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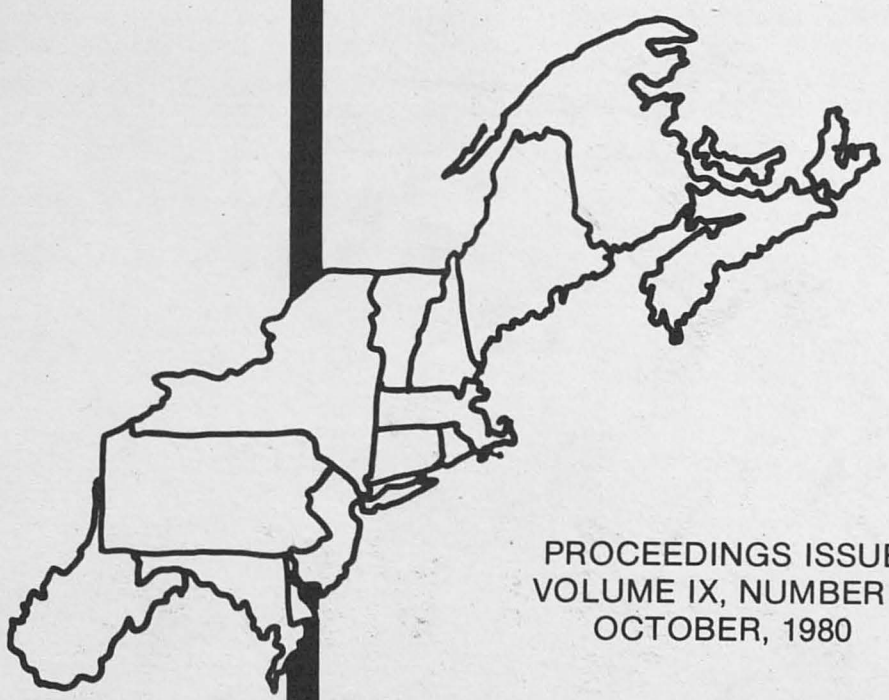

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SITE-VALUE TAXATION OF REAL ESTATE AND LAND USE AT THE RURAL-URBAN FRINGE

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Urban sprawl occurs around cities in this country despite the fact that the central portions of our urban areas contain much underused and vacant land in the form of slums, low-rise buildings, single-level parking lots and vacant land. The National Commission on Urban Problems studied the 106 largest U.S. cities and found that 34 percent of the land inside these cities was not being used (Cowan, et al.). Other studies have shown similar findings. Many economists and urban planners claim that this country's tax treatment of real property is one of the major causes of this underuse of urban land.

The real property tax, as it is implemented today in most of the U.S., is in reality two separate taxes: one on land and the other on improvements. It is the tax on improvements that penalizes the renewal and maintenance of cities. Since improvements to land increase a property's assessed value, the rational landowner will improve his land only to the point where the return on his investment covers the costs of development plus the resulting increase in his property tax bill. The tax increase can be a substantial sum. Bails cites a specific example from Chicago, where the replacement of four single-family homes with a low-rise apartment building would have increased the property tax bill ten times. Because the tax on improvements may discourage landowners from improving their properties as much as they would in the absence of the tax, it is considered an economically non-neutral tax.

To make matters worse, improvements are probably taxed at a higher effective tax rate than land (even though the rate is supposed to be uniform) due to widespread underassessment of land relative to improvements. The National Urban Institute recently reported that although land accounts for approximately 40 percent of the total real estate value in cities, assessors value it as only 20 to 25 percent of total assessed value (Cowan, et al.). This extra burden on improvements causes further underuse of urban land, creating a false shortage of improved space in the cities. This underuse leads to urban sprawl.

One theoretically neutral alternative to the property tax is the site-value or land-value tax proposed in 1879 by Henry George in his book *Progress and Poverty*. In theory, it is a tax on the economic rent received by the landowner from his land; a landowner receiving no economic rent pays no tax. This form of site-value taxation is considered neutral because it does not change the optimum use of a parcel of land; it just reduces or eliminates the economic rent that the landowner receives. However, in practice the site-value tax is the same as the land tax component of the property tax, although the rate may be higher. No effort is made to measure the amount of economic rent generated to the landowner; therefore, every landowner is taxed. This, along with assessment problems, distorts the neutrality of the tax. Still, site-value taxation should reduce the amount of vacant and underused land in high-value areas. If a landowner is rational, he will improve his land as long as he makes an adequate return. It is unlikely that high-value, developable land will remain vacant since the owner will pay the same tax regardless of the use of the property or the income derived from it.

The site-value tax has been used in many countries with varying degrees of success. Australia, New Zealand, South Africa, Rhodesia, Kenya, Uganda, Tanzania, Thailand, China (Taiwan), Barbados, Jamaica, Trinidad, Tobago, Iraq, and the U.S. are some of the countries that use forms of the site-value tax. The countries that are of interest to us are those that have made a practice of confining the tax to cities. South Africa (Johannesburg), Kenya (Nairobi) and Iraq (cities only) are such countries. Colombia, Greece, Ivory Coast, Paraguay, Peru, Senegal, Syria and Turkey all have special higher tax rates for vacant unimproved land in cities (Lent).

In the U.S., a diluted form of the site-value tax known as the "graded tax" is used as the city real estate tax in Pittsburgh, Scranton, Harrisburg and McKeesport (and is an option for the other third class cities in Pennsylvania) and also by the state of Hawaii. Improvements are still taxed, but at a lower rate than land. Several other isolated communities in the U.S. have been using purer forms of site-value taxation since the early 1900's.

The objective of this paper is not to take a stand on whether or not site-value taxation is a feasible and desirable replacement for the property tax; this argument has been going on for 100 years. Instead, we intend to discuss the land-value effects and the land use implications of confining a site-value tax to cities while levying conventional property taxes outside of the city limits.

EFFECTS OF A CHANGE TO SITE-VALUE TAXATION

Just as David Ricardo emphasized the quality of land as a factor in determining the economic rent and site value of a particular parcel of land, so did Johann Heinrich von Thunen recognize that the location of the parcel also helps to determine its value. The quality or fertility of land is important for agriculture, but developers for urban uses are more concerned with the location factor as long as the land is buildable. A property farther from the central business district will have higher transportation costs associated with it, and thus lower value than a comparable property closer to the central business district (Barlowe). Actual land prices generally support this as the price is higher in the central business district and tends to decline as distance from the central city increases.

Figure 1 shows a simple relationship between distance from the central business district (CBD) and land value. The soil productivity is assumed equal for all land and the present value of the income stream based on soil productivity is represented by OF. The line AC represents the capitalized value of potential income of properties that are optimally developed with buildings or other capital investments. The highest potential incomes are at the CBD and decline to point C, beyond which land has value only because of its soil productivity.

Line DC in Figure 1 represents the present value of the income stream from actual development of the land when land and

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improvements are both taxed, as is currently the practice in most communities. The actual income is less than potentially available due to the less than optimal development of the site. Since taxes increase as the value of buildings increase, the marginal return to the owner is less than the total marginal return by the amount of the tax. As a result of this underdevelopment of land, there is unsatisfied demand for location near the CBD under the conventional property tax. This demand is reflected in the space between lines AC and DC. Thus, taxing the value of the improvements leads to less development than demand for use of the site would warrant.

If a neutral site-value tax were introduced, the tax on buildings would be eliminated (or reduced) and the owner would have an incentive to develop the property to its full potential. In such a case line DC would be the same as AC. Since most use of site-value taxation is restricted to particular political jurisdictions, it is interesting to examine the case where site-value taxes are levied inside the city limits (CL) while the conventional, ad valorem taxes are levied outside the city.

With site-value taxation inside city limits, owners of well-improved property in the city, especially those near the central business district where buildings are more valuable, would enjoy lower tax bills. Owners of less improved properties in the city would probably have to pay more taxes than they did under regular property taxation. There would be a new pressure on owners of land with low-value improvements to develop their land since their tax bill would remain the same regardless of the degree of improvement. Prospective land buyers planning to develop shopping malls, office buildings, high-rise apartments and other high-value improvements would prefer to purchase land in the city since they would pay lower taxes (no tax on the improvements), whereas those intending to leave land vacant or sparsely improved would most likely be better off owning land outside the city limits.

What effect would this have on land prices? The effect of confining site-value taxation to the city on land prices in the short-run would depend on two factors: (1) the relative strengths of demand for highly developed uses and sparsely developed uses, and (2) the change in the supply of underimproved land as landowners in the city adjust to the new tax program. If demand for highly developed uses exceeds the demand for sparsely developed uses, and if the supply of urban land for sale on the market remains constant, the price of land just inside the city limits would rise relative to that outside the city limits. Likewise, if the demand for sparsely developed uses exceeds that for highly developed uses when supply is constant, land prices inside the city limit would fall relative to prices outside the city limit.

Supply of underimproved urban land may very well increase in the short-run since the site-value tax will encourage owners of that land to either develop it or sell it to someone who will develop it. In the face of a supply increase, city land prices would fall relative to suburban land prices if the demand is held constant. On the other hand, a decrease in the supply of urban land on the market would cause city land prices to rise relative to land prices outside the city.

Unless a specific case is studied, it is difficult to determine the short-run effect on land prices of restricting a tax on land only to cities. However, in the long-run, development of land in the two jurisdictions should adjust to the differences in taxing methods so that buyers will be willing to pay a price for land equal to the present value of the income stream from actual development, or jagged line ABEC in Figure 1. Within the city, site-value taxation will encourage development up to the full potential of each site, whereas outside the city the conventional property tax will discourage optimal development. The result is a discontinuity of land use and land prices at the city limit, with land inside the city being developed more intensively resulting in greater efficiency in land use.

The realization of line ABEC depends on several assumptions. First, we assumed a perfectly functioning market. As mentioned above, we also assumed equal soil productivity for all land in order to keep the land value function smooth and the analysis simple. Third, it was assumed that tax rates and levels of public service were initially the same inside and outside the city. Another assumption was that the site-value tax would generate the same revenue for the city as the conventional property tax did; in other words, the tax rate on land would have to increase in the city if the switch to site-value taxation was made. We also assumed that there were no satellite business districts or expanding cities nearby that would distort the land value pattern as depicted in Figure 1. Finally, the assumption of a neutral site-value tax enabled us to reach the potential value for land in the city (line segment AB). If the tax were non-neutral, actual land values would lie somewhere between the actual values under the conventional property tax (line segment DE) and the potential value under a neutral tax (line segment AB).

LONGER TERM SOCIAL AND ECONOMIC EFFECTS

These effects on price and land use will cause long-term economic and social effects in the area. In this section we will suggest what some of these long-term effects might be without detailed analysis.

First, the area as a whole may experience a reversal of urban sprawl; growth and improvement could begin moving inward instead of outward. In the city, then, we would probably see a renewal of vacant land, rundown areas and the central business district. The new development would be a source of employment, and as the urban environment improved there could be a net immigration of the wealthier people who have been leaving cities in the past several decades. But the effects may not be all good for the city: overcongestion could result and the improvement of present housing may price it out of reach of low income families unless the increased supply is enough to drive the price down. The new higher tax on land, coupled with the higher price, could make it very hard for owners of land with relatively low-value improvements, such as single-family homes and small commercial establishments, to resist selling to developers. Because of this, cities could lose their character and historical value while becoming nothing more than collections of modern, high-rise buildings. More efficient use of land does have its costs.

Outside the city, the reduced pressure for development will slow down urban sprawl. But if growth is slowed too much, the tax base of land and improvements will not keep up with the need for public services and employment opportunities will not keep up with the need for jobs. This could result in unemployment and higher taxes. Presently, most suburban property owners seem willing to improve their properties even though it means a tax increase. But, if tax rates were raised, renewal and maintenance of suburban properties may be discouraged, just as it is in our central cities today.

CONCLUSION

Although this analysis is not based on empirical analysis, it is a logical explanation of the economic effects of taxing two adjacent jurisdictions differently. Empirical studies are needed, perhaps in the graded tax cities of Pennsylvania, to determine what in fact happens to cities and their suburbs when property owners are not subject to the same form of taxation.

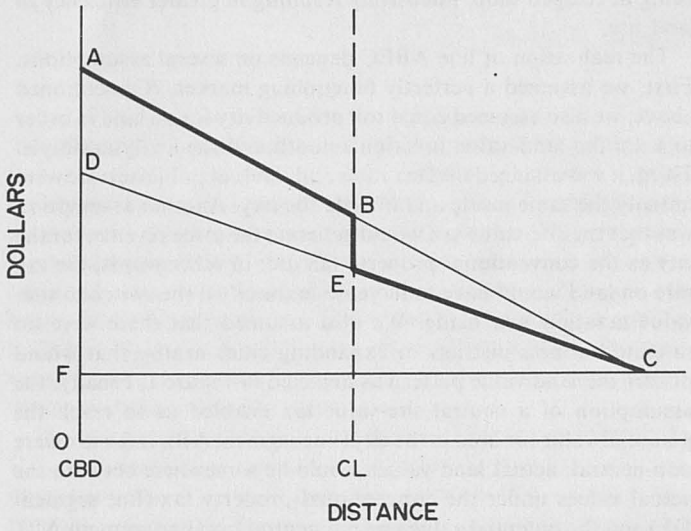

FIGURE 1.
Effects of Distance from Central Business District and Property Tax Arrangement on Real Estate Value

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