SIMULATING THE HOME PRICE DAMPENING EFFECTS OF LAND VALUE TAXATION

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Prepared for presentation at the conference: "The Revival of Regionalism in America: The Challenge of Managing Growth" The Lewis Mumford Center of the State University of New York at Albany and The Government Law Center, Albany Law School Albany, New York March 17& 18, 2000

EXCERPTS

Long-Term Housing Affordability

Rapid growth in population and jobs has exerted pressure on the Puget Sound region's housing market. Single family home prices in King County reached a median of \$224,000 in 1999, and are rising an average of a thousand dollars per month. Seattle city has the fastest-rising housing prices of ten midsize cities surveyed for the Wall Street Journal. Workers' incomes, however, are not keeping up with housing price inflation. The gap between mean home-sale prices and the price a typical family can afford has been steadily widening since 1980. Seattle's home ownership rate, at 47%, is now about 20 percentage points lower than the national average.¹

Newly elected Mayor Paul Schell promised in 1997 to raise the problem of the widening housing affordability gap to the top of his public policy agenda. True to Seattle's famed commitment to public process, a protracted series of public forums was conducted, seeking ideas for workable solutions to the problem. The Mayor's Housing Action Agenda takes a traditional view of the current housing crisis by focusing on the supply and demand imbalance.² The assumption is that by adding a large volume of market rate housing units, prices and rents will be brought down through the filtering process. Critics argued that the current rate of new construction can never keep pace with population growth and in-migration of a highly paid technology work force. Housing advocates argued for more subsidies at the low end of the housing supply. Others dismissed the action agenda as too modest to affect anything but the margins of affordability.

¹ <u>The Seattle Times</u>: Oct. 16, 1997; Oct. 11, 1997; Jan. 13, 1999.

² Seattle Housing Action Agenda, May, 1998.

The supply-demand view may be a valid way of looking at short-term spikes in housing prices, but it is not a particularly useful way of addressing the housing affordability problem. Unaffordability has been a long-term trend since the late 1970's, and it is best described as the growing gap between rapidly rising housing costs and moderately rising household incomes. Subsidies are a stop-gap solution because taxpayers will eventually grow weary of forever paying for other's basic shelter needs. The housing affordability gap especially for renters is widening at a faster rate than would ever be possible to close by applying public subsidies.

Why is the housing market system not working for households at all income levels? Formerly, up to the mid 1970's it was working, as median income families could easily afford median priced owner and rental units. To understand how housing costs have gotten out of hand it is necessary to look at not only houses and apartment buildings but also the land beneath them. Over three decades the price of building materials and construction labor have increased at about the level of the consumer price index, that is, the rate of general inflation. On the other hand, residential land prices have soared far above general inflation. In regional housing markets across North America, there is strong evidence that rising residential land prices are largely responsible for driving the increase in housing costs. At the national level, residential land prices rose by 2,000 percent since 1950, compared to about 400% for building components and incomes. ³ King County has been experiencing an overall annual growth in land values of 8 percent during the past decade—double the rate of growth of the consumer price index. ⁴

The rapid rise in land prices since the 1970's is to a large degree a function of the "commodification" of housing—the inclination to not only acquire property as a hedge against inflation, but to maximize cumulative equity by trading up homes and seeking new locations which increase the most in value. This upward pressure is further exacerbated by land speculation—the holding of underutilized sites in central locations or urbanizing areas where added infrastructure, transportation improvements, and nearby private building activity all combine to enhance site values. These unimproved lots can yield lucrative returns, or "windfalls" for owners who later resell to developers who in turn pass on the higher land costs to housing consumers. In essence, the housing market brings supply and demand into equilibrium for the house itself but not for the land on which it is built. When land prices get out of hand, the supply cannot be increased because ultimately there is no more than what nature created; moreover, what unused land there might be is withheld from the market by speculative holding.

³ Walter Rybeck, <u>Affordable Housing - A Missing Link</u>, Columbia, MD: Center for Public Dialogue, 1988. Source cited: Bureau of Labor Statistics, U.S. Dept. of Labor, and Boeckh Division, American Appraisal Associates.

⁴ King County Dept. of Assessments, <u>1998 Annual Report</u>.

The Case for Capturing Land Value Increase

The four-county central Puget Sound region enters the 21st century with a profusion of ambitious plans. VISION 2020, mandated by the state GMA calls for most new growth to be contained within existing urban areas-in compact communities and vibrant mixeduse centers. The Metropolitan Transportation Plan calls for a wide range of programs and projects designed to integrate land use and transportation, with an emphasis on high capacity transit. Implementing these plans, as well as the City of Seattle's Urban Centers and Village policy will require substantial public investments in new infrastructure and amenities, and sizable increases in neighborhood program funding. These public sector commitments, in the form of approved detailed plans, land use regulations, and capital funding, will stimulate private sector investments in business activity and housing. This economic activity will result in the growth of "land rents", or rising land values in designated locations. Such value increases are experienced generally, that is, independent of capital investments in building improvements that individual owners may undertake. Land rent is surplus value, and is the product of natural amenities, locational advantages, government actions, and collective private capital investments in the nearby vicinity. When conducting real estate transactions, owners and purchasers make judgements based upon their expectations of local government behavior. Thus, government actions coincidentally "give" property added value.

This surplus value, reflected in <u>land value</u> assessments, can either be retained by individual owners as a capitalized asset, or captured by the public sector to be redistributed as public benefits. A basic principle in liberal economic theory holds that legitimately created value belongs to the creator of that value. Hence, government in its role as steward of publicly created value is justified in recapturing what it has given. In practical terms, public jurisdictions have the legitimate right to recapture incremental land value increases, either through property taxation, or "set-asides" requiring developers to make direct contributions to a prescribed public purpose such as the provision of below market rate dwellings. On the other hand, <u>improvement value</u>, the remaining component of property assessments, is attributable to private capital investment in individual parcels. Owners have the intrinsic right to retain most of the value that they themselves have created.

Land Value Taxation

A tax on land values has very different economic and social effects from a tax on improvements. ⁵ Any tax tends to diminish the base upon which it is levied. Hence, what in the public interest is desired should be taxed *less*—commerce, job growth and investment. What is undesirable should be taxed *more*—pollution, traffic congestion, land consumption (urban sprawl), and energy resource depletion. Yet, as our nation's tax codes demonstrate, the reverse is often the case. "Our tax system is brilliant in its

⁵ Francis K. Peddle, <u>Cities and Greed</u>, Ottawa, Ont.: Canadian Research Committee on Taxation, 1994, p.34.

perversity," claims green tax advocate Alan Durning, director of Northwest Environmental Watch.⁶

Because buildings comprise most of the aggregate value in real estate, an equal tax rate on land and improvements results in a relatively high burden on improvement values the capital investment of owners. In this way the tax system discourages private investments in planned transit station areas, commercial centers, and neighborhoods where land and building values are rising. In fact, the system amounts to an inducement to monopolize and speculate on land; that is, to hold onto property without improving it, thus reaping windfall gains as land prices rise. Taxes on properties with a high ratio of land-to-building value are comparatively low. How can these tax incentives be reversed so as to encourage new private investment in neighborhood centers and transit-oriented communities?

The land value tax (LVT) as a reform measure has several advantages. As a result of placing a higher tax rate on land values, it would become more costly to hold onto vacant or underutilized sites. Proportionately lowering the tax rate on improvement values would encourage private capital investment in property improvements. Coincidental with the reformed tax system would be a gradual trend towards infill development, as owners realize the tax benefits of making substantial capital investments in improvements. The marginal tax increase on sites having a high ratio of land-to-building value would effectively be capitalized into lower resale prices. Because a land value tax is applied to all properties, the general effect would be a restraint on rising land prices and housing prices.

LVT and Long Term Housing Affordability

Francis Peddle of the Canadian Research Committee on Taxation has undertaken one of the more comprehensive evaluations of municipal property taxation. He cites a growing number of analytical studies demonstrating the effects of converting from a property tax based primarily on building improvements to one based on land values. "These studies have consistently shown that a site value tax eases housing costs and spurs new construction." ⁷ When the land tax encompasses the entire housing market, land rents (annual gain in land value) and housing prices fall, while capital investment in property holdings and residential densities rise. This occurs because tax liability is shifted off of properties with substantial improvements onto vacant and underutilized sites. Furthermore, a higher tax on land values is apt to be capitalized into lower land sales prices as the marginal liability is passed on to future buyers.

Simulation Model

How this price-dampening effect might be manifested in the Seattle housing market is the subject of a brief simulation exercise. In order to estimate declining price effects over time, assumptions need to be made regarding projected trends in land and building values, housing prices, and income levels. Then, by simulating the application of a land

⁶ Alan Durning, <u>Tax Shift</u>, Seattle, WA: Northwest Environmental Watch, April 1998, p.28.

⁷ Peddle, (Op. Cit.), p.200.

value tax on the aggregation of single family properties in Seattle, it is possible to determine the length of time it would take for the land price-dampening effects to reach the point at which existing home prices come within the range of affordability to median income households.

PROPERTY VALUE GROWTH TRENDS: Assessment records show that King County assessed land values have grown over the past 10 years at an annual average rate of 8 percent. In 1995, the assessed value of all Seattle City single family sites was \$9.6 billion, and the total value including improvements was \$21.5 billion—resulting in a land-to-total value (LTV) ratio of .45. That is, land comprised 45% of total home value, slightly more than the city average of 42% for all land uses. Because building assessments appreciate at a slower rate than land, the LTV ratio will gradually increase. Over a 12-year period (about the time it would take for all existing homes to turn over in the housing sales market), single family land assessments are projected to increase by 133%, and total property assessments (land and buildings) by 123 percent.

LTV EFFECTS: The alternative tax system, a split-rate variation of the land value tax, applies a high rate to land value and a low rate to building value. This model places the land tax rate at 95%, that is, 19 times the building rate. In Seattle, the aggregate tax burden shift on single family properties under the alternate tax would be positive because the LTV ratio for this class of properties (.45) is higher than the LTV ratio of all properties combined (.42). First, it is assumed that the 2-rate tax is revenue neutral (yielding the same city-wide total as the conventional tax revenue).

Because the 8% trend growth in land values already takes into account the conventional tax burdens on all properties, a shift in tax burden resulting from a change to the 2-rate tax would affect land values marginally. It is assumed that the difference in tax burden between a conventional tax and the 2-rate tax will be capitalized into lower resale prices, (reflected in lower property assessments). Hence, the positive tax differential derived from any one tax year will be used to discount the land assessment in the succeeding tax year. Existing building values are reassessed annually to coincide with the general inflation rate of 4% annually, following the past 18-year trend in the consumer price index for the Seattle area. (This assumption deviates from widespread assessment practices that tend to bump up existing building assessments to levels approaching land price inflation.) Using this method, the total property assessment in Year 12 increases by 119%, not much less than the amount projected in the trend scenario.

MEASURING HOUSING AFFORDABILITY: Household incomes in King County over the last 10 years have been rising at an annual average rate of 5.9 percent. The Seattle median income (3-person household) in 1995 was \$46,300. Extrapolated at the rate of 5.9% per year, the income figure in Year 12 is \$87,000. Housing affordability (for first time home buyers) can be calculated for any home price by determining total monthly housing payments and applying a standard ratio of payments to income. For this analysis, assumptions are: a 10% down payment, closing costs at 3% of the loan amount; monthly housing payments on a 30-year mortgage at 7.5% interest, plus property taxes and homeowner insurance. Standard loan underwriting criteria hold that monthly housing payments amount to 28% of total household income.

The median Seattle single family home price in 1995 was \$185,000, compared to the mean assessed value of \$168,000. Hence, the price is 10% more than the value. In the trend scenario, total home values grow at the rate of about 7.5% per year, reaching \$374,000 by the 12th year. The price-to-value ratio of 1.10 is used to convert yearly values into prices. In this manner, the trend scenario home price in Year 12 is projected to be \$412,000 (see Figure 4.1). Using the method of calculating housing affordability, the annual income required for the median 1995 home price is \$58,000. This leaves an income gap of \$11,700 for the median income household, or 20% less than the income needed for the home purchase. By Year 12, the affordability gap widens to 32 percent (see Figure 4.2).

SEATTLE PROJECTED SINGLE FAMILY MEDIAN HOME PRICES Table 4.1

COMPARING THE TREND SCENARIO WITH THE DECLINING LAND VALUE SCENARIO



PROJECTED MEDIAN INCOME, AND INCOME REQUIRED FOR HOME PURCHASE Table 4.2

Status
Income required

\$10,000
\$10,000

\$10,000
\$100,000

\$100,000
\$100,000

\$100,000
\$100,000

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Table 4.3

\$60.000

\$50,000 \$40,000

2

3

\$40.000



5

6

3

CLOSING THE AFFORDABILITY GAP: In retrospect, it is not possible to bring down home values to an affordable level if land values continue growing at the full 8% growth rate. It also appears evident that even a revenue neutral land value tax would not produce a sufficient tax shift through which to discount land values substantially. A non-revenue neutral tax, raising more revenue than what is conventionally obtainable from the property tax, is needed. In this next scenario, a new 95% LVT split rate is found, raising the total city revenue by 100 percent.

Median income

10

9

8

9

10

11 12

11

12

Under the non-revenue neutral 2-rate tax scenario, land values increase by only 75% over the projection period, and total property values rise at a slower rate of growth—closer to 4.5% per year. Now, the 1995 home price gradually increases to \$302,000—less than three quarters of the projected trend scenario home price (see Figure 4.1). The income required to purchase this median price home in Year 12 is \$94,000, or \$7,000 more than the projected median income. In this instance, the income affordability gap is 8% and narrowing (see Figure 4.3). At the projected rate of property value growth under this scenario, the same home would finally come within the range of affordability after 17 years.

EVALUATION: By simulating the effects of a land-based property tax system, it is reasonable to conclude that a tax that captures a significant proportion of annual gains in land value can bring down housing prices to within reach of most Seattle households. It appears, however, that a revenue neutral differential tax rate may not be high enough to capitalize the additional revenues from high value home sites into successive sales prices that are low enough to reach an affordable level over time. That is, unless the current annual land value growth rate of 8% is brought down through economic forces other than an incentive tax system.

On the other hand, the annualized method of capitalizing marginal LVT liability into discounted land values simplifies the model design; but it is not at all certain that the year-by-year discount would reflect actual responses to a tax shift. It is possible that the *anticipation* of future added tax liability could result in an acceleration of the rate at which capitalization occurs. This would bring down land prices more quickly than what the model indicates.

It is clear that the 2-rate tax, with 95% of the tax rate applied to land values, captures considerably more of the inflated land value than does the conventional tax. Under the declining land value scenario, the non-revenue neutral LVT captures just over 100% of the aggregate annual growth in residential land values during the projected years. By way of contrast, the conventional tax applied in the trend scenario captures about one third—not enough to affect land value inflation. Even if the 2-rate tax rate were adjusted downward, it would appear there is probably enough of a differential to exert a dampening effect on land price inflation over time. Even so, the caveat remains that assessment practice must ease up on improvement assessments, so that building values more closely follow the growth in general prices rather than being indexed to the land value growth of individual properties.

ALLEVIATING UNDUE TAX BURDEN: Is a non-revenue neutral land tax fair to homeowners? When applying the double revenue 2-rate tax to individual properties, tax burdens vary widely. On single family properties where land-to-building values are comparatively high, the average capture rate is well over 100 percent. That is, tax liability can exceed the land value gain in a given tax year. In cases where properties have lower land values or higher building values, capture rates are found to range from about 80% to 95% over the projection period.

One could hypothesize that a reasonable capture rate would leave enough land value residual to realize an annual 10% return on equity investment in a single family home site (roughly equivalent to 15% of land value). If this objective were realized, the average taxable gain would work out to about 70% of the annual increase in land value. Because

the non-revenue tax exceeds this maximum standard, some form of mitigation would have to be devised to insure that property owners are not overtaxed. The taxing jurisdiction could set aside a contingency fund comprised of the additional 2-rate tax revenue (exceeding the revenue neutral amount), from which tax rebates would be drawn to compensate over-taxed rate payers. In any case, the purpose of the incentive tax scheme is to affect a downward shift in land price inflation, not to raise more revenue. Hence, the rebates would not have to result in revenue losses.

It would be convenient if a land-based tax system could affect the desired downward pressure on land prices under a revenue-neutral application. However, if regional growth continues to exert such a strong upward pressure on land values, this prospect is not likely. A heavy tax on land values will be necessary to dampen land price inflation, coupled with a safety valve such as a rebate scheme to compensate unduly impacted property owners. In any case, the indisputable fact remains: the housing affordability gap is driven by rapidly rising land prices. If long-term affordability is a worthy goal, then the problem of land price inflation must be addressed directly. A supply-sided approach to simulating housing production will ultimately fall short of achieving the goal. Conversion to a land-based property tax system would appear to hold the best prospect.

A property tax reform adopting a differential rate would tax mainly the value created by the community at large (land values), not the capital invested by individual owners (improvement values). As a result of placing a higher tax rate on land assessments, it could become too costly to hold onto underutilized or deteriorated sites. Likewise, a proportionately lower tax rate on improvement assessments would encourage owners to repair or replace obsolete buildings. The widespread response to the fiscal inducement to reduce the land-to-building value ratio would lead to the development of infill sites and the upgrading of commercial districts into compact, mixed use activity centers. Individual owners will now be willing to take the risk of investing in property improvements because they are assured that everyone in the community receives a similar tax incentive.

Notes:

^{1.} The following terms are used interchangeably:

Land Value Tax, 2-Rate tax, land-based tax. Land rent, speculative gain, unearned increment.