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# The Property Tax versus Sales and Income Taxes 

CARL SHOUP

To evaluate the property tax is to test it by various criteria for a good tax and to compare it, in each of these tests, with possible substitute taxes - here, an income tax and a retail-sales tax. In the evaluation to follow, three unconventional techniques will be used. They are:

1. The property tax will be referred to as the real-estate tax. In most jurisdictions the element of personal property, business or not, is slight; business machinery and inventory make up the chief exceptions. Calling this tax a property tax makes it too easy for us to slip into assertions that are correct only for a tax that does indeed reach all property equally.
2. The real-estate tax will be considered to consist of two quite distinctive taxes, markedly different in their economic and social effects: a tax on housing, including rental housing, and a tax on business property. ${ }^{1}$
3. The criteria used to judge the tax will be divided into two groups: first, criteria to which virtually everyone will immediately agree (equal treatment of equals and economic efficiency); second, criteria on which differences of opinion will arise. ${ }^{2}$ The criterion of economic growth is an example of the latter; it is a conflict-of-interests criterion, because it inevitably reflects a conflict of interests or opinions. Economic growth sounds attractive to everyone until it is recalled that, in general, economic growth can be obtained only by restricting present consumption or working longer hours. Not everyone will agree that an increment of capital formation is worth the decrement of current consumption or of leisure.
[^0]It is much simpler, to be sure, to deal only with consensus criteria like equal treatment of equals, on which we can all agree. To do so, however, is to abstract too much from real life. Taxes are also evaluated by appeal to criteria that do not command universal support.

The other assumptions used here are familiar. One is that the real-estate tax is being compared with other taxes for use throughout the country. It is not a question of, say, New York City alone substituting an increase in its sales tax for a part of its real-estate tax. In that case, capital would flow into or out of New York City to the rest of the country. In the present analysis, there is no "rest of the country," only the rest of the world.

Another assumption is that no wholesale substitution is in question. It is not a matter of repealing completely the real-estate tax (throughout the country). It is, rather, how do we evaluate a reduction of, say, 20 percent in the present realestate tax, to be met by increases in income taxation or in retail-sales taxation?

In the paragraphs to follow, one criterion will be treated at a time. The four taxes in question will be compared, relative to that criterion (housing tax, business real-estate tax, income tax, and sales tax). At the end, a summary will be presented. The net result, the final judgment, will of course depend heavily on how much weight is given to any one criterion relative to others and which of the conflict criteria are adopted. There can be no single decisive, correct evaluation; it must rest largely in the mind of the evaluator.

## Equal Treatment of Equals

Equal treatment of equals under a tax law is universally accepted as desirable. The only problem is how to define "equals." There are two aspects here - one broad, the other technical and narrow.

The broad aspect is: Does the definition of "equals" accord with common sense and common ideas of justice? A tax on all red-haired persons over six-feet tall might meet very well the technical tests of equal treatment of equals to be developed below, but in the broad aspect it would clearly fail. What about a tax on owners of real estate? Why not owners of property of any kind? There must be some reason why owners of real estate are considered a justifiable class of taxpayers, if the tax is to meet the broad test of equal treatment of equals.

Some such reason can be found in the fact that the existence and use of housing and of business real estate impose certain costs on local governments that are not directly imposed by nonowners. This reason is not a very sturdy one, and on this broad concept of equal treatment of equals the two real-estate taxes do not score well relative to the income tax or the retail-sales tax. Either income or consumption is accepted as a better general test of how much anyone should pay in tax than is real estate. A truly general tax on all property would of course be another matter.

Turning now to the narrower, technical aspects of equal treatment of equals, we find six subcriteria that probably everyone would agree to. The first is main-
taining relevance in the details of defining the tax base. If real estate is the thing to be taxed, the details defining the tax base for any one taxpayer should all be relevant to it. The number of children in the household, however much it should be taken into account for other goals (say, distribution of the tax burden by income class and family circumstance), is not relevant for determining how much tax to pay if we are looking simply at equal treatment of equals under a realestate tax.

Relevance, thus defined, seems simple, and indeed it usually is, under either of the real-estate taxes. Consider, however, the income tax. Judging by variation among tax laws, there is still no consensus around the world on whether a capital gain is a relevant circumstance for computing what is called income, to be included in the tax base, though a consensus does appear to be emerging that it is income. Income-tax laws and even sales-tax laws encounter this kind of problem to a much greater degree than do either the housing tax or the business real-estate tax.

A second requirement for equal treatment of equals is "impersonality." The tax law should not contain sections so specific that in effect it picks out one or a few persons for favored or harsh treatment when they belong to the general group of owners of real estate. Special treatment of a few implies that somehow they are not equally circumstanced with the great body of real-estate taxpayers. A tendency to make such distinctions leads the tax law down a path that has no end.

On this test, both the housing tax and the business real-estate tax easily come out ahead of the income tax, but on about the same level as the retail-sales tax. Income-tax laws are replete with special provisions; there have even been oneperson clauses in the federal income-tax law, though not specifically stated to be such. Sales taxes usually have few if any narrow-scope provisions.

A third technical test for equal treatment of equals is as follows: Is the law specific enough so that a given taxpayer is fairly certain just how much tax he should pay? Here there is some conflict with the subcriterion of impersonality. For true impersonality, the tax law must be broadly drawn, with few, if any, exceptions. For true certainty for any one taxpayer the law must be fairly specific, so that he will know how much tax he should pay in his particular circumstances. Here, "equals" refers also to any one person at two points in time. If everything else, including the tax rate, is the same except that it is now 1983 instead of 1982, the individual should be able to count on having to pay just the same tax as before. Here, too, the real-estate tax, both branches of it, scores higher than the usual income tax, owing to the complexity of the concept of income. So many circumstances can arise for the income-tax payer, circumstances that have not before been adjudicated, that he may be uncertain how to compute his tax. And even when a decision has been made by the taxing authority on a particular point, it is not always certain that that authority will not change its mind when the circumstance recurs in a later year. The retail-sales tax stands somewhat in between the real-estate tax and the income tax on this score.

A fourth technical test for equal treatment is posed by the question, Is the tax law fairly free of "notches," "gaps," and other discontinuities? Equal treatment implies almost equal treatment of taxpayers who are almost alike. The realestate tax tends to show up better under this subcriterion than do the income tax and the sales tax, but there is danger here nonetheless, especially with what might be called qualitative discontinuities. In the business real-estate tax, it is necessary, for example, to draw a line between immovable property (real property) and movable property (tangible personal property), and this line shifts continually with technological development. At what point, for example, does a wall become a partition? Under the housing tax there are fewer of these qualitative discontinuities than under the business real-estate tax. Both kinds of real-estate tax, on balance, seem to do better under this nondiscontinuity test than does the usual income tax or retail-sales tax.

The remaining two technical tests for equal treatment of equals concern administration and compliance. We know that in practice there will be errors in tax payment, or, to use a broader term that will encompass outright evasion, there will be mispayments (this term includes overpayments). Equal treatment of equals may be taken to imply that mispayments are equally distributed. If a taxpayer turns out to be paying 15 percent less than the correctly computed tax bill would show, then equal treatment is given only if other taxpayers pay 15 percent less than the law says they should. Everyone will then be treated alike. To be sure, these taxpayers as a group may be thought of as advantaged compared with payers of some other tax, which, it might be argued, is being levied at a higher rate than it would be if everyone under the first tax were paying what the law said he owed. Even this conclusion is doubtful. Real estate is commonly assessed well below market value. It does not follow that, when a city or other jurisdiction raises its assessments to market value, the group of real-estate-tax payers will pay more. Commonly, the real-estate-tax rate will automatically fall, because of the procedure of first setting the amount to be raised and then dividing this by the aggregate assessed value to get the tax rate. The real trouble with undervaluation, of course, is that it almost inevitably conceals gross disparities: some parcels of real estate are undervalued much more than others.

Are things worse under the typical income tax? The answer is almost pure conjecture, but let us hazard it anyway. Very likely the income tax is worse than either of the two real-estate taxes in the degree of disparity among taxpayers in the rate of mispayment. The visibility of real estate and the impossibility of transporting it readily are safeguards against certain kinds of gross disparity.

The sales tax, aside from a host of small retailers who are difficult to audit, deals with taxpayers who probably come closer to an equal degree of mispayment than do those under either of the real-estate taxes. One important aspect of the differing degrees of mispayment within the real-estate tax is the common undervaluation of housing compared with business real estate.

A final test of equal treatment of equals is uniform degree of cost of compliance. Let this cost be expressed as a percentage of the tax due. Here, there is
no doubt that the two real-estate taxes come out ahead of the income tax and the sales tax; they involve almost zero cost of compliance, in contrast to the two latter taxes.

In summary of the various tests for equal treatment of equals, the two realestate taxes, very much alike in this respect, rank ahead of the income tax and also ahead of the retail-sales tax as to the narrow technical tests but well behind as to the broad aspect.

## Excess Burden

"Excess burden" exists when the taxpayer is disadvantaged by more than just the sum of the tax bill he pays and the compliance cost he undergoes. (For convenience in what follows, the tax itself and the compliance cost are lumped in the phrase "tax bill.") The burden in excess of the tax bill is the excess burden. A heavy tax on some commodity may induce a consumer to substitute, in part, some other commodity that he likes less but that is untaxed. He is less well off than before on two counts: he pays tax on that amount of the first commodity that he still consumes; and he gets less satisfaction, per dollar spent, from the second commodity than from the first.

Excess burden is invisible (though some estimates of amounts have been made) but nonetheless important. It arises when a "producer, or consumer, is pressured by . . . the tax into using what are for him inferior production techniques or inferior patterns of consumption (out of a given disposable income), merely in an attempt to minimize his tax bill." ${ }^{3}$ The only kind of tax that does not produce an excess burden is one that, when raised or lowered, does not affect the taxpayer's patterns of activity or consumption aside from what he does simply in order to raise the money to pay the tax. A classic example is a poll tax. Another is a tax on pure land rent. In neither case can the taxpayer reduce the tax by changing his own actions (such as working, consuming, saving, and using this or that method of production). If he does work more, to get money to pay the tax, that extra work is not an "excess" burden. It is the direct burden of the tax payment. Excess burden arises when one does something to reduce the amount of tax due.

In fact, all important and widely used taxes impose some excess burden; the taxpayer can reduce his tax bill somewhat by moving to a less preferred pattern of consumption or production. The problem of comparing taxes as to the amount of their excess burdens is a difficult one indeed. Yet it must be attempted, roughly, unless an important consensus criterion is to be ignored. The consensus here is, naturally, that the smaller the excess burden, for a given amount of tax revenue raised and compliance cost undergone, the better.

The housing part of the real-estate tax compares, on this score, somewhat unfavorably with the income tax and quite unfavorably with a truly general retail-

[^1]sales tax. The housing tax exerts appreciable pressure on one particular form of consumer spending. It tends to induce the dweller to use less housing space and housing amenity than he would if he paid the same amount in, say, a poll tax. To be sure, this statement implies that the burden of a real-estate tax on dwellings presses substantially - not necessarily entirely - on the owner-occupier or tenant instead of just reducing the return on capital invested in housing; loosely, the statement implies that the housing tax is borne at least in part by the tenant or homeowner in an increased price for housing accommodation, rather than being reflected only in a lower rate of return to capital invested in housing. This statement has been challenged over the past two decades by those who think of the real-estate tax as but part of a tax on all reproducible capital (i.e., taxable real estate in this model does not include land) and in a setting that stipulates that the total stock of reproducible capital is fixed, hence will not be reduced by a real-estate tax or any other tax. ${ }^{4}$ The present analysis makes neither of these assumptions; accordingly, it may be concluded that the real-estate tax tends to drive some capital out of real estate into other forms of property or to other countries. Housing consumers try to curb this outflow somewhat by being willing to pay more for housing rather than see the outflow as great as it would otherwise be. Rents rise; the real-estate stock declines. Meanwhile, recipients of pure land rent are adversely affected, as the use of land for housing becomes less intensive and less extensive. ${ }^{5}$ The main point here is that there is almost surely some excess burden under the housing tax, in the sense that consumption patterns are changed to a less-desirable level from what they would have been under, say, a poll tax or a tax on pure land rent.

To turn now to the income tax: it is itself riddled with excess-burden features. It directly induces a reluctance to work overtime and in general is biased toward inducing more leisure than would an equal-yield poll tax. It discriminates against saving and favors immediate consumption by taxing first the income out of which saving is made and then later taxing the investment income that flows from that saving. Unincorporated forms of doing business are favored relative to the corporate form for some taxpayers, and the other way around for others. Debt finance is stimulated relative to equity financing - and so on. The size of any one of these tax-induced distortions may not be great, but added together they seem to indicate that substitution of an increment of income tax for a decrement of housing tax would not reduce excess burden by much if at all and might even increase it.

The substitution of a retail-sales tax, on the other hand, for part of the hous-

[^2]ing tax might well reduce excess burden. (The impressionistic nature of these observations hardly needs emphasis.)

The tax on business real estate, in contrast, probably creates considerably less excess burden than would an income tax raising the same revenue. Insofar as this part of the real-estate tax is passed on to consumers of the things made by the taxed businesses, it is diffused among a large number of products and services instead of being concentrated on one, as is the housing tax. There will indeed be some excess burden; some consumer goods and services are made by processes that involve little use of business real estate, and consumers will be pushed to somewhat greater use of these.

Taking the real-estate tax as a whole, and comparing it with the retail-sales tax, one gets the impression that there might be a decrease in excess burden by substituting the latter for the former. Comparing it with the income tax, however, leads to the conjecture that the real-estate tax as a whole does not produce much if any more excess burden, and may produce less.

## Reduction of Wealth and Income Inequality

We now come to a new class of criteria: those on which it is impossible to find general agreement but which are cited, one way or another, in most evaluations of taxes. One of them is the effect that a certain tax may have on the distribution of income and wealth, relative to another tax of the same revenue yield.

To be sure, universal lip service is given to a less unequal distribution of income and wealth. Taxes that are more progressive with income are often lauded as if there were a universal preference among all classes and groups for ever more progressivity in the tax system. Yet when it comes to a specific tax proposal, it is not hard to find many instances where important and influential groups oppose the measure as being unfair in the degree to which it burdens the well-to-do. In sum, the precise degree of progression (assuming that progression is a good thing) is obviously a matter for difference of opinion. It is a conflict-ofinterests criterion. No sides are taken on this and similar issues in the present description, which merely attempts to do the job of comparison among the two real-estate taxes, the income tax, and the retail-sales tax, all as local taxes. The various interests can take the argument from there.

If the housing part of the real-estate tax were reduced and the revenue made up by a progressive-rate income tax, there is a wide field for surmise as to the result on distribution of income. Much depends, of course, on how steeply progressive are the income-tax rates. For use as a local tax, the income tax would probably not be as progressive as the present federal tax, in view of the fairly steep progression of that tax. Given, then, the very moderate degree of rate progression that the local income tax would have, we may doubt that this substitution would reduce appreciably the inequality of income distribution; that inequality might even increase a little. Much depends on the tax relief that lowincome families would get from a reduction of the housing tax. That relief could
indeed be substantial, under some reasonable assumptions. At the same time, landowners, either as owner-occupiers or landlords, would probably gain more from a reduction of the housing tax than they would lose to the income tax. Perhaps the distribution of income would be made a little less unequal by increasing an income tax and reducing a housing tax, but this outcome is far from certain. Substituting a retail-sales tax for part of the housing tax would be more likely to increase income inequality, especially if the sales tax provided no exemption for food or medicine.

The tax on business real estate is probably somewhat less progressive, or more regressive, than the housing tax.

## Taking Account of Family Circumstances

Among households of the same income and wealth, it may be desired to levy different amounts of tax because of differences in family size and composition (the number of the children and the elderly). Although this kind of differentiation is practicable, it has been used little if at all under the housing tax. ${ }^{6}$ Some ingenuity here might be useful. The business real-estate tax, on the other hand, is obviously not suited to distinguish among families of different size and age composition. For these aims, the income tax is better. The retail-sales tax is no improvement on the real-estate business tax unless refundable credits are given, linked not only to family income but also to family composition.

## Aid to Depressed Areas

Depressed areas can sometimes be aided by tailoring a, certain tax to encourage economic activities within the stipulated areas and to increase the flow of income to the residents of those areas. For this purpose the real-estate taxes are promising. At least the location of the tax base is in no doubt. ${ }^{7}$ There are limitations; exemption from the tax or reduction of the tax rate for properties in designated areas will in part aid real-estate owners who live elsewhere.

A retail-sales tax is probably a better tool to aid businesses and families in the depressed area; a reduction of the tax rate for sales made in those areas should be helpful. But there is the problem of preventing outsiders from shopping in such areas and carrying some of the benefits away with them. The income tax seems fairly well suited, unless it attracts new residents who crowd out the original residents, or unless landlords raise rents in the benefited area.

[^3]
## Tax Consciousness

Promotion of tax consciousness, deemed a good thing by many (but opposed strongly by some) is much easier under either an income tax or a retail-sales tax than under the housing tax, at least for rented dwellings. The business realestate tax scores poorly here.

## Promotion of Economic Growth

Another set of criteria where opinions differ consists of those regarding allocation of resources among industries rather than allocation of income among persons. One is of particular importance for the real-estate taxes: the rate of economic growth. "Economic growth" means the rate at which income per head is increasing from year to year. Such growth can be achieved, in general, by restricting current consumption or by increasing hours of labor. Care must be taken, however, not to check that part of consumption that is productive, through keeping the labor force in good health.

Everyone wants growth, but not everyone is willing to restrict nonproductive consumption or to increase labor hours to achieve this end. Checking nonproductive consumption and at the same time encouraging longer hours of labor is a balancing act. For the first, heavier tax rates are required; for the second, lighter tax rates at the margin of working hours.

As to checking consumption other than of housing, the retail-sales tax stands out, though it may check productive consumption too unless food and medicine are exempt. The building real-estate tax perhaps comes next, and the housing tax third, with the income tax the least desirable.

Encouraging work by lower tax rates at the margin is, on the other hand, something that the income tax can do especially well, if it is not limited to highincome groups. Overtime work, for example, might be given a reduced tax rate. Reducing a sales-tax rate is less certain to induce more work, and close to it on this score is the business real-estate tax. Reducing the housing-tax rate seems least promising.

In general, with respect to their combined adaptability for checking nonproductive consumption and encouraging work, the income tax perhaps ranks first, the sales tax second, the real-estate business tax third, and the housing tax fourth. But not much conviction is attached to these rankings.

## Neutrality in Foreign Trade

The effect of a local real-estate tax on a country's foreign trade is almost never discussed. It may therefore be useful to say a few words on this subject, comparing the two real-estate taxes with the income tax and the sales tax. Opinions differ as to whether a tax should be neutral as to foreign trade. In any event, the value of distinguishing between the housing tax and the business real-estate tax
becomes apparent. The housing tax is levied on the destination basis, while the business real-estate tax is levied on the origin basis.

A destination-basis tax exempts exports and taxes imports. The country of destination of the goods, not the country where the goods originate, is the one that taxes, if origin and destination differ. A retail-sales tax is an example. An origin-basis tax, on the other hand, exempts imports but does not exempt exports; an income tax is an example.

The housing tax imposes no burden on a country's exports, obviously, since the tax base, housing for domestic use, is by definition not exported. The housing tax strikes imports in the sense that the tax is imposed on a domestically used house whether the house itself (say, a prefabricated house) is produced domestically or is imported, and the tax strikes foreign-made components of a house used domestically.

In contrast stands the business real-estate tax. At first, to be sure, it seems to be a destination tax, just like the housing tax. An imported prefabricated factory building is not exempt; an exported prefabricated building, or its components, of course pay no real-estate tax to the exporting country. But there is an important difference here: housing is a consumer's good, and the analysis stops there, while business real estate is a producer's good, and we ask: How does the tax on this producer's good affect the things made with its help? A factory turning out automobiles pays a local real-estate tax; the automobiles, when exported, get no refund on account of whatever part of that real-estate tax may be embedded in the export price. In that sense, exports are not exempt under a business real-estate tax. Imports of automobiles are not charged with a compensating tax to make up for and match the domestic real-estate tax embodied in the prices of domestically produced automobiles. In effect, imports are exempt from the domestic business real-estate tax. That tax is therefore levied on an origin basis, with respect to whatever part of the tax gets into the cost of goods made in the domestically taxed factory.

In pure theory, import and export flows are unaffected by the choice between origin-basis taxes and destination-basis taxes, provided the tax in question is comprehensive and that foreign-exchange rates are free to fluctuate. In practice, they are not usually free, and the tax is not universal in its coverage. In these circumstances the destination-basis tax may be considered more nearly neutral in that it treats alike imports and domestic production for domestic use.

## Summary

The conjectures in each section of this essay are recapitulated in the form of rankings in table 1. Under the criterion "certainty," for example, the housing tax ranks highest, as 1 ; the business real-estate tax, second; the retail-sales tax, third; and the income tax, fourth. No attempt is made to indicate by how much or how little one tax outranks another. No weights are given to each of the criteria. Hence no totals are given by adding rank numbers (the lowest total would represent the most suitable tax).

## Ranking of Four Taxes (highest, 1; lowest, 4)

|  | Housing | Business Real Estate | Income | Retail Sales |
| :---: | :---: | :---: | :---: | :---: |
| Consensus criteria |  |  |  |  |
| Equal treatment of equals |  |  |  |  |
| Broad aspect | 4 | 3 | 1 | 2 |
| Narrow aspects |  |  |  |  |
| Relevance | 1 | 2 | 4 | 3 |
| Impersonality | 2 | 1 | 4 | 3 |
| Certainty | 1 | 2 | 4 | 3 |
| Continuity | 1 | 2 | 4 | 3 |
| Equality of mispayment | 3 | 2 | 4 | 1 |
| Uniformity of compliance costs | 1 | 2 | 4 | 3 |
| Excess burden | 4 | 2 | 3 | 1 |
| Conflict criteria |  |  |  |  |
| Reduction of wealth and income inequality | 2 |  | 1 | 3 |
| Taking account of family circumstances | 2 | 4 | 1 | 3 |
| Aid to depressed areas | 4 | 2 | 3 | 1 |
| Tax consciousness | 3 | 4 | 1 | 2 |
| Promotion of economic growth | 4 | 3 | 1 | 2 |
| Neutrality in foreign trade | 2 | 3 | 4 | 1 |

At the same time, a glance at some of the rankings may help explain why the real-estate tax, despite the justified criticism leveled at it, tenaciously holds its place as the prime tax for local governments in several countries. The housing tax ranks very well in most of the narrower aspects of equal treatment of equals: relevance, certainty, continuity, and uniform compliance costs. It does (or might do) not badly with respect to three of the conflict criteria: reduction of wealth and income inequality, taking account of family structure, and neutrality for foreign trade. The tax on business real estate ranks below the housing tax in all of these respects, but only just below, save in two criteria, and it ranks first in impersonality and second in equality of tax mispayment, and second also in aid to depressed areas. It is therefore with respect to the less familiar, but not less important, consensus criteria that the two real-estate taxes do well relative to the income tax and the retail-sales tax. The rankings of the several taxes are largely as those taxes exist in fact, not as some proponent might view them if only they were used in all purity: an income tax without notches and breaks, without concessions to this or that small group, or a housing tax with a uniform degree of underassessment.

Table 1 could easily be extended. By no means all the commonly discussed criteria have been specified there. For example, some would consider quite important the relative revenue elasticities of the several taxes. The ability to function without distortion in a period of inflation is another criterion. Since an exhaustive list would be too long for present purposes, the criteria selected are limited to those that are generally applicable in most times and places.


[^0]:    ${ }^{1}$ See Carl S. Shoup, Public Finance (Chicago: Aldine Publishing Co., 1969), p. 383. This viewpoint is gaining ground; see, e. g., Wayne R. Thirsk, "Political Sensitivity versus Economic Sensibility: A Tale of Two Property Taxes," in Tax Policy Options in the 1980's, ed. Wayne R. Thirsk and John Whalley (Toronto: Canadian Tax Foundation, 1982), p. 384.
    ${ }^{2}$ These criteria are drawn from the list in Shoup, pp. 21-47.

[^1]:    ${ }^{3}$ Shoup, p. 29.

[^2]:    ${ }^{4}$ For the original and still in many ways the best statement of this view, see Peter Mieszkowski, "The Property Tax: An Excise Tax or a Profits Tax?" Journal of Public Economics 1 (April 1972): 73-95. See also Henry J. Aaron, Who Pays the Property Tax? A New View (Washington, D. C.: The Brookings Institution, 1975), pp. 38-45, especially n. 41.
    ${ }^{5}$ For an analysis of how the landowner fares under varying degrees of elasticity of demand for housing and of supply of capital for housing at the margin, see Shoup, pp. 386-90, 395-97.

[^3]:    - See the proposal by Peter S. Fisher in "Adjustments for Household Size in Property Tax CircuitBreaker Programs," National Tax Journal 33 (June 1980): 161-70.
    ${ }^{7}$ For an analysis of how tax abatement may influence location, see Donald A. Coffin, "Property Tax Abatement and Economic Development in Indianapolis," Growth and Development 13 (April 1982): 18-23.

