding—total capital spending historically has exceeded the volume of debt issues. In cases where the restriction is binding, spending will tend to be inefficiently biased towards capital projects. With direct arbitrage curtailed, this problem may be more severe under the new tax law than it has been in the past.

instruments. ¹⁶ Even for the lowest income communities, however, the tax savings for residents is very small, suggesting that the effect on municipal spending would not be noticeable. ¹⁷ This finding is controversial: the traditional view is that exempting municipal bonds from taxation stimulates capital spending. Again, the Tax Reform Act provides a natural experiment. If the yield spread (controlling for the portfolio effects) changes as a result of the tax bill, will the proportion of the public budget spent on physical capital improvements change? (If it does not, the implication is that the requirement that bond funds be used for "capital spending" does not bind.) Will the debt-financed proportion of the budget change? Will these changes be correlated with the income of the jurisdictions involved? The answers to these questions should help us to evaluate the role of tax-exempt bonds in financing the local public sector.

Evaluating the Tax Reform Act of 1986

By all accounts the broadening of the federal income tax base is a good idea, as is the limitation on the use of industrial development bonds. The other limitations on bonds are probably also warranted, although anything that requires as many detailed regulations to implement as the "anti-arbitrage" provisions of the new bill is not likely to be very effective.

Evaluation of the elimination of sales tax deductibility must begin with an evaluation of deductibility in general. According to one popular view of state and local public economics, most state and local public expenditures (especially local) are essentially private in character, even if the goods are publicly provided. From this perspective, competition among communities allows citizens to "vote with their feet" for desired spending and tax packages, and mobility assures an efficient allocation of resources. Local taxes can be considered benefit taxes. In this view, deductibility creates inefficiencies by distorting spending choices and weakening the link between benefits received and taxes paid.

An alternative theoretical view holds that state and local governments provide purely public goods. Tax payments for these goods are real reductions in disposable income, not tied to any particular benefits received, and should therefore be deducted from the federal tax base. In this view, full or partial deductibility of state and local taxes makes sense for reasons of equity. A more pragmatic "rough efficiency" argument that yields the same result is that deductibility encourages state and local spending, thus repaying state and local governments for positive spillovers that arise when public spending undertaken in one jurisdiction benefits residents of other

¹⁶Gordon and Slemrod find, consistent with this prediction, that low income communities have much higher ratios of municipal debt to income than do higher income communities. Note that this arbitrage opportunity depends only on the spread between municipals and taxable bonds, and if the spread increases, will become more valuable.

¹⁷Gordon and Slemrod find it to be .12 percent of income. Residents of high income communities also benefit from the tax exemption, but do so as holders, rathers than issuers, of tax-exempt debt.

jurisdictions. A weakness in this argument is that the value of deductibility depends on the federal marginal tax rates of the citizens of jurisdictions. It is hard to make an efficiency case, and probably impossible to make an equity case, for a program that subsidizes (say) education more in high income suburbs than in lower income central cities, but that regressive pattern of subsidy is exactly what deductibility generates.

In general, we believe that state and local taxes should not be deductible; that is, the goods that they finance have a substantial private component. Where spillovers exist, direct matching grants from the federal government would be a better way of internalizing the externalities, because the matching rates could (in principle) be varied with magnitude of the spillover. 18 In addition, deductibility imposes efficiency costs by making user charges less attractive. But this general argument against deductibility is much weaker as an argument against eliminating deductibility of only one tax, such as the sales tax. Governments will tend to substitute other sources of deductible revenue for the sales tax in the long run. To the extent that the sales tax belongs in the optimal tax mix, the result will be a distortion in the mix of state and local tax instruments, and official estimates of the federal revenue gain from eliminating deductibility of the sales tax will be too high.

Given the conclusion that deductibility in general is not good policy, it follows that lower marginal tax rates will enhance efficiency by reducing the federal subsidy to local and state spending. Those states that use federal taxable income (in whole or in part) as their tax base should also receive an efficiency gain because the same revenue can be collected at lower marginal rates. (Of course, such jurisdictions could have reformed their tax bases at any time, but the fact the federal government has done so greatly simplifies the task.) However, if local property tax bases do fall, then higher marginal tax rates would be required to maintain a given level of local government revenue.

While the efficiency aspects of the tax bill are somewhat appealing, the increased burden on high tax states and localities remains troubling. The biggest decreases in state and local public spending should occur in high tax states and localities, many of which allocate a relatively large share of their budgets towards redistributive programs. At the local level, the pattern will be mixed, with the richer communities losing more than the poorer communities initially, but with the real possibility that the fiscal incentive for the rich to leave higher-tax, lower income jurisdictions will impair the fiscal position of large central cities over time. Still, increasing federal tax rates with the goal of restoring the importance of deductibility is hardly the optimal policy response to this problem. We hope (without much confidence) that these effects of reducing deductibility may lead to reform of the intergovernmental grant and national income maintenance systems. If that were to happen, we could unambiguously favor the Tax Reform Act from the perspective of its effects on the state and local sectors.

¹⁸With most current matching grants, the matching rates are generally much higher than estimates of the spillovers, and the grants are often "capped." In this case the marginal matching rates are zero, which is too low.

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References

Bergstrom, Theodore C., Daniel L. Rubinfeld, and Perry Shapiro, "Micro Based Estimates of Demand Functions for Local School Expenditures," *Econometrica*, September 1982, 50, 1183–1205.

Chernick, Howard, and Andrew Reschovsky, "Federal Tax Reform and the Financing of State and Local Governments," *Journal of Policy Analysis and Management*, Summer 1986, 5, 683-706.

Courant, Paul N., Edward M. Gramlich, and Daniel L. Rubinfeld, "The Stimulative Effects of Intergovernmental Grants: or Why Money Sticks Where it Hits." In Mieszkowski, P., and W. Oakland, eds., Fiscal Federalism and Grants-in-Aid. The Urban Institute, 1979.

Feldstein, Martin, and Gilbert Metcalf, "The Effect of Federal Tax Deductibility on State and Local Taxes and Spending." NBER Working Paper No. 1791, January 1986.

Gordon, Roger H., and Joel Slemrod, "An Empirical Examination of Municipal Financial Policy." In Rosen, Harvey S., ed., Studies in State and Local Public Finance. Chicago: University of Chicago Press, 1986, pp. 53-78.

Gramlich, Edward M., "The Deductibility of State and Local Taxes," *National Tax Journal*, December 1985, 38, 447-466.

Gramlich, Edward M., and Daniel L. Rubinfeld, "Micro Estimates of Public Spending Demand Functions and Tests of the Tiebout and Median Voter Hypotheses," *Journal of Political Economy*, June 1982, 536-560.

Inman, Robert, "Markets, Government, and the 'New' Political Economy." In Auerbach, A. J. and M. Feldstein, eds., *Handbook of Public Economics*, vol. 2. North-Holland, 1987.

Kenyon, Daphne A., "Federal Income Tax Deductibility of State and Local Taxes." To be published in U.S. Treasury, Office of State and Local Finance, Federal-State-Local Fiscal Relations: Report to the President and the Congress. Draft dated June 1985.

Netzer, Dick, "The Effect of Tax Simplification on State and Local Governments." In Aaron, Henry et al., Economic Consequences of Tax Simplification. Boston: Federal Reserve Bank of Boston, 1985, pp. 222-251.

Tiebout, Charles, "A Pure Theory of Local Expenditures," *Journal of Political Economy*, 1956, 64, 416-424.

U.S. Bureau of the Census, Government Finances in 1983-1984. Washington, D.C.: GPO, October 1985

Wasylenko, Michael, and Therese McGuire, "Jobs and Taxes: The Effect of Business Climate on States' Employment Growth Rates," *National Tax Journal*, XXXVIII, 4, 497-512.