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Source: *National Tax Journal*, DECEMBER 1973, Vol. 26, No. 4 (DECEMBER 1973), pp. 515–535

Published by: National Tax Association

Stable URL: https://www.jstor.org/stable/41791908

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ABSTRACT

Recent literature has pointed out that an ideal uniform comprehensive property tax would fall on the owners of capital and thus be progressive in incidence and that even the far from ideal property tax that actually exists is less regressive than the conventional wisdom maintains. It is argued here that theoretical analysis of the existing partial tax is so complex that there is no substitute for place-specific empirical work on property tax incidence. In most large metropolitan areas, the property tax on balance is probably not regressive, but its residential component probably is significantly regressive for purposes of current tax policy decision-making.

T HE public debate over the desirability of major local government dependence on the property tax provides one of the best examples of the Keynes dictum that "practical" men who believe their views to be utterly independent of the theorizing of academic scribblers in fact are usually acting on the basis of scholarly arguments that have long since been shown to be erroneous. In the first twenty years after the end of World War II, rapid and widespread increases in the effective rates of local property taxation were frequently accompanied by one or both of two not entirely consistent justifications, both of which were generally considered — at that time — invalid by public finance economists.

The first was the benefit theory, the

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argument that the distribution of local property tax liabilities bears some reasonable relation to the distribution of the benefits received from the expenditure financed by the tax. The second was what might be best called bastard-Georgism: the belief that the types of property subject to ad valorem taxation generate very large economic rents, often not reflected in money incomes of property owners, and thus we need not be concerned with the efficiency aspects of the tax (since it is a tax on rents). As so often happens, the second argument was phrased in its most extreme form by New York City officials, who held that there were three quite distinctive economic sectors, households, business and "real estate," and that a proper local tax system tapped all three, via sales and excise taxes on the first, gross or net income taxes on the second, and property taxes on the third.

These justifications had obvious significance for equity. If the tax is really a benefits tax, then it will not alter the distribution of real incomes (other things, like Federal income tax treatment, being equal). If the tax falls on rents derived from the ownership of property, then it *must* be progressive in incidence, because the ownership of property is more concentrated than the distribution of income.

During this same period, economists were producing a large body of empirical evidence on the income distribution effects of the tax system, in the form of studies of the entire national tax system, state tax system studies, and studies of individual types of taxes both nationwide and for specific jurisdictions. They were based on the partial-equilibrium theories of tax shifting that

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had become the conventional wisdom well before World War II and they were made possible by a vast increase in the supply of relevant economic data, particularly data on the distribution by income class of the different types of incomes and various forms of consumer expenditure. The shifting theory applicable to the property tax was that, in the main, the part of the tax that fell on reproducible capital (generally believed, before the last few years, to be well over 80 per cent of the tax base) was shifted forward to final consumers of the services produced by the taxed capital. Since the cross-section evidence comparing consumption expenditure to current income showed that most types of expenditure decreased as a percentage of income as income rose, it is not at all surprising that the conclusion usually was that the property tax tended to be a regressive one.

In my *Economics of the Property Tax* (Brookings, 1966), I followed this approach with only limited qualifications. The conclusion was that, in the aggregate for the nation as a whole, the property tax was more nearly proportional than regressive. However, the housing component of the tax did emerge as generally regressive and it appeared more regressive as one disaggregated between homeowners and tenants and geographically. Indeed, virtually all empirical studies of the residential property tax done for individual states and cities in the 1960's using current income (rather than "permanent" or "normal" income) as the income measure showed this element of the property tax to be far more regressive than any other major feature of the tax system being studied, not excluding ordinary consumption taxes like the sales tax.

That the property tax, particularly the residential part of it, is objectionably regressive has now become the conventional wisdom among a large proportion of "practical" men and women, including politicians. But among economists, the conventional wisdom is no longer accepted; indeed, a poll of public finance economists surely would show that the recent revisionist literature on the regressivity of the property tax has won the day. The revisionist critique has been wide-ranging, addressed to the theory of tax shifting and to almost

every step in the empirical process of measuring the distribution of the tax burden by income class.

This paper attempts to assess the critique, assimilate the arguments and emerge with some conclusions on the incidence of the tax. However, it is not a paper in the theory of public finance (the theoretical issues are really rather straightforward); instead, the objective is to see what public finance economists should be telling policymakers about the incidence of the real, live property tax institutions that now exist.

I. Theoretical Issues

The conventional wisdom, as noted above, has been that the property tax on reproducible capital essentially is equivalent to an excise tax, and like other excise taxes, generally (but not always) shifted forward to consumers. This argument dates back to Marshall and Edgeworth.[1] The major alternative view, which is the basis of the main thrust of the recent criticism, was first developed by Harry Gunnison Brown in the 1920's: the property tax is a tax on capital, with effects like those of a profits tax. This, like so many other of Brown's immensely rewarding propositions on the economics of taxation, has been generally neglected although known to many economists. Yet another view is that the property tax is indeed an excise tax, but one that is shifted backward — not forward — to immobile factors of production, notably land.

Economists working in applied fields, like public finance, seem extraordinarily accident-prone when attempting to develop theoretical propositions that can be applied to policy analysis. Most seem unable to avoid one or the other of the two most common mishaps. The first is to build unstated assumptions more or less reflecting the institutional realities into the theoretical formulations; the theory that results is logically defective, but perhaps more important, it is applicable only to special cases and its generality is difficult to appraise since so many assumptions are unstated and their

[1]For a rather complete listing of the relevant literature, see Peter Mieszkowski, "Tax Incidence Theory: The Effects of Taxes on the Distribution of Income," *Journal of Economic Literature*, Vol. 7 (December 1969), pp. 1103-1124.

empirical validity unexplored. The second is to develop theoretical propositions of great generality by using explicit assumptions that are extremely restrictive and abstract, and then to apply the theory directly to policy as if the restrictive assumptions are in fact valid descriptions of the real world of institutions.

Virtually all writers subscribing to the conventional partial-equilibrium theory of the shifting of ad valorem taxes on reproducible capital (not excluding this writer) are guilty of the first error. We assume, without specifying that we are doing so, that the property tax is a partial, non-uniform tax; that there are significant factor immobilities; that monopoly elements are present; that risk, uncertainty and transactions costs lead to differential rates of factor returns; that related but independently determined institutional arrangements (like the Federal income tax) influence the shifting process; and, sometimes, that economic decision-makers are not maximizing or otherwise not at equilibrium positions before the imposition of or increase in the tax. A fair number of revisionist writers are guilty of the second error: they allow for none of the above in policy prescription as well as in theorizing.

Peter Mieszkowski, the most rigorous revisionist writer on the subject, is *not* guilty of this error and it is therefore appropriate to use his two major articles as a point of departure.[2] As he points out, if the total supply of each factor of production is fixed, all factors receive the value of their marginal product and general taxes (or their expenditure) do not affect absolute or relative marginal productivities, then the real burden of a general tax will fall on its legal base. A general (ad valorem) tax on capital will be equivalent to a tax on profits and the real burden will be on owners of capital in proportion to their holdings. Because of differential risks calling for differentials in rates of return, this statement is not strictly true, but the qualification is a minor one.[3]

Given the assumptions, the validity of the theorem seems obvious. A general tax on capital can be shifted forward only if the supply of capital is reduced, in response to the imposition of the tax. It can be shifted backward to the complementary factor, labor, only if there is a reduced demand for labor due to a reduction in the supply of capital.[4] But it is assumed that the supply of capital will *not* be reduced, because savings are held to be inelastic with respect to the rate of return on them. If the latter is true, and we think in terms of intermediation in capital markets, the supply of capital cannot be reduced by a decline in savers' demand for claims on real capital.

The argument is analogous to that conventionally applied to taxes on land, whose supply is assumed to be fixed, with the result that taxes on land cannot be shifted. The conventional land tax incidence theory holds that the result will be a decline in the value of land. A general capital tax, however, would not be capitalized into lower asset values. Instead, the rate of return on all capital will be reduced and asset values will remain unchanged. That is, before the imposition of the tax, profits might be 100, the rate of return 10 per cent, and capital value 1,000; after a 3 per cent ad valorem tax is imposed, after-tax profits would be 70, the rate of return 7 percent, and capital value still 1,000.

A general tax on capital would have some second-order economic effects. One stems from risk differentials, as noted above. Another stems from possible differences in consumption preferences between owners of capital (and land) and those whose income comes largely from the sale of labor services. No doubt such differences exist. My guess is that, on balance, the decline in the incomes of capitalists would lead to a decline in the demand for labor-intensive goods and services relative to the demand for capital-intensive final output and, thus, some of the burden of the general capital tax would be shifted to labor. But this is probably a very small shift, even if valid.

[2]*Ibid.* and Peter Mieszkowski, "The Property Tax: An Excise or a Profits Tax?" *Journal of Public Economics,* Vol. 1 (April 1972), pp. 73-96.

[3]Mieszkowski, 1969, pp. 1104, 1106-1107.

[4]Since the real-world property tax does apply to land as well as reproducible capital, the treatment here does not distinguish between land and reproducible capital. In any case, the sentence would apply equally to land.

The property tax, of course, is anything but a uniform general tax on capital. There are wide variations in effective tax rates among the 65,000-plus political jurisdictions that employ the tax and there are substantial variations in effective tax rates among types of capital assets even within individual jurisdictions. Mieszkowski argues that such variations give rise to excise tax effects, that is, the possibility of shifting both backward and forward. His articles suggest that, where above-average tax rates exist, the forward shifting results found in the conventional partial-equilibrium analysis will be common. But he departs sharply from the conventional analysis in holding that reverse excise tax effects will be the rule: lower prices for goods and services produced by lightly-taxed capital and/or higher returns to immobile complementary factors. He suggests that, in empirical work, if one cannot deal with income distributions for each taxing jurisdiction and if the correlation between income levels and distributions and the height of the property tax is weak, it would be reasonable to ignore the positive and negative excise tax effects and treat the property tax as a profits tax.[5]

It is worth quoting his overall conclusion:[6]

. . . the *system* of property taxes imposed by local governments decreases the overall return to capital by the average rate of tax in the nation as a whole, and changes the supply price of capital to different cities according to relationship of the specific rates relative to the mean rate of property tax. Cities with (a) relatively high tax rate will pay (more) for the services of capital, low tax rates result in a lower cost of capital.

Changes in the cost of capital lead to a reallocation of residential and industrial activities which in turn influence site values and the returns to other imperfectly mobile factors of production . . . changes in wage rates will be small in magnitude as labor is partially mobile and labor can be substituted for capital. Changes in land values are likely to be

[5]Mieszkowski, 1972, pp. 79-80.

[6]*Ibid.*, pp. 94-95.

substantial but because of the low share of land rents in total costs are quite unlikely to increase sufficiently to offset the tax. Commodity prices will rise and I venture to guess that at least 75% of the burden of the tax differential falls on consumers, when capital is perfectly shiftable. In cities where the level of new construction is negligible tax increases will lead to a downward re-evaluation of the existing capital stock.

If one starts off by viewing the property tax as a partial tax on capital, rather than a general tax with effective rates varying around a national mean, the analysis is somewhat different.[7] Let us consider a polar situation, where capital is taxed uniformly in one sector of the economy, or one geographic area, and wholly untaxed elsewhere (we shall see, below, that this polar situation does exist and its magnitude is great). First, what is the burden of the tax on capital in the taxed sector, assuming that the capital is used to produce goods and services sold in competition with those produced by capital in the tax-free sectors? It would be accidental if the burden were equal to the amount of the tax. The critical element is the relative substitutability among factors of production in the taxed and untaxed sectors. If substitutability is high in the taxed sector and is low in the tax-free sector, the movement of capital out of the taxed sector into the tax-free sector (or geographic area) will reduce the returns to capital by more than the amount of the tax. If the relative substitutability is reversed, the burden of the tax will be shifted to other factors.

In any event, a partial tax on capital will *not* be diffused over all capital, taxed and untaxed, in the form of lower returns to capital in general.[8] Capital is used to pro-

[7]This discussion borrows heavily from a presentation by Arnold Harberger at a symposium in honor of Harry Gunnison Brown at the University of Missouri-Columbia, April 6, 1973. The implications of the analysis for empirical work are mine, not Harberger's.

[8]I emphasize this point because the most succinct summary of the revisionist approach yet to appear argues precisely the opposite, and in fact, virtually excludes all excise tax effects. Robert D. Reischauer and Robert W. Hartman,

duce both locally traded goods and services and export goods and services. Price differentials in the former can exist — between taxed and untaxed areas (or high and low-tax areas) — which permits forward shift-ing of the local tax on capital. Similarly, forward shifting can occur to the extent that export goods and services are highly differentiated products, specific to the taxed (or high-tax) areas. Moreover, there is the possibility of backward shifting to local immobile factors of production, as noted in the Mieszkowski quotation above.

Analytically, the outcome seems not all that different from the Mieszkowski argument — there are excise tax effects. But it does raise the question of whether it is sensible to speak at all about the property tax as one that lowers the average rate of return on capital. To the extent that it is not shifted, and this is not necessarily a negligible extent, it will produce that result *ex post,* by large but selective reductions in the return on *some* capital. However, if the excise tax effects are very widespread and the capital tax effects selective, the important policy questions concern these effects, not the overall reduction in the average rate of return, and empirical work cannot follow the short-cut method suggested by Mieszkowski. There seems no substitute for empirical work that recognizes local differentials and perhaps, no case for the kind of nationwide estimates of incidence by income class that I and others have made in the past.

This itself is an empirical question: just how non-uniform is the property tax and what does this imply for empirical work on incidence?[9] Non-uniformity is not simply a

matter of the dispersion in tax rates by area and asset type within the aggregate property tax base. There is a larger issue, the fact that a very large share of all tangible wealth is not subject to the property tax at all. If most tangible wealth were not subject to the tax, it would be easy to hypothesize a situation in which *all* taxed capital was taxed at effective rates above the mean rate on all capital, taxed and tax-free, and thus there would be no negative excise tax effects within the taxed sector at all. That is, *any* owner of reproductive capital subject to the property tax would have shifting possibilities. To be sure, the supply price of capital not taxed would decline, as capital shifted, but it would be preposterous, in this hypothetical situation, to ignore the excise tax effects.

I have attempted to make some reasonably refined estimates that compare the property tax base with the value of all tangible wealth, as of 1966, that year selected because it permitted use of Census of Governments data on values of property subject to the tax.[10] Table 1 contains estimates of the market value of real and tangible personal property subject to both general and special property taxation. The estimates were derived from published assessed value data, blown up to market value from Census sales-assessment ratios and my own guesses; the land-structure differentiation is external to the Census. Table 2 contains national wealth estimates, organized in categories to facilitate comparison with the property tax base data in Table 1. The data in Table 2 are only in part the standard national wealth estimates; Commerce Department estimates on residential and fixed business capital were utilized as much as possible, in an effort to

[9]There is, of course, another major empirical question about the profits-tax theory of property tax incidence: is the assumption that the supply of capital (or savings) is price-inelastic valid? This proposition is widely, although not universally, accepted by economists. Like so many other economic propositions of considerable generality, it is extremely difficult to convincingly test empirically, and thus there is room for disagreement. Moreover, a hypothesis that any major

form of economic behavior is insensitive to price variation all or most of the time is intuitively hard to take: our professional biases suggest rejection of the hypothesis lest we render ourselves unemployable. Nonetheless, since I have neither the competence nor the charge to explore this at length, it is necessary to accept the proposition with a mild demurrer.

[10]The 1972 Census of Governments has 1971 value data, but the nationwide detail by property type in the new Census is very limited. Moreover, national wealth estimates for 1971 are not available at present.

TABLE 1

ESTIMATED MARKET VALUE OF REAL AND TANGIBLE PERSONAL PROPERTY
SUBJECT TO GENERAL AND SPECIAL PROPERTY TAXATION, 1966, BY
SECTOR AND TYPE OF ASSET[a]
(in billions of dollars)

	All Assets	Land[b]	Structures	Personalty[c]
Households	704.2	167.7	497.6	56.9
Business (including farms)	758.9	305.9	250.2	202.8
Not allocable by sector[d]	39.9	39.9	—	—
All Sectors	1,503.0	513.5	729.8	259.7

[a]Estimated by author from data published in U.S. Bureau of the Census, *Census of Government,
1967, Vol. 2, Taxable Property Values* (1968). The Census volume includes market value estimates
of locally assessed "ordinary real estate" subject to general property taxation; such property
accounted for $290 billion of the $498 billion gross assessed value of all property subject to general
property taxation. For this segment, the only adjustment necessary was to estimate the market value
of so-called partial exemptions (like veterans and homestead exemptions). The remaining segments
of assessed values included:
  Subject to general property taxation:
  (1) State-assessed property $ 42 billion
  (2) Locally assessed realty, except "ordinary real estate"   103
  (3) Locally assessed tangible personal property   63
  (4) Subject to special property taxes (assessed value estimated by author)   24
Market values for (2) were estimated on the basis of assessment ratios for commercial and industrial
property by state, weighted by the assessed value of non-ordinary real estate in each state. Estimating
market values for (3) required an estimate of the composition of personalty as well as assessment
ratios; the latter were close to those for the corresponding categories of real property. The assessment
ratio for (1) was assumed to average 50 per cent. Similarly, high assessment ratios were assumed
for (4).
  [b]The land component of real property values was estimated on the basis of the data in Allen D.
Manvel, "Trends in the Value of Real Estate and Land, 1956 to 1966," in *Three Land Research
Studies,* National Commission on Urban Problems, Research Report No. 12 (1968).
  [c]27 per cent of the estimated market value of taxable motor vehicles was allocated to the business
sector, on the basis of data on the sectoral distribution of passenger car purchases used for the
National Income Accounts.
  [d]Vacant lots.

be conservative in estimating national
wealth and thus minimize the size of the
gap between the property tax base and the
aggregate capital stock.[11]

The two sets of estimates are directly
compared in Table 3. According to these
estimates, more than $1,000 billion in tan-
gible national wealth, 41 per cent of the
total, was *not* subject to the property tax
in 1966. Roughly $600 billion of this dif-
ference consisted of property owned by
governments and tax-exempt organizations.
About $70 billion consisted of structures
owned by individuals and institutions ordi-

[11]The Commerce Department estimates allow
for substantially more rapid depreciation sched-
ules than do the standard national wealth esti-
mates.

narily subject to state-local taxation, but not
reached by the property tax. These exclu-
sions have two major components: prop-
erty (largely residential) excluded by fixed-
dollar partial exemptions, such as those
afforded veterans, homesteads, middle-
income housing and the elderly, in many
states, and public utility property not sub-
ject to any form of property taxation, in a
few states. More than $350 billion of the
difference consisted of consumer durables,
producer durables and inventories, some
excluded by partial exemption but most ex-
cluded by the incomplete statutory coverage
of tangible personal property.[12]

[12]Roughly one-third of the noncovered pro-
ducer durables and inventories probably was
located in the four states that provided for

TABLE 2

ESTIMATED TANGIBLE NATIONAL WEALTH, 1966, BY CENSUS OF GOVERNMENTS
PROPERTY-USE CATEGORIES, IN CURRENT DOLLARS[a]
(in billions of dollars)

	(1)	Total value of residential structures	593.0	
less	(2)	Publicly-owned	14.7	
less	(3)	Farm	20.5	
less	(4)	Private nonhousekeeping	11.1	
less	(5)	Mobile homes	4.4	
equals	(6)	Privately-owned nonfarm housekeeping bldgs.		542.3
	(7)	Business and farm nonresidential structures	276.4	
less	(8)	Institutional structures	41.3[b]	
plus	(9)	Farm residential structures, from line (3)	20.5	
plus	(10)	Private nonhousekeeping residential structures, from line (4)	11.1	
equals	(11)	Business and farm structures, excluding institutional		266.7
	(12)	Business and farm equipment	252.3	
less	(13)	Institutionally-owned producer durables	2.5[c]	
plus	(14)	Business and farm inventories	181.5	
equals	(15)	Business and farm tangible personal property		431.3
	(16)	Consumer durables	196.9[d]	
plus	(17)	Mobile homes, from line (5)	4.4	
equals	(18)	Household-owned tangible personal property		201.3
	(19)	Privately-owned land		508.4[e]
	(20)	Public nonresidential structures	395.8	
plus	(21)	Publicly-owned residential structures, from line (2)	14.7	
plus	(22)	Publicly-owned producer durables	10.1[f]	
plus	(23)	Publicly-owned inventories	12.9	
plus	(24)	Publicly-owned land	127.4	
plus	(25)	Institutional structures, from line (8)	41.3	
plus	(26)	Institutional-owned producer durables, from line (13)	2.5	
equals	(27)	Tangible wealth in tax-exempt ownership		604.7
	(28)	Total tangible wealth — sum of lines (6), (11), (15), (18), (19) & (27)		2,554.7

[a]Lines (1) through (6) are from Allan H. Young, John C. Musgrave and Claudia Harkins, "Residential Capital in the United States, 1925-70," *Survey of Current Business,* November 1971. Lines (7) and (12) are based on the data in U.S. Department of Commerce, *Fixed Nonresidential Business Capital in the United States, 1925-70,* November 1971, National Technical Information Service, Com-71-01111; the series used is variant 1 assuming service lives at 85 per cent of Bulletin F and straight-line depreciation. Lines (8), (14), (16), (19), (20), (23) and (24) are based on the national wealth estimates in U.S. Congress, *Institutional Investor Study, Report of the Securities and Exchange Commission, Supplementary Volume I,* House Document 92-64, Part 6, March 10, 1971, as shown in *Statistical Abstract of the United States,* 1971.

[b]The national wealth estimates in the S.E.C. study for this category have been adjusted downwards by roughly 10 per cent, for consistency with the Commerce Department estimate in line (7) from which line (8) is subtracted.

[c]Estimated at 1 per cent of line (12), on the basis of data for earlier periods in Raymond W. Goldsmith, Robert E. Lipsey and Morris Mendelson, *Studies in the National Balance Sheet of the United States,* Vol. II, Princeton University Press, 1963.

[d]Includes some institutionally owned consumer durables.

[e]Includes some institutionally-owned land, possibly in the $10-15 billion range.

[f]Estimated at 4 per cent of line (12), on the basis of data for earlier periods in Goldsmith *et al.*

An obvious and immediate comment on these estimates is that the theory of the complete exemption of all personal property in 1966.

property tax as a capital tax refers to taxes on "income producing wealth," and that the exclusion of government-owned capital from the tax base does not affect the argu-

TABLE 3

ESTIMATED TANGIBLE NATIONAL WEALTH VERSUS MARKET VALUE OF
TANGIBLE PROPERTY SUBJECT TO PROPERTY TAXATION, 1966[a]
(in billions of dollars)

	(1) National Wealth	(2) Market Value of Property Subject to Tax	(3) (1) — (2)
Owned by ordinarily taxable organizations and individuals:			
Nonfarm residential structures	542.3	479.6	62.7
Business & farm structures	266.7	250.2	16.5
Business & farm tangible personal property	431.3	202.8	228.5
Household-owned tangible personal property	201.3[b]	56.9	144.4
Land	508.4[b]	513.5	—5.1[c]
Subtotal	1,950.0	1,503.0	447.0
Owned by governments and tax-exempt organizations	604.7	—	604.7
Total	2,554.7	1,503.0	1,051.7

[a]Data from Tables 1 and 2.
[b]Includes some property owned by tax-exempt institutions.
[c]This discrepancy is more apparent than real, a consequence of the diverse estimating methods used. In particular, the method of estimating land values for column (2) probably produces higher land-to-structure ratios than those used for column (1); thus the positive difference in column (3) for the first two lines is no doubt somewhat overstated. In practice, no more than $3-4 billion of the value privately-owned, non-institutional land should escape property taxation.

ment. However, this proposition requires that the public and private capital markets be entirely isolated from each other, which is not the case. It must be remembered that the inelasticity of the supply of capital with respect to the rate of return is a necessary condition of the theory. It is surely *not* true that the supply of capital for *private* investment per se is price-inelastic; investment funds can and do flow from private to public sector capital markets in response to relative declines in private sector returns. To validly ignore government-owned capital entirely requires two additional assumptions, both of doubtful realism: (1) public sector *demand* for capital is invariant with respect to the rate of interest confronting governments; and (2) the wind fall gains to governments, consequent upon (a) the imposition of a general tax on private capital, (b) the reduction in after-tax returns to private capital and (c) the subsequent increased supply of capital to the public sector, will be somehow sterilized or used in a way that affects none of the general-equilibrium conditions.

The improbability of the second assumption seems self-evident. As for the first assumption, roughly 40 per cent of outstanding state-local long-term debt is secured by the revenues of specific projects, in one way or another; not infrequently, higher interest rates do make the financing of such projects infeasible. Moreover, referenda requirements for the approval of general-obligation bonds (particularly school bonds) often provide that the tax increase necessary to service the proposed bond issue be stated. In such cases, a reduced rate of interest will be reflected in a lower stated tax increase and it is hard to accept the proposition that voter approval is invariant with respect to the contemplated tax-price of the proposed project.

There is, however, one element of public capital that must be excluded from the theoretical analysis: that part of public capital financed from the property tax itself. The incidence analysis that is relevant to tax policy is comparative tax incidence analysis, that is, analysis of alternative ways of raising the same amount of public revenue. To in-

clude property-tax financed capital forma-
tion in the analysis is to convert it, un-
wittingly or otherwise, into *fiscal* (taxes
plus expenditure) incidence analysis.

In any event, there is a large volume of
nonpublic capital that is not subject to the
property tax, as Table 3 shows. Thus, the
effective property tax rates on a consider-
able portion of the capital that is taxed will
be above the average rates on all capital,
even if we exclude publicly-owned capital
from the calculations. Aggregate 1966-67
property tax collections amounted to the
following percentages, or overall average
effective rates, of the various capital stock
estimates:

(1) Total tangible national
    wealth   1.02%
(2) National wealth excluding
    publicly-owned   1.31%
(3) (2) less institutionally-
    owned   1.34%
(4) Capital subject to property
    tax   1.73%

The average effective rates on all capital,
public and private, but excluding estimated
property-tax financed publicly-owned capi-
tal, is estimated at 1.07 per cent.[13] Unless
the distribution of individual parcels of
taxed capital by effective property rate class
is extremely bi-modal, it is evident that a
very large fraction of all taxed capital must
be subject to tax rates well above the
average for all capital (using any of the
definitions above), with positive excise tax
effects the general rule.

We have relatively little evidence about
the dispersion of effective property tax rates
on individual parcels of property except for
housing. Census of Governments data sug-
gest that the average effective tax rate on
housing is substantially above that on farm

[13]For some years, local government capital
expenditure has averaged roughly one-third of
all public sector capital expenditure and slightly
less than half of local goverment capital expendi-
ture has been financed from the property tax or
debt serviced by property tax levies. In earlier
years, the property tax financed a larger share
of public sector capital, expenditure, but this is
currently relevant only to land and water and
sewer lines. My estimate assumes that one-fifth
of the 1966 public sector capital stock can be
said to have been financed by the property tax.

real property, probably somewhat above
that on industrial real property and prob-
ably marginally below that on commercial
real property. It is also probable that the
average effective rate on housing is well
above the effective rates applying to those
produced and consumer durables and in-
ventories actually subject to tax, with the
possible exception of motor vehicles and
the probable exception of personal property
owned by public utilities. Thus, the evi-
dence on the dispersion of effective tax
rates on housing may be somewhat mislead-
ing, in that housing tax rates tend to be
high.

Nonetheless, it is worth exploring, for
the data are very one-sided. There are three
bodies of data that are national in scope.
In 1960 and again in 1970, the Census of
Housing (in Volume V, *Residential Fi-
nance*) presented frequency distributions
of residential properties by effective prop-
erty tax rate classes. The 1967 Census of
Governments provides data that show effec-
tive property tax rates on single-family
houses at the first, second and third quar-
tiles in "selected major local areas," which
are 122 larger central cities and, in some
cases, the remainder of the counties con-
taining them; the data cover 12.4 million
of the 40.4 million nonfarm single-family
houses assessed for property taxation in
1966. The latter set of data can be com-
pared directly with the effective rates for
1966-67 shown above. To use the Housing
Census data, I have made estimates of na-
tional wealth for 1960 and 1970 compar-
able to those in Table 2 (for 1966), and
use them as the denominator of fractions
in which the numerator was property tax
collections in 1960 and 1970-71, respec-
tively.

The results appear in Table 4. The only
truly nationwide data are those from the
1960 Housing Census, shown in the first
two lines.[14] As would be expected, the
lower four lines exhibit higher percentages,
since those data apply to larger cities or
to metropolitan areas. Line (4) represents
a crude attempt to extend the results in

[14]At the time this paper was written, the
relevant 1970 Census volume had not yet been
published; I was working with an incomplete
set of pre-publication tables.

TABLE 4

ESTIMATED PERCENTAGES OF NONFARM HOUSING UNITS SUBJECT TO
ABOVE-AVERAGE EFFECTIVE PROPERTY TAX RATES, FOR
SELECTED YEARS AND CLASSES OF HOUSING[a]

| | Per Cent of Housing Units with Effective Rates Above Average Applying to — | |
| | All Tangible National Wealth | Privately-Owned Wealth |
Year, Source and Coverage		
Taxes in Fiscal Years Ending in 1960, 1960 *Census of Housing:*		
(1) All Single-Family Houses	71	59
(2) Units in Properties with 2 or More Units	86	78
Taxes in Fiscal Years Ending in 1966-67:		
(3) 1967 *Census of Governments,* Single-Family Houses in Selected Major Local Areas	92	85
(4) Interpolated from 1960 and 1970 *Census of Housing,* Single-Family Houses in SMSA's	86	74
Taxes in Fiscal Years Ending in 1970-71:		
(5) 1970 *Census of Housing,* Single-Family Houses in SMSA's	90	80

[a]Average effective property tax rates calculated as described in the text. Housing property tax rates for lines (1), (2), (4) and (5) were estimated from data in Vol. V, *Residential Finance,* of the *Census of Housing* for 1960 and 1970. The data in the latter Census apply to 1971, not 1970. The estimates in line (3) are based on data in *Census of Governments, 1967, Vol. 2, Taxable Property Values* (1968).

line (3) to comprehend more suburban territory in metropolitan areas. It is worth noting that all the estimates based on the Census of Housing data are probably serious understatements, since no property tax information was collected from owners of recently acquired properties (those acquired in 1959 and early 1960 in the first case and in 1970 and early 1971 in the second). The reason for the exclusion is that many recently acquired properties are newly built and appropriate property tax bills may not have been yet rendered on such properties at Census-taking times. It is generally accepted that in most places the ratio of assessed value to sales price tends to be significantly higher on newly built properties than on older properties of similar type within a taxing jurisdiction.

In sum, the estimates suggest that positive excise tax effects on housing are very pervasive. It is a reasonable presumption that negative excise tax effects are common only for farm structures, industrial structures located in smaller places (or industrial enclaves within urban areas) and some classes of personal property subject to tax.[15] I con-

[15]Below-average effective tax rates clearly apply to farm land, vacant urban lots and probably

clude that it is neither reasonable nor useful to treat the property tax empirically as equivalent to a general tax on capital.

The widespread existence of excise tax effects by itself does not tell us that the tax on reproducible capital is always, or even generally, shifted forward to the consumers of the services produced by this capital. Indeed, Mieszkowski appears to have overstated the case for forward shifting of above-average tax rates, which is entirely understandable in the context of a theoretical analysis done with the necessary simplifying assumptions. The general rule in the case of partial taxes is, of course, that it all depends — on the elasticities of substitution in both production and consumption. A few special, but widely applicable, cases can be distinguished; as will be evident, the argument now returns to the conventional wisdom.

First, taxes on owner-occupied residential structures (the great majority of which, according to Table 4, are well above average capital tax rates) will be borne by their owners, not as capitalists but as consumers

most improved urban land as well, but I continue to hold that ad valorem taxes on land must be borne by landowners.

of housing services, unless the price-elasticity of the demand for housing is high and the factors engaged in the production of owner-occupied housing are relatively immobile.[16] Given that most privately-owned nonresidential structures are subject to property tax rates that are close to those on housing, it is reasonable to suppose that there is some degree of immobility in the construction materials industry, as well as some immobility in construction labor. The generally accepted estimates of the price-elasticity of demand for housing are in the 1.0 range. Consequently, we should expect the burden of the property tax on owner-occupied housing to be shared between housing consumers and the supplying industries, with the lion's share on the former in the longer run, and virtually all on consumers in those places where the tax rate is exceptionally high.

Second, renter-occupied residential structures: in this case, property owners intervene between the construction industries and housing consumers and can bear all or part of the burden of the tax.[17] In the very short run, this will surely happen, since the very-short-run elasticity of supply housing is negligible: owners can contract supply, in order to permit rent increases, only by the individually irrational action of holding units vacant (and the rental housing industry is one of the most competitive of all industries). Recent work by Frank de Leeuw and Nkanta F. Ekanem of the Urban Institute suggests that supply elasticities are quite low over the period necessary for the total quantity of housing capital in a given market to fully respond to changed conditions, say, six years or so, but perhaps much higher over substantially

longer periods.[18] If this is valid, then the burden of an increase in the property tax will fall in good part on rental property owners in a policy-relevant sense, for it is difficult to weigh heavily tax burden consequences that occur only in the remote future.[19]

Unless the elasticity of supply is close to zero, some part of the tax burden will be shifted, and no doubt some of the shifted part will fall on suppliers rather than consumers. Again, the time period is important as is the generality of the tax or tax increase. If the tax is increased in one jurisdiction within a larger housing market, the bulk of the burden must be on property owners, assuming equilibrium prior to the tax. It is conceivable that rental housing submarkets exist in which the price-elasticity of demand is very low, so that even large differential tax increases will be shifted forward in part. However, the de Leeuw-Ekanem work requires some caution in assuming tax shifting — either backward or forward. Of course, in the disequilibria that prevail in central-city rental housing markets, evidenced in phenomena like large-scale abandonment, property tax increases along with a variety of other events can trigger changes whose ultimate origin lies elsewhere. In such circumstances, it may be very difficult, *ex post,* to sort out the consequences of the tax change per se.

The analysis of shifting possibilities for nonresidential structures and tangible personal property is similar, but rather more complicated. For one thing, some nonresidential structures are subject to below-average effective tax rates (e.g., farm structures, industrial buildings in some smaller communities and in most parts of the South), as is a sizeable part of tangible

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[16]Since the analysis here deals with comparative *tax* incidence, I ignore offsetting expenditure benefits. We know from empirical investigations that such benefits are sufficient to maintain or enhance the demand for housing in suburban areas.

[17]I ignore rent control in this discussion, although it appears a dismayingly popular phenomenon in an increasing number of cities. Where rents are controlled, the incidence of the tax will depend largely on how far below market rents controls are set and the administrative arrangements, if any, for pass-throughs of taxes and other charges on owners.

[18]See "The Supply of Rental Housing," *American Economic Review* Vol. 61 (December 1971), pp. 806-817 and "The Supply of Rental Housing: Reply," *American Economic Review,* Vol. 63 (June 1973), pp. 437-438. The latter is a reply to a criticism, appearing in the same issue, by Ronald E. Grieson, that argues for much higher elasticities.

[19]However, it should be noted that if it is appropriate to measure tax burdens by very long-term income status (say, lifetime income), then perhaps it is equally appropriate to weigh very long-term supply adjustments heavily.

personal property actually on the tax rolls. In such cases, the shifting consequences would tend to be the mirror image of those for nonresidential capital subject to above-average tax rates. Keeping this in mind, let us turn to the latter, properties with above-average tax rates.

For the minor fraction of nonresidential capital that is rented by enterprises engaged in production of other goods and services, there are four possible types of burden-bearers: consumers of business (and farm) products; the enterprise itself; its suppliers and factor inputs other than capital; and the owner of the assets subject to property taxation. If the elasticity of supply of rented nonresidential capital is low, other things being equal, asset owners are likely to end up bearing a good part of the burden. There is no systematic evidence on this, comparable to the de Leeuw-Ekanem estimates for housing, but a reasonable supposition is that the elasticity of supply in the intermediate term is relatively low for structures and relatively high for equipment. Thus, some of the burden will stick to asset owners (where tax rates are below-average, an across-the-board proportionate increase in *all* property tax rates may result in asset owners receiving quasi-rents).

But most nonresidential capital is owned by producing enterprises, not rented. Because property tax rates are not geographically uniform, writers properly distinguish between production for local consumption and production for export. In regard to taxes on assets used in the production of locally-traded goods, I believe that the conclusion expressed in the long quotation from Mieszkowski, above, is correct: most of the tax will be shifted forward to local consumers, given that land is a relatively small factor input and that labor is not all that immobile, compared to the probable price elasticity of demand for the whole range of goods and services using taxed assets and produced locally, which consists primarily (in value-added terms) of wholesale and retail distribution, internal transport of goods, a wide array of consumer services and a limited range of products, soft-drink bottling and newspaper publishing. There will be some, but not a great deal of, backward shifting and very

little will stick to the owners of the assets actually subject to tax.

Forward-shifting possibilities are much more limited for taxes on assets used in the production of export goods and services. As Harvey E. Brazer argued in the definitive, although mysteriously neglected, article on the subject,[20] the general rule is that above-average tax rates cannot be shifted forward in the prices of export goods, except under two conditions. First, if the taxes are, in effect, user charges that buy public services that competing enterprises in other locations must buy privately, such taxes will indeed be shifted forward. This is likely to be a minor consideration in practice. Second, taxes on exporters can be shifted forward to consumers to the extent that level of taxation is common to all, or nearly all, jurisdictions containing competitors within an industry, feasible alternative locations for competitors, and enterprises producing goods that are close substitutes. That is, there is a lowest-common-denominator level of taxation that can be shifted forward, if common to the industry and above the average tax rate on all capital, provided of course that demand for the industry's output is not extremely price-elastic. A fair number of major export industries are concentrated in regions, and in places within those regions, characterized by above-average tax rates on industrial property, which suggests that there is in practice a degree of forward-shifting of property taxes on export industries.

There are, in addition, instances of extreme differentiation in export production, where one or a very few jurisdictions are the only feasible locations for production. Unless demand is very price-elastic, forward-shifting of high taxes can occur. However, such extremes are unusual. The more frequent case is one in which there are alternative, but less advantageous, locations, such that producers in the superior locations cannot raise prices with impunity. Under these circumstances, extraordinarily high taxes in the superior locations will not be shifted forward, but will absorb

[20] "The Value of Industrial Property as a Subject of Taxation," *Canadian Public Administration Review,* Vol. 55 (June 1961), pp. 137-147.

some (or all) of the rents accruing at the superior locations and the burden of the differentially-high taxes will show up as reductions in the value of land owned by the exporting enterprises in such places. More generally, differentially high taxes on exporters will burden the exporters themselves, their employees, their suppliers and land values generally in the high-tax jurisdiction, in proportions that reflect factor proportions and relative elasticities.

Some conclusions. This review of theoretical issues is anything but conclusive; however, it does suggest a few summary observations:

1. It does not make sense to make general statements, of nation-wide application, about the incidence of "the" property tax. Instead, it is necessary to examine the property tax in a specific setting, since the outcome analytically depends upon the relative height of the property tax in the situation being examined, the mix of property types, the nature and composition of export and local industry, and a host of elasticity and mobility characteristics that one would expect to vary widely among places and over time.

2. The conventional wisdom surely over states the degree of forward shifting. For example, in my own nation-wide estimates for 1957, five-sixths of the taxes on rented residential property are assumed to have been shifted forward to renters; almost 60 per cent in one variant, and almost 80 per cent in another, of the taxes on non-residential property are assumed to have been shifted forward; and a total of nearly 80 per cent of *all* property taxes are assumed to have been borne by consumers as consumers, in the standard case.[21] One major source of error is empirical: the unshifted land component is now generally believed to be far higher than it was when these estimates were made. But the analytical error is also important. Forward shifting of taxes on rented housing cannot be nearly as complete as used to be assumed and forward shifting of nonresidential property taxes also has been overstated.

3. The implications of this overstate-

ment are not clear-cut. That is, they do not unequivocally indicate that the property tax is less regressive than often held.[22] Of course, to the extent less forward shifting means that more of the burden falls on owners of land and capital, changes in shifting assumptions will lead to generally more progressive results. Also, if negative excise tax effects are shifted forward, this is likely to occur. However, we should not neglect the backward shifting that theory suggests is significant. Some of the burden falls on immobile labor. If low-income people are relatively immobile occupationally and/or geographically, and if low income people tend to be concentrated in high-tax jurisdictions (like central cities), backward shifting can have regressive effects on the empirical outcome.

II. Measurement Issues

Because the property tax is so varied and complex an institution, it is extraordinarily difficult to move from any set of incidence theory conclusions to empirical estimation of the distribution of the tax burden by income class. In regard to nonresidential property taxes, there is a dearth of truly apposite data for this purpose, and the empirical investigator resorts to crude aggregative series or tenuously related ones: we end up using proxies for proxies as allocators by income class. For example, we must use consumption expenditure series for forward-shifted taxes (and those on consumer-owned durables) that are much too coarse, in geographic or expenditure-type detail; we have virtually no data on noncorporate land ownership by income class; and none of the data on the distribution of property income are really satisfactory. Moreover, tax exporting is a crucial element and here the investigator must fabricate his own data from scratch.

There has been some attention to tax exporting in recent literature,[23] but nearly

[21] See *Economics of the Property Tax,* Chapter 3 and Appendixes C and D.

[22] In my own defense, I should point out that, in the Brookings book, I concluded that the best adjective to describe the overall incidence of nonresidential property taxes was "proportional."

[23] See, for example, Charles E. McLure, "Interstate Exporting of State and Local Taxes: Estimates for 1962," *National Tax Journal,* Vol. 20 (March 1967), pp. 49-77.

all the criticisms of the conventional wisdom on property tax incidence that are concerned with measurement problems focus on residential property taxes. This is not surprising, because recent research on housing policy questions has generated a fair amount of relevant new data, to augment the already substantial supply of data that illuminate the housing property tax incidence question. The most common theme of the revisionist criticism, however, does not depend upon empirical work done in the past few years, but rather, work began in the 1950's, on the elasticity of demand for housing with respect to permanent, rather than current, income.

The critique starts by granting the conclusion that some large fraction of residential property taxes is borne by occupants, if only because owner-occupied houses represent 70 per cent of the space rental value of nonfarm housing in the United States. The occupants' share of the property tax burden bears a close relation to house value and crudely reflects housing expenditure, as well. The major measurement question then is, how do house values and housing expenditure relate to income? The traditional approach in empirical work on incidence was to compare housing data with current income distributions, with the assistance of a considerable volume of Census of Housing statistics, consumer expenditure survey data, or special purpose surveys. The Census of Housing has been a rich source, for it provides extensive information on rent-income and house value-income ratios for sub-national areas. Moreover, the residential finance surveys done as part of the Housing Census in both 1960 and 1970 have yielded cross-classifications of property taxes paid and income for single-family owner-occupied houses, thus providing direct, rather than inferential, data on the current-income distribution of property tax payments.

The permanent-income consumption behavior thesis is a familiar one and need not be repeated at length. Two essential points are relevant here. First, if consumers make decisions on the acquisition of long-lived assets like housing on the basis of income prospects over periods of good deal longer than a single year, then the elasticity of de-

mand for housing with respect to current income *must* differ from that with respect to longer-term income.[24] Second, the bottom end of the current-income distribution contains many households whose low-income status is recent and/or temporary. One major component includes older people whose current incomes dropped considerably at retirement. The temporarily-low-income group is a large one, too. For example, in New York City, where the public assistance coverage of the truly poor is generally held to be virtually universal, there were more than 125,000 families with incomes below $2,000 in 1969, according to the 1970 Census. Because it is virtually impossible for any eligible family with zero private income to have received less than $2,000 in public assistance payments in 1969, one must conclude that either the great majority of these 125,000 families suffered temporary income declines (and still had substantial assets) or there was gross underreporting of incomes. In either event, the high reported housing expenditure to current income ratios at the low end of the income scale are misleading statistics.

More generally, the implication is that a proper concern for vertical equity in taxation requires that we ignore temporary aberrations and look at housing-income ratios (or property tax to income ratios) with longer-term income as the denominator. The difference is a major one, for the elasticity of demand for housing with respect to current income is extraordinarily low. A crude estimate based on the partial data from the 1970 Census of Housing available when this paper was written suggests that the elasticity of values of single-family owner-occupied houses with respect to current income is roughly 0.5. Estimates of the elasticities with respect to permanent income are far higher. The earliest empirical work on the subject, by Reid and Muth, yielded elasticities in the 1.5-2.0 range for the value of owner-occupied housing.[25] More recent, rather more refined

[24]Since neither house-hunting nor moving is costless, renters also should be expected to make their housing decisions on the basis of longer-term prospects.

[25]Margaret G. Reid, *Housing and Income*

work by Muth designed to control for non-income variables like occupational status and educational attainment produced "instrumental variable" estimates of the permanent-income elasticity of housing expenditure in the 1.2 to 1.3 range.[26] A recent comprehensive review of the literature, which also presents some original estimates, finds the permanent-income elasticity of rental expenditure to be in the 0.8 to 1.0 range and that of owner-occupied house values to be 1.3 or more.[27]

Measuring permanent income is by no means a simple matter, nor are the results of any of the measurement efforts wholly satisfactory. Reid, Muth and most subsequent investigators estimated permanent incomes essentially by assuming that average (usually median) income in some small geographic unit is a good approximation of permanent income for the households living within that unit at a given moment. Other methods and other levels of geographic aggregation can produce quite different results, usually lower elasticities. For example, a study using average income in each major occupational group in each of eight

(University of Chicago Press, 1962) and Richard F. Muth, "The Demand for Non-Farm Housing," in Arnold C. Harberger (editor), The Demand for Durable Goods (University of Chicago Press, 1960), pp. 29-96.

[26]Richard F. Muth, "Permanent Income, Instrumental Variables, and The Income Elasticity of Housing Demand," Institute For Urban and Regional Studies, Washington University, Working Paper EDA 12, December 1970. In this work, Muth deals with both owner- and renter-occupied housing, in some variants producing the composite expenditure series by assuming a constant relationship between rent or current expenditure for housing and the value of housing property. See the text, below, for further discussion of this question, as well as note 27.

[27]Frank de Leeuw, "The Demand for Housing: A Review of Cross-Section Evidence," The Review of Economics and Statistics, Vol. 53 (February 1971). One partial explanation for the difference between the elasticities for homeowners and renters lies in the Federal income tax advantages of home ownership, which increase with income; on this, see David Laidler, "Income Tax Incentives for Owner-Occupied Housing," in Arnold C. Harberger and Martin J. Bailey, editors, The Taxation of Income From Capital (Brookings, 1969), pp. 65-76. Another explanation might be that housing values rise relative to rent as the latter increases; see below.

northern New Jersey counties as the measure of permanent income suggested elasticities for house value of roughly 1.0.[28] The implications of such differences for incidence are obvious.

A more important question is whether permanent income is really the appropriate measure for determining tax policy. As noted earlier (see note 19, above), if it is proper to use a long-term income measure, then it is also proper to take into account long-term economic adjustments on the supply side, adjustments which are likely to produce more forward-shifting of the tax on rented residential property. However, I question whether *either* is appropriate. For one thing, the permanent income estimates are too shaky to provide convincing evidence that consumers actually do make housing choices on the basis of long-term income prospects, however plausible this may be; income constraints at the time housing decisions are made, racial and other barriers, uncertainty, and the like, can conspire to make the relation between permanent income and housing choice a very uneven one.

Equally important, a permanent-income framework for decisions on local tax policy makes sense only if households make their housing-income adjustments within a single taxing jurisdiction or if tax rates vary little among the jurisdictions in which individual households live over their lifetimes. Neither of these conditions is at all probable. It is entirely possible and perhaps even likely that mobility patterns are such that the permanent-income elasticity of property tax payments is very low while the permanent-income elasticity of property values or housing expenditures is quite high. A more general question is whether tax policy should ignore heavy current tax burdens on the grounds that it will all work out in the longer run; after all, we do not ignore current income status with regard to the two largest elements of the tax system, the personal income tax and payroll taxes, and the first of these is an important real-world alternative to increased local property taxation.

[28]Emanuel Tobier, "Residential Property Tax Incidence in Northern New Jersey," Appendix E of my Economics of the Property Tax.

The permanent income approach is not entirely irrelevant, however, for it suggests the need for caution in extreme statements about property tax regressivity and it also suggests something about the kind of actions those of us concerned about regressivity should urge. If those at the very bottom of the income distribution with high housing expenditure to current income ratios consist of the non-poor temporarily there, elderly people with substantial assets (in the form of houses) and public assistance recipients, we can ignore property tax regressivity for the first and third groups and provide for tax postponement, rather than tax relief, for the asset-rich but income-poor elderly. If housing expenditure to current income ratios are very high for the proverbial working poor, then there are grounds for more concern and more substantive action. However, if the regressivity viewed from current income is no more than a question of how those in the upper reaches of the income distribution compare with those in the middle, then a sanguine view of the equity of the property tax is in order.[29]

Virtually all empirical work on property tax incidence and much of the work on the income elasticity of housing demand has proceeded on the assumption that housing expenditure and property values bear a uniform relationship to each other over the whole range of rents and values. This is an important factor in considering the incidence of the tax on rented residential property, for it means that the tax is considered to be proportional to rent, within a taxing jurisdiction. Thus, if the tax is shifted forward, and if the income elasticity of rental expenditure is less than 1.0 (permanent income *or* current income), then the tax must be regressive in incidence. George E. Peterson of the Urban Institute in a recent paper argues that gross rent multipliers (the rent-to-value relationship) are by no means constant, and in fact, rise with the level of rent.[30]

Peterson's argument is both deductive and empirical. Housing will rent at low prices because it is old, in poor condition, in bad neighborhoods and/or in functionally obsolete buildings or lay-outs. These conditions will be reflected in operating costs that are a high fraction of gross rents and a wider margin between the latter and the net rents that are capitalized to yield capital value; in a short life-expectancy for the stream of rental income; and in a higher degree of risk. Moreover, low-quality housing surely is an inferior good as income rises; thus over time, rents in the low-rent sector should rise slowly relative to the general level of rents. All this will work to produce gross rent multipliers that vary directly with rent.

Peterson presents evidence to support these expectations regarding the underlying factors, as well as the scattered existing direct evidence on gross rent multipliers. The latter suggests implied elasticities of the gross rent multiplier with respect to rent in the range of 0.5 to 0.7. If the income elasticity of rental expenditure is 0.8, as indicated in the de Leeuw article, and if the elasticity of the gross rent multiplier is as low as 0.5, then the income elasticity of the market value of rental housing properties will be 1.2 $(0.8 + [0.8 \times 0.5])$. That is, if property tax payments are indeed proportional to market value, then the property tax will be generally progressive in incidence even if fully shifted forward.

Both the direct evidence and the deductive reasoning are more persuasive with regard to the existence of very much lower gross rent multipliers at the extreme low end of the rental housing market than for better-grade properties. Studies of rapidly declining neighborhoods have documented the widespread existence of rental properties selling for two, three and four times gross annual rents.[31] It is much less clear that operating cost ratios, life-expectancies and risk premiums vary significantly with rent levels once we leave the demonstrably declining neighborhoods and

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[29]Since property income is a larger fraction of personal income for the rich, and property income is notoriously more variable than earned income, at least some of the apparent regressivity of this type must be considered spurious, from a policy-relevant viewpoint.

[30]See "The Regressivity of the Residential

Property Tax," The Urban Institute Working Paper S 1207-10, October 1972.

[31]See, for example, Michael A. Stegman, *Housing Investment in the Inner City: The Dynamics of Decline, A Study of Baltimore, Maryland, 1968-1970*, The M.I.T. Press, 1972.

clearly low-quality housing, that is, within the upper 80 per cent of rental housing markets, as measured by rent levels.

Census evidence on rent-value relationships for rental properties, available in the *Residential Finance* volumes for 1960 and 1970, are too aggregative to provide much help on this score, but the data tend *not* to support the proposition that gross rent multipliers rise systematically with rent across the entire spectrum. These data are by property size, that is, the number of units in the property, with the classes one unit, 2-4 units, 5-49 units and 50 or more units. Median rents are lowest for 2-4 unit properties, slightly higher for 5-49 unit properties, appreciably higher for single-family rented houses and highest for properties with 50 or more units. Gross rent multipliers, however, do not vary in this pattern. In 1960, they seemed to vary inversely with rents, among these size categories. In 1970, the pattern was uneven, but it is noteworthy that the *lowest* gross rent multipliers, for places of one million or more population, were found in properties with 50 or more units.

The conclusion I draw is somewhat like that noted above in regard to permanent income. Gross rent multipliers may be typically rather low for the poorest-quality and lowest-rent tenant-occupied housing, without varying systematically with rent for all other housing. If so, and if taxes vary with value, then data on rent-income ratios seriously overstate the burdensomeness of the forward-shifted element of the property tax on the poor; the tax may not be regressive at all for the poor. It may be regressive as between middle-income and high-income renters, but this is surely a less serious policy concern.

All this presupposes that assessments are relatively uniform, or at least that they are not systematically lower, relative to market value, as the value of housing increases. Assessed to market value ratios are notoriously non-uniform within taxing districts, especially in the larger cities that contain a large fraction of the rental housing stock. However, the largest body of evidence that is available, from the 1967 Census of Governments, which compares assessments and sales prices for "ordinary real estate" (a category that includes most residential property other than large apartment buildings and a rather limited amount of non-residential property) in medium-sized and large cities, suggests virtually no general tendency toward regressive assessment. On the other hand, there is reason to believe that assessors more than often than not do apply, as rules of thumbs, uniform gross rent multipliers to capitalize rent rolls.

Since gross rent multipliers are likely to be low for the very poorest housing, this practice would lead to over-assessment of such housing, although this regressive assessment is buried in Census aggregates for entire cities. There are numerous studies of severely declining areas within individual cities that suggest that over-assessment of slum properties is the rule, rather than the exception. The overassessment is spectacular in such cities as Chicago, Philadelphia and Baltimore.[32] Thus, although the property tax on low-income renters may not be inherently regressive, improper assessment can make it so. And the combination of some degree of income inelasticity of rental expenditure, overassessment at the low end of the market, and relatively flat gross rent multipliers above that level make the tax regressive throughout the income range, within a given taxing jurisdiction.

There is another empirical characteristic of the property tax in practice — albeit not inherent in property taxation per se — that tends to result in regressivity, when one examines whole metropolitan areas, states or any larger aggregation including a large number of separate taxing jurisdictions: variations in effective tax rates among the jurisdictions. Tax rate differentials must be corrected for differences in the real level of property-tax-financed public services provided in different jurisdictions. After such corrections, the empirical question is whether low-income people tend to live in high-tax jurisdictions and high-income people live in low-tax jurisdictions, within the geographic area being examined. A necessary condition for this is relatively low per capita taxable property values in the jurisdictions where low-income people live —

[32]Stegman, *ibid.*, and Arthur D. Little, Inc., *A Study of Property Taxes and Urban Blight*, a report to the U.S. Department of Housing and Urban Development, 1972.

not just low residential property values which one would expect on the basis of low income itself, but low total property values.

The most important policy concern here is the position of central cities versus the rest of the metropolitan areas in which they are situated. In virtually all large SMSA's, average income is now higher outside the central city than inside, and the disparity has been increasing, according to Census and other data.[33] Because of the historical concentration of economic activity in central cities, low personal income in central cities can be consistent with high non-residential property values. However, the increasing decentralization of activity within metropolitan areas is working to reduce this.

In my discussion of this question in the Brookings volume, I cited a number of very large cities in which per capita property values had been well-above suburban ones in the past, but by the 1960's had fallen below the suburban level; in a formal analysis of 32 large central cities and their suburbs using 1957-1961 data, I found that central city per capita property values were below suburban ones in 15 of the 25 cities outside the south.[34] Using 1967 Census of Governments data and work done at the Advisory Commission on Intergovernmental Relations,[35] I have estimated the relationship as of 1966 for 40 larger central cities and their SMSA's. Per capita property values were higher outside the central city in 18 of the 29 cases outside the South, about the same in five cases, and lower in only six cases. Where there are earlier-period comparisons, the position of the central city seems to have gotten worse during the 1960's. Studies of individual

[33]Comprehensive data on intra-metropolitan economic and fiscal disparities can be found in Advisory Commission on Intergovernmental Relations, *Fiscal Balance in the American Federal System, Vol. 2, Metropolitan Fiscal Disparities,* Commission Report A-31, October 1967. The fiscal data on property tax disparities in this volume are suggestive, rather than definitive.

[34]*Economics of the Property Tax,* pp. 117-124.

[35]This work shows up, in published form, in Advisory Commission on Intergovernmental Relations, *Measuring the Fiscal Capacity and Effort of State and Local Areas,* Information Report M-58, March 1971.

metropolitan areas and states, especially in the Northeast and North Central regions, support these findings, not only with respect to the central city-suburb comparison but also among suburban communities.

In short, while there are a fair number of cases in which low-personal-income jurisdictions have high property values and property tax rates that are not differentially high, there are a large number of cases in which low income and differentially high property tax rates are associated. In such areas, the incidence of the property tax can be proportional, or even mildly progressive, within each of the taxing jurisdictions, but regressive for the whole metropolitan area or state. Conceivably, this could also be true for the nation as a whole.

Another element of regressivity in practice that is not inherent in the property tax comes from the Federal individual income tax deductibility of property tax payments. There can be no doubt that deductibility acts to increase the effective regressivity (or lower the effective progressivity) of the property tax. First, homeowners who can deduct are on balance richer than renters who cannot. Second, lower-income homeowners are far more likely to "waste" the deduction by using the standard deduction (rather than itemizing) than are richer homeowners. Third, among itemizers, the value of the deduction varies with the marginal income tax rate which of course rises with income. Critics of the conventional wisdom have argued that this element of regressivity should be ascribed to the Federal income tax, not the property tax as an institution. I agree, but maintain that deductibility cannot be ignored in considering policy options, as long deductibility appears to be a firmly entrenched feature of the Internal Revenue Code. Deductibility of the property tax is more regressive in its effects than deductibility of the state-local tax alternatives, in view of the owner-renter distinction, one absent in state-local sales and income tax deductibility. And, of course, the Federal income tax itself (via grants-in-aid or revenue sharing) is an alternative to the local property tax in part, and that tax is not deductible against itself.[36]

[36]It should be noted that the permanent in-

At the outset of this section, it was noted that data on the distribution of property income used in measuring the incidence of the property tax are by no means satisfactory. This point is relevant to the allocation of unshifted or backward-shifted taxes on nonresidential property, but it is especially important with regard to unshifted taxes on rented residential property, which the discussion in Section I suggested could be a substantial proportion of the total, especially if one takes into account the land component. I have argued above that the shifted portion of taxes on rental housing is probably on balance regressive in practice, although not necessarily inherently so. The tax on rental housing in the aggregate could be progressive, however, if owners are rich enough.

It is not self-evident that owners are all that rich. Corporate and noncorporate owners of large apartment houses do have relatively high incomes, on the average. But large apartment houses comprise a relatively small part of the total rental housing stock. I estimate, from data in Volume 5 of the 1970 Census of Housing, that 53 per cent of the rental housing units in metropolitan areas are in properties with four or fewer units and another 9 per cent in properties with 5-9 units. Outside SMSA's, perhaps 80 per cent of the rental units are in properties with fewer than ten units. The median per unit value of rented housing in smaller properties is quite low; my estimate is that the great majority of rental *properties* with fewer than ten units in SMSA's have a market value of less than $50,000. One does not have to be especially high-income to own a rental property worth $50,000. Census of Housing evidence on the characteristics of 2-4 family houses in which one unit is occupied by the owner support the stereotype of the modest-income landlord whose wealth consists largely of "sweat equity" built up over the years: rents, property values and owner incomes are all low.[37]

A final piece of evidence can be found in Federal individual income tax data. In 1969, there were 6.3 million returns that showed net income or net loss from rents; 3.6 million were returns with adjusted gross income of less than $10,000 and fewer than 1.4 million had adjusted gross income of $15,000 or more.[38] None of this evidence is conclusive; the individual income tax data, for example, apply to all rental income, not just that on residential property, and of course exclude rents from corporate-owned property. Nonetheless, it remains possible, even likely, that unshifted property taxes on rented residential property are distributed proportionally or mildly regressively with respect to income, rather than progressively.

III. *Conclusion*

It is easy to conceive of a property tax that is progressive in incidence and has no significantly distorting resource allocation effects as well. Such a tax would be a uniform percentage of the value of *all* capital, uniform with respect to both types of capital and location of capital. It would be highly progressive because it would be borne by owners of capital and ownership of capital is highly concentrated; this of course assumes that the supply of savings is price-inelastic. If this assumption holds, all the return on capital is essentially economic rent and since the tax is on economic rent, it should have no excess burden.

The property tax is anything but a uniform, comprehensive one and it is hard to see how the existing institution could ever approach that state in practice. It is difficult to imagine a real-world property tax that actually covers all forms of capital. One may contend that the century-old trend toward removing most personal property from the tax base has been a major error, but the administrative obstacles to discovering and reliably valuing personal property seem to afford persuasive arguments to anyone concerned with the implementation of tax policy, not merely with theoretical purity.

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come argument has no place here; current status and current property tax payments are the significant variables in considering the consequences of deductibility.

[37]For some 1960 Census evidence, see *Economics of the Property Tax*, Tables D-7 and D-8, pp. 262-263.

[38]U.S. Department of the Treasury, Internal Revenue Service, *Statistics of Income — 1969, Individual Income Tax Returns,* 1971, Table 1-4.

It is also hard to conceive of a tax that is a major element in *local* finance applied at a geographically uniform rate. Unque's-tionably, the tax should be applied over larger geographic areas to the extent it finances public services with extensive natural service areas (e.g., environmental protection activities not financed from ef-fluent charges). No doubt, much more inter-jurisdictional equalization of taxable resources should be done. But differences in local tax rates that are not positively correlated with differences in property-tax-financed public services will remain unless the local property tax is converted into one entirely on house-owned tangible prop-erty.[39] However, were this done, the local property tax would apply to an even smaller fraction of tangible national wealth and excise tax effects would predominate even more than they do now.

Thus, it seems quixotic to speculate about the incidence characteristics of the ideal property tax and proper to consider the property tax as it now exists on the ground, or a somewhat reformed one that is still far from uniform, where excise tax effects are the rule rather than the exception. The predominance of excise tax effects, how-ever, does not mean that forward shifting is the rule, and even if forward shifting were the rule, the incidence of the tax would not necessarily be regressive. The critics of the conventional wisdom are en-tirely correct in pointing this out.

I concluded at the end of Section I that there is no substitute for empirical work that is specific to the circumstances of sub-national geographic areas. Nonetheless, it is possible to make some observations on the likely outcome of such work. First, consider taxes on the land component of the tax base, which I estimate to account for perhaps 20 per cent of property tax revenue nationwide. The incidence of this element of the property tax is surely pro-gressive. Second, business (including farm) nonresidential reproducible capital, which

probably accounts for roughly one-third of property tax revenue nationwide: theory suggests that much less of this is shifted forward, in most places, than used to be believed. Perhaps half or less is shifted forward and the incidence of this forward-shifted component may be only mildly re-gressive, if we consider the misleading character of current income distributions at the very bottom of the income scale. The incidence of the unshifted component is probably progressive; the incidence of the backward-shifted component is too idio-syncratic to specific places to make any general statement.

The third and largest element of the tax base is residential reproducible capital and consumer-owned durables subject to tax, providing an estimated 45 per cent of prop-erty tax revenue nationwide. It is possible to grant virtually all the points of the revi-sionist critics and still maintain that the residential component of the property tax in practice in most metropolitan areas is distinctly regressive, if one recognizes the pattern of tax rate differentials in metro-politan areas, the associated geographic distribution of owners and renters at various income levels, the way in which assess-ments are actually made, the incomplete relevance of permanent income as a measure of incidence for current tax policy purposes and the existence of income tax deducti-bility.

If I were compelled to guess at a quan-titative estimate of the elasticity of property tax burdens with respect to a modified current income distribution (modified to correct for distortions at the bottom end of the scale) for a typical large metropolitan area outside the South, with 1.0 signifying proportionality, I would set it at perhaps 1.1 for the property tax as a whole and perhaps 0.7 for the residential structures plus consumer-owned durables component. The policy implications of the conclusion that the residential component of the tax is probably regressive on balance (and more so than such local tax alternatives as the retail sales tax with food exempt and a flat-rate income tax even without exemp-tions) are not entirely clear, however. An important consideration, as noted earlier, is the extent to which the regressivity stems

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[39]Even a loose form of the Tiebout solution requires that the sole local revenue source be one that falls entirely on residents of the taxing jurisdiction; a rigorous form requires that the local tax be a lump-sum tax.

from treating high-income households advantageously relative to everyone else or from treating low-income households disadvantageously relative to everyone else. To the extent that the former explains regressivity, it is perhaps not worth worrying about; to the extent that the latter is the problem, circuit-breakers and similar means-tested tax credit devices may be easy and appropriate answers.

Some policy implications, however, are clear. We unreconstructed Georgists are convinced that vertical equity can be improved by heavier taxation of land, say, by ending the prevailing drastic under-assessment of land (i.e., doing what the laws say should be done; assessors have long antedated the White House staff in presuming that laws need not be obeyed). Vertical equity can also be improved by more appropriate assessment of low-quality housing, more adequate intra-state equalization of taxable resources (e.g., in better school-aid formulas), and elimination of Federal income tax advantages for homeowners. I agree with the critics that the property tax need not be obnoxious on equity grounds; I disagree with the implication that benign neglect is the appropriate policy posture.