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**PROPERTY TAXES AND TRIPLE BOTTOM LINE EVALUATION: A
REVIEW ESSAY***

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EXECUTIVE SUMMARY

The Triple Bottom Line approach to policy evaluation, which is increasingly adopted by cities in Canada, Australia, the U.K. and elsewhere, obliges planners to take a broad perspective on the economic effects of policies. While the economic impacts are essentially the financial effects of market responses to policies, social and environmental impacts recognize the external costs of market interactions and the role of public policies in guiding competitive markets toward efficient allocations. This essay discusses the interactions between the municipal property tax and economic, social, and environmental policy concerns, based on an extensive survey of the literature. Specifically, I consider the question of market assessment versus alternatives, the liquidity problem of households faced with rapid changes in tax assessments and what can be done about it, the issue of varying tax rates by asset class, the relative burden of the property tax across income groups, the effects of property taxes on urban density and sprawl, the effects of social segregation on the poor, and influence of the urban form on the attractiveness of a city to mobile businesses and individuals. Finally, given the myriad effects of the property tax, I offer my own tentative conclusions regarding the role of the property tax in municipal finance in Canadian cities. Specifically, the cities should keep to the principle of full market value assessments, while considering using a moving average value, and permitting seniors to defer property taxes until their properties are transferred. Property tax relief for low-income households can be provided with explicit grants. Development cost charges should reflect the full cost of new infrastructure and possibly a share of the incremental operating costs. At the same time, property tax rates on commercial and industrial properties could be reduced. I express doubts about the strategy of using differential property tax rates to promote urban density and I suggest, instead, that zoning, and discretionary cash subsidies for noteworthy developments, be preferred as tools for shaping the urban design. Applying a municipal fuel tax is something to be considered to raise revenues and to reduce sprawl.

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I. INTRODUCTION

Rapid economic growth creates a number of challenges for city planners: a greater population can alter the urban landscape and can affect individual neighborhoods in detrimental ways; and expansion requires increasing municipal finances to pay for new infrastructure and to address social problems associated with urbanization.

Since property taxes have been historically by far the largest source of revenues for municipal governments, it is important to understand the effects of this tax on urban development and to assess the tax burdens on households and businesses in the city. A good understanding of the property tax is helpful for deciding, not only on the tax's role as a source of revenue, but also as to whether it can be used as a tool for shaping the urban design, and if its burden is distributed fairly among residents. The latter consideration is a crucial concern politically, since the property tax is a highly visible and often unpopular levy.

In 2005, The City of Calgary joined an increasing number of cities in Canada, Australia, the U.K. and elsewhere in formally adopting the principle of a "Triple Bottom Line" (TBL) approach to evaluating policy outcomes. This principle obliges policy-makers to consider three types of impacts: economic, social, and environmental. What are the implications of TBL for municipal property taxes in Alberta and in other Canadian cities? In the context of property taxes, we can think of these three TBL categories in the following ways.

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The economic impact in the Triple Bottom Line refers to changes in the financial situations of the different households and businesses, as well as the government itself, in response to changes in property tax rates or assessments. The important considerations in this category are whether to charge identical or varying tax rates according to asset classes; the choice of market value assessment versus the method of unit value assessment; the appropriateness of providing tax relief through various so-called circuit-breakers and deferrals; and the role of development cost charges for new infrastructure.

Social impact points to the problems of crime, clusters of poverty, neighborhood instability, segregation by ethnicity or income, and the lack of social opportunities for economically marginalized citizens. Poverty entails direct suffering but is also a blight that reduces the well-being of the non-poor. The property tax may affect social costs in subtle ways. For example, if property tax assessments increase disproportionately in the urban core as a result of rising land values, lower income households may vacate the areas they can no longer afford, which can increase neighborhood turnover, and alter the housing mix and social mix downtown. Research has also shown that the physical form and social mix of a city could be a source of attraction or repulsion for mobile talented individuals and therefore are potentially important factors in the location decisions of businesses in some industries.

The environmental impact consists of air and water pollution, energy waste, loss of green space and wildlife habitat, which are all effects associated with the concept of urban sprawl. It can be argued that “sprawl”—i.e. the spatial expansion of cities—is not inherently bad, and that it is a natural consequence of increasing population in Canada and rising incomes, which spur the demand for more and larger houses. Advocates of a more compact city would argue, however, that sprawl has been, at least partly, the result of market failures and fiscal distortions, including incentives for sprawl due to the structure of property taxes.

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Economists use the term “external cost” to denote any cost that is not borne fully by the buyer or seller in a transaction. Since households and developers base their economic decisions on the basis of their own private costs and benefits, any external costs are “foisted” onto unwitting third parties. Thus in the presence of external costs, markets outcomes are inefficient, in the sense that a more complete accounting of the social costs would render the transaction unprofitable. Social and environmental impacts are frequently traceable to an external cost, in which cases laissez-faire market outcomes may be inefficient.

There are two well-known external costs that promote sprawl. The first is connected to road congestion. In deciding to move to a suburb, a household will, of course, take into account the cost of fuel and the time cost of traveling to the central business district. What each household will omit from its rational calculation, however, is that its own presence on the road raises incrementally the travel times of the *other* commuters. Were suburban residents to “internalize” this external cost, e.g. as a result of road tolls, fuel taxes, or possibly with property taxes that varied by distance from the core, then the incentive to move outward in the city is mitigated. The second external cost contributing to excessive sprawl arises from the fact that the incremental loss of open space in and around a city affects the well-being of many individuals, not just a particular house buyer or developer. In other words, since park land and green spaces are inherently collectively consumed amenities, the population at large is unable to express its demand for open spaces in the market—only public policy instruments, such as zoning or impact fees, can internalize these considerations into market transactions.

In addition, a fiscal distortion arises from a mismatch between local taxes and the price of urban infrastructure. Until recently, development charges have required developers to pay only a fraction of the infrastructure costs of their projects, making development look artificially cheap. Moreover, since property taxes in North America are imposed on real estate, i.e. buildings as well as land, the tax may bias housing away from capital intensive

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construction, such as apartments, in favor of smaller dwellings. Thus for a given city population, the property tax may reduce the intensity of land development, rendering a city less compact.

In short, the Triple Bottom Line approach to policy evaluation obliges planners to take a broad perspective on the economic effects of policies. While the “narrow” economic impacts are essentially the financial effects of market responses to policies, the social and environmental impacts recognize the external costs of market interactions and the role of public policies in guiding competitive markets to efficient allocations of resources.

I have touched on some of the major themes associated with the property tax. The property tax is in fact a very complex tax, which has for a long time been the topic of heated academic debate. The purpose of the remainder of this paper is to take up the most pressing issues raised above, in order to assist city planners in their Triple Bottom Line review of the municipal property tax regime. Specifically, I shall address, as matters of economic impact, the question of market assessment versus alternatives, the liquidity problem of households faced with rapid changes in tax assessments and what can be done about it, the issue of varying tax rates by asset class, and the relative burden of the property tax across income groups. The social and environmental impacts are embodied in the discussions on the effects of property taxes on urban density and sprawl, and the implications of the urban design for the attractiveness of a city to mobile businesses and individuals. Finally, given the myriad effects of the property tax, hypothetical or real, I offer my own tentative conclusions regarding the role of the property tax in municipal finance and its best regime for cities in Alberta, with lessons for other cities in Canada.

II. MARKET VALUE ASSESSMENTS

In 1995, the Alberta government moved to market value assessments as the basis for property taxes. In order to discuss the meaning and implications of this reform, it is necessary to define some terms. “Market value” is the most probable price that a property

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would sell for on the open market. The “assessment ratio” refers to the assessed value of a property divided by its market value. In principle, the assessment ratio equals one when market value is used as the tax base, but in practice the ratio can be quite different from unity as a result of abatements, litigation, tax freezes, biases in assessments, and the necessity of estimating market values when there have been but few sales of properties in a given area or when owners have improved their buildings.

The statutory tax rate (often expressed as a mill rate) is multiplied against the assessed value to determine the annual tax bill of a property owner. When the assessment ratio differs from unity, the statutory tax rate will differ from the “effective tax rate” which is what really matters to a taxpayer. The effective tax rate is the statutory tax rate times the assessment ratio; or, in other words, the effective tax rate is the total tax bill as a fraction of the true market value of the property.¹

The first thing that should be noted from these definitions is that, for any given assessment, regardless of how it is determined, there exists a statutory tax rate that will deliver any desired effective tax rate. Thus discussions about whether a city should use market value or other methods of assessing property values for tax purposes may seem pedantic. The real issue lies in whether effective tax rates should vary for different types of properties and/or different types of owners. In the case of Alberta, the switch to *full* market value assessments meant a commitment to setting assessment ratios to one, combined with uniform statutory tax rates for residential properties, and, therefore, equal effective tax rates for all dwellings.² If differential effective tax rates are desirable, this

¹ In some cities, such as Dublin, there is a real estate transfer tax, paid only when real estate changes hands, in lieu of a property tax. The tax payment is a one-time levy equal to a percentage of the gross sales price. One disadvantage of this form of tax is that home buyers must pay a lot at once, which may discourage people from changing homes (though that might be a social objective). A real estate transfer tax has recently been proposed for Toronto.

² Prior to the Municipal Government Act, 1995, properties in Alberta were appraised for market value once every eight years, with procedural rules determining changes in assessments in the intervals. In practice, therefore, assessed values could diverge significantly from market values. Advances in information technologies make annual assessments more feasible today than in the past.

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can be achieved within a market value appraisal system simply by varying the statutory rates.

The fact that assessment ratios are often deliberately set far below unity (so-called fractional assessment) in most jurisdictions is a source of confusion for taxpayers.³ Many localities in the U.S., for example, have long had market value assessments and uniform statutory tax rates, but have simultaneously imposed varying and sometimes extremely low assessment ratios.⁴ This implies that effective tax rates are unequal (for better or for worse). When this is done deliberately it is called “classification.” Most jurisdictions, including Calgary, use classification insofar as residential properties face a lower statutory tax rate than commercial and industrial properties. A few states, such as Minnesota and Montana, employ a much more extensive list of property tax classes.⁵ Another example is the recommendation of the Report of the Provincial-Local-Government Committee of Ontario in 1978 that the assessment ratio be set at 50 per cent for residential properties and 75 per cent for multiple residences. Even when laws prohibit non-uniform assessment ratios, studies have shown great variations in assessment ratios as a result of unofficial biases (especially in favor of single-family homes and against apartments) or as the consequence of tax freezes and caps, or else due to long periods between market appraisals. Thus effective tax rates often vary substantially within a city and across cities, despite so-called market value assessments

³ One may ask why fractional assessments are used rather than simply lowering the statutory tax rates on full assessments. The reason is probably cosmetic. Taxpayers may prefer to hear that only 50 per cent of their house value is being taxed, rather than 100 per cent even if the statutory rate is lower.

⁴ Here is a sampling of assessment practices in the U.S. South Dakota applies an assessment ratio of 85 per cent to all properties; in Nevada and Ohio the ratio is 35 per cent for residential properties; in Michigan, the ratio is 50 per cent of market value at time of sale; similarly, in California, market value only enters into the determination of property taxes at the time of acquisition. Most states or municipalities limit the annual increase in property assessments to a few percentage points. Some states, e.g., Florida, Kentucky, and Missouri also tax intangible property, such as stocks and bonds. In South Carolina, some people pay more property tax on their cars than on their homes.

⁵ Gold (1979) observes that classification may have been introduced as a means of legalizing an existing system of discriminatory assessments, thus avoiding large shifts in property values and tax burdens that would otherwise ensue from a uniform statutory tax rate. Similarly, according to Slack (2002b), “it appears that, under the [recent] Ontario property tax reform, differential property tax rates reflect the desire to maintain relative tax burdens and not to achieve the fairness based on benefits received from municipal services.”

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and uniform statutory tax rates.⁶ A system of widely unequal assessment ratios causes dissatisfaction among taxpayers, because it is perceived as arbitrary, difficult to understand, politically-influenced, and disadvantageous to poorer homeowners.⁷ The inequities frequently lead to demands for reassessment or litigation.

A more cogent alternative to full market value assessments is the method of unit value assessments or “unitization.” Under this method, tax assessments are based on the physical characteristics of individual residential houses, such as, floor space, lot size, etc. The method assumes that these are the main factors in the consumption of “housing services” and it insulates taxpayers from changing market values that are beyond the homeowner’s control, so to speak.⁸ Supporters of unitization reject market values of property as a basis for taxation, because property values reflect the discounted rental value of homes (actual rent or imputed income to owner-occupiers), as opposed, supposedly, to the subjective consumption value of a given home. The main point is that changes in land values are explicitly omitted from the unit value assessment method, so assessment ratios will vary considerably across neighborhoods.

⁶ An enlightening example is New York City. A recent study by the New York Public Interest Research Group (2003) (see www.nypirg.org/goodgov/proptax/equity.html) revealed that nearly one-third of 213 city neighborhoods are incorrectly assessed by a substantial margin; that in Brooklyn, a one-family home with a store in Sheepshead Bay and a two-family home in Park Slope pay nearly identical tax bills even though the Park Slope home is valued at nearly four times the Sheepshead Bay home. In Canada, Gillespie and Meng (1986) studied the average effective property tax rate within income deciles, based on a detailed micro data base on family expenditures in Canada for 1978. They concluded that substantial variations existed in each deciles—i.e. people with similar incomes faced different effective tax rates—and that the spread was particularly large in lower income classes.

⁷ For a recent statement of dissatisfaction with helter-skelter property tax assessments, see the newspaper article by Kent Gardner, “Let’s fix the property tax, not push to eliminate it,” in the Rochester Business Journal, October 13, 2006, available at <http://www.rbj.net/numbers.htm>. Aaron (1975) found evidence of bias in effective tax rates against lower-priced housing in the U.S.

⁸ It is appropriate and politically wise to adjust statutory tax rates (and therefore effective tax rates) downwards when general house prices are rising beyond the general rate of inflation, so that the total tax collection from existing buildings rises only at the rate of inflation. This promotes political accountability by obliging politicians to explicitly announce any increases in total intake. Although the process of adjusting the statutory tax rates regularly may cause some confusion among taxpayers, the alternative is to allow tax collections to drift upward during housing booms. This type of policy contributed to the tax revolt in California culminating in Proposition 13 in 1978. See Smith (1990).

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The NDP government's Ontario Fair Tax Commission in 1993 recommended unitization but it was not implemented. The Property Tax Committee in Sweden debated the merits of unitization before recommending market value assessments for national property taxes (and reduced housing subsidies) in 1992. The rejection of unitization as an alternative to market based assessments is unsurprising: the consumption services of a home surely depend significantly on the proximity of the property to public services, environmental amenities, and to the downtown area; and these advantages are capitalized in land prices. Thus the omission of changing land values in the unitization method would likely be perceived as unfair by most taxpayers. I conclude that a property tax system with annual market based assessments and assessment ratios equal to unity are more transparent, less arbitrary, and ethically better-grounded than the alternatives. This leaves open the possibility of some variation of statutory tax rates across asset types, but only if a convincing case can be made that differential effective tax rates will enhance certain planning objectives.⁹ This is discussed in Section IV below.

The principle of full market value assessment is sound only if its practical implementation is adequate. On this score, Kitchen (2005) has emphasized the importance of uniformity in the assessment practices of each municipality in the province, as otherwise the effective tax rates will be uneven. In particular, if the application of market value assessment procedures is different between Calgary and Edmonton, for instance, then this will not only be perceived as inequitable, but capital investments, as well as grants from the provincial government, may be misallocated as a result of the fiscal distortion.¹⁰

⁹ The U.K. has just announced a complete overhaul of its property tax system. Effective tax rates will apparently vary based on a formula that takes into account the crime rate in the neighborhood (low crime neighborhoods will pay more), the physical characteristics of each home, new local services, land value, and so on. Some homeowners will see property tax increases of 400 per cent. It will be interesting to see if this computer assisted, "sophisticated," form of unit value assessments will work.

¹⁰ The devil is in the details. It is my understanding that the assessment procedures in Calgary and Edmonton are possibly different and beg a closer examination.

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Finally, but importantly, property taxes based on full market value assessments can be perceived as unfair in a changing real estate market. There are two types of problems. First, some taxpayers may become unable to “afford their own homes” as a result of rising house prices. Rising house prices make existing homeowners in the city wealthier. In general, they can only be better off as a result. However, they may have difficulty meeting their tax obligations if their incomes are too low. I discuss this policy problem in the next section; but before doing so, let us consider carefully a second source of taxpayer dissatisfaction.

When changes in a household’s tax liabilities exactly match changes in local public service benefits, then both the taxes and the services will “cancel out” in the market valuation of the home. But when taxes rise as a result of rising property prices, and these price increases are unrelated to improved benefits from local public services, then some taxpayers may complain that they are subsidizing other property owners. This complaint amounts to a rejection of market based assessments as a basis for property taxes, in favor of unitization with an explicit accounting of local public services as one of the measures of housing consumption. As I argued above, abandoning full market assessments for property taxes is most likely to lead to arbitrariness—it is, for one, extremely hard to quantify the local benefits of a new public service—and this will give rise to new complaints of inequity. Moreover, even when the level of local services is unchanged, their *value* may change as a result of urban growth. For example, a pre-existing LRT station in the neighborhood becomes more valuable over time as road congestion increases. This increased value is one component of changing house prices in the neighborhood. From this perspective, property taxes based on full market values may reflect, albeit inexactly, the “benefit principle”—i.e. tax payments should reflect the benefits derived from public services—even when there is no apparent change in actual service levels.

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Other municipalities, both in the U.S. and in Canada, have tried to deal with rapidly rising tax bills for some homeowners by imposing a “cap,” which limits by law the maximum percentage increase in property tax a homeowner can pay. In the U.S., for example in New York City, caps have contributed to the high variations in effective tax rates discussed earlier, despite the use ostensibly of market value assessments. But the problems in New York might be attributed to the low permitted rate increases and the infrequency of re-assessments of market value. In Nova Scotia, there is currently an annual cap of 10% on increases in property tax assessments faced by individual households, with the policy set to expire at the end of 2007. What is interesting about the Nova Scotia policy is that homeowners are presented a tax bill which states, not only the capped assessment, but also the market value assessment of the property. As a result, the taxpayer never loses sight of the market value and when the real estate market eventually slows down, the annual tax bill will catch up to the amount of the “uncapped” property tax. Thus the policy smoothes the adjustment of property taxes during volatile real estate markets, but tax payments revert automatically to full market values in the longer run. Presently 14 per cent of residential properties in the greater Halifax region are capped, as are 6 per cent in the province as a whole.

Box 1 highlights the Nova Scotia CAP Program.

Box 1: Nova Scotia CAP Program

To reduce the property tax burden on provincial residents Nova Scotia introduced the CAP program in 2004. The program was designed to smooth over sudden property tax increases due to sudden increases in the housing market.

A CAP or ceiling to assessed value for tax purposes is set each year by Cabinet. The CAP increases have been set as 15% in 2002 and 2003, and 10% for each of the years 2004 - 2007. CAP increases only refer to changes in market value and are not relevant when assessed values increase due to property improvements and/or renovations. The cap limits the amount of assessed value a municipality can use for tax purposes. Assessment statements always list both the capped value and the full provincial market assessment of the property so that residents are always aware of the full market assessment of their property.

To receive a capped statement a property must have an assessed value greater than the CAP increase and the property owner must make an application for a capped assessment. Once a capped statement is received and residency criteria are met the property is considered for capped assessments in succeeding years.

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The Cap program helps smooth the transition to higher property taxes when there are large shifts in market value. Residents can keep tabs on their actual market assessment without being impacted by the full property tax increase in a single year.

Another policy that is used quite commonly is the provision of cash grants or rebates to households to be used against property taxes. While this is usually targeted to low-income households, it is sometimes also applied across-the-board. The advantage of this method of tax relief is that property taxes can be calculated in the normal way, and the grants explicitly accounted for as an item of municipal expenses. The sizes and eligibility restrictions of the grants can be re-visited at any time in the future without re-opening a debate on the tax structure or the principle of full market value assessments. British Columbia currently uses a policy of this sort. Details are given in Box 2 below.

Box 2: British Columbia's Home Owner Grant Program

To reduce the burden of property taxes many BC residents are eligible for a Home Owners Grant on their primary residence. There are two levels of grants the Basic Home Owner Grant and the Additional Home Owner's Grant.

To receive the Basic Grant a home owner must be under 65 years of age and pay at least \$350 in property tax on their primary residence. Residents meeting these requirements can receive a grant of up to \$570. However, the grant is scaled back at a rate of \$5 per \$1,000 of assessed value above \$740,000. Thus there is no grant for property assessed above \$894,000.

Eligibility for the Additional Grant is stricter. A resident must be over 65 years of age, a veteran (or spouse/widow of a veteran), a person with a disability receiving a disability allowance, or a household may qualify if a disabled relative resides there permanently. To receive the Additional Grant the resident owner must pay at least \$100 in property taxes on the primary residence. The additional grant is worth up to \$275 (additional to the Basic grant) and as with the Basic Grant it is scaled back on properties at rate of \$5 per \$1,000 of assessed value over \$780,000, being eliminated on properties values over \$949,000.

The Grant applications come with the tax assessment notices and each household calculates the grant it is eligible for and remits its net taxes, not unlike a federal tax return.

The Nova Scotia temporary cap method and the British Columbia homeowner grant program can shield taxpayers from rapidly changing tax property taxes. Naturally, they entail administrative costs and represent departures, to some extent, from the objective of

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setting effective tax rates that are identical across-the-board. There is, however, one proposal that may assist in “smoothing” the changes in property taxes with very little departure from the principle of full market value assessment: using a moving average of market assessments.

The rationale for a moving-average assessment is the following. It seems plausible (though I have not verified the data for Calgary) that, during a general expansion of housing prices in the city, the prices in *some* neighborhoods surge ahead *temporarily*, but then prices in other neighborhoods “catch-up” by rising significantly shortly afterwards. If this is the case, then officials may want to consider using, say, a two-year moving average house assessment as the base for property taxes. This maintains a commitment to full market valuations but slows the speed at which any individual taxpayer’s bill can change.

I return now to the first fairness issue mentioned previously: property taxes that render a home “unaffordable” to the existing owner.

III. LIQUIDITY CONSTRAINTS

The difficulty some households face in paying their property taxes in a rising real estate market is quite distinct from issues of poverty *per se*.¹¹ It is a problem of households who are, relatively speaking, wealthy but income-poor. Their problem is one of liquidity, caused by the fact that the property tax applies to *unrealized* capital gains. The homeowners could earn tax-free capital gains by selling their properties, but they may not want to move. They could obtain reverse mortgages from banks, but the individuals may lack financial sophistication or may be averse to taking on additional risks. In any case, property taxes that become “unaffordable” to certain households pose a political problem and, possibly, an ethical and social problem.

¹¹ In Calgary, statutory tax rates are adjusted across neighborhoods to attain a revenue target. When house prices change unevenly, some homeowners can experience property tax increases, while others experience reductions.

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There are some methods that can be used to assist these households. The most attractive one may be the method of deferring tax payments, for selected households, until they sell or transfer the property. This deferral can be done with or without interest accumulating on the unpaid tax liability. The tax liability becomes a lien on the property. Because the method is administratively costly, eligibility should be restrictive. Governments that use this method typically only permit households with low incomes or the elderly to defer property tax payments. It is especially attractive for elderly citizens, because their aversion to borrowing from banks against their equity may be most acute; and their advanced age implies that the tax bill is likely to be cleared “sooner rather than later.” Of course, introducing a tax deferral program implies a short-term revenue loss for the government. Details on the British Columbia property tax deferral program are provided in Box 3.¹²

Box 3: British Columbia’s Tax Deferral Program

British Columbia allows residents who meet certain criteria to defer payment of property taxes on their primary residence until a later date, death, or resale of their property. This enables residents with limited incomes to continue living in their homes while the province essentially finances their property taxes at a preferential interest rate of 2% below the provincial borrowing rate.

To defer property taxes a resident must be 60 years or older (only one spouse must be 60), a surviving spouse, or a disabled person. Applicants must also be Canadian citizens or permanent residents who have lived in the province for at least one year preceding the application.

An application is made, and if approved, the agreement is registered as a lien on the property. A renewal application is filed each year that taxes are to be deferred, the lien remaining in place until the debt is paid.

IV. CLASSIFICATION AND SPLIT-RATE

Varying effective tax rates by property class—classification—is commonly practiced.

Most jurisdictions today limit classification to, at most, the following classes of property:

¹² Halifax administers a similar program. To qualify, the deferral must be on a primary residence and the household income must not exceed \$27,000 annually. In Ontario, deferrals are restricted to low-income seniors, i.e., typically with incomes below \$35,000. Kingston limits deferrals amounts to \$1,000. Prince Edward Island permits deferrals to seniors earning less than \$30,000. There are many other Canadian examples. In the United States, tax deferrals are generally limited to 80 to 85 per cent of home equity. Eleven states allow seniors to freeze their taxes on their principle residence when they turn 65.

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one- and two-family houses, multiple residential units, commercial, industrial, farm land, utilities and vacant lots (and some tax exempt properties). A so-called split-rate, in which land is taxed at a different rate than capital structures, is also used.

Applying higher tax rates to commercial and industrial properties has no sound economic justification. It is a historically-rooted practice which, as Kitchen (2005) observes, is probably attributable to the fact that homeowners are a large voting group, whereas local business-owners as a whole are not. Moreover, the evidence suggests that businesses use considerably fewer public services than residential properties relative to the property taxes they pay.¹³ The counter-argument, that a lower tax rate on commercial and industrial properties would necessitate a higher residential tax rate, which would thus hurt “ordinary taxpayers,” neglects the fact that investment patterns are altered by taxes. It is quite possible that the higher property tax rate on businesses ultimately reduces wages or raises product prices faced by homeowners themselves. More generally, it is always useful to recall that businesses are merely organizations, and that the tax burden must be borne by a diverse set of people: land owners, investors, employees, customers, etc. In the next section, I shall discuss in more detail what researchers believe about the distribution of the property tax burden among income groups in society. For the moment, however, I focus on the *efficiency* effects of classification and split-rate regimes.

Economic theory predicts that, in the long run, capital investment patterns respond to tax rates, not only locally, but even internationally. Specifically, capital funds are mobile and investors will search for the activity and location with the highest net-of-tax return. Thus, when the property tax rate on, say, industrial properties, exceeds the tax rate on residential properties in the municipality, then in the long run there will be less deployment of industrial plant and equipment compared to improvements in residential properties. Similarly, *subsidizing* businesses by setting business property tax rates below

¹³ See Kitchen and Slack (1993) for a study based on eight Ontario municipalities. Kitchen (2004) reports that a 2004 study by MMK Consulting Inc. revealed that in North Vancouver industrial taxpayers pay \$2.45 in property taxes for each dollar of net city services consumed, while the residential sector pays only \$0.58.

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residential property rates is also inefficient. In that situation, there would be relatively too little residential construction and a lack of home improvements; that is, citizens would lose more in housing consumption benefits than they would gain from productivity improvements arising from new business investments. Note, further, that if the tax rates are set higher in one municipality than in others, there will be a corresponding outflow of investment in the higher taxed jurisdiction in favor of the lower taxed place. Empirical evidence supports the hypothesis that investment declines in municipalities with comparatively higher property taxes (Wassmer, 1993).¹⁴

These types of tax-induced changes in investment result in inefficient allocations of resources: by artificially biasing investment decisions, the total net benefits to society—or, more concretely, total net wealth—will be inferior to when tax rates are neutral (unless there are external costs that need to be taken into account). The idea that property taxes on structures are essentially a tax on capital income,¹⁵ and considering housing equity as one of several forms of marginal investments for households, led the Swedish Tax Reform Committee in 1989 to adopt the tax “neutrality” principle and thus to propose that all capital income be taxed in a similar way, whether the capital has been invested in shares and bonds, placed in bank accounts, or used to buy real property, rented or owner-occupied (Katinka et al., 1992). Vancouver has recently reduced the tax rates on industrial and commercial properties, in a purposeful move toward greater tax-neutrality. An especially egregious violation of neutrality is the common practice of taxing apartments more heavily than single-family dwellings.

¹⁴ If regions act uncooperatively by undercutting each other’s property tax rates, then they are engaging in a “race-to-the-bottom.” The consequence of this is too little public revenue in both regions. Some commentators have argued that this has in fact been the case in the United States, where local authorities have more independence in setting tax rates than in Canada, and that this tax-cutting dynamic has contributed to the financial problems in some cities. This problem should be taken into account in discussions with the provincial government over the optimal degree of fiscal independence of Calgary and Edmonton.

¹⁵ Suppose an asset worth \$100,000 generates an annual income of \$10,000, equal to a 10 per cent market rate of interest. A 5 per cent property tax generates a tax liability of \$5,000. Expressed as a percentage of the income generated by the asset, the tax rate is 50 per cent. Thus a 5 per cent property tax rate is equal to a 50 per cent capital income tax, in this example. The same logic applies to owner-occupied residences. Owners benefit from an “imputed income” of \$10,000 since this is what they could rent the property for if they chose to; or, in other words, they are renting the property to themselves.

The notion of tax-induced inefficiencies in the allocation of capital is admittedly quite abstract, but one of the lessons from economic theory is that “factors of production” (inputs) may adjust their supplies, especially in the long run, such that there can be important yet unintended and undesirable repercussions of setting taxes in a non-neutral fashion. These effects are strongest when the supply of a factor is highly mobile (“elastic”). On the other hand, since land is immobile (“inelastic”), the question arises as to whether taxing land (site values), rather than structures, might not be the most efficient form of property tax. In other words, land owners cannot escape the tax by moving their land. From an efficiency standpoint, site-value taxation is clearly much less distortional than taxes on capital. Focusing taxation on the immobile factors of production is, therefore, equivalent to tax-neutrality.¹⁶

The land tax policy was famously championed by Henry George in the 19th century, leading to a populist “single-tax” movement in the United States in the 1890s. Despite the undisputed efficiency merits of taxing land, it is only recently that site-value taxation has been adopted in some municipalities. The city of Pittsburgh implemented a split-rate tax in 1979 and 1980, whereby land was taxed at an effective tax rate *five* times the rate on structures. Previously, capital was taxed relatively more heavily in Pittsburgh and the alternative to increasing the site-value tax rate, given the need for expanded revenues, would have been to increase the tax rate on more mobile factors of production.¹⁷ The new split-rate emphasis on site-values represented, therefore, a switch toward a less distortional tax structure, which should, theoretically, improve the climate for investments in the city. Other local governments have followed suit, e.g. Kauai County, Hawaii, and the split-rate policy has attracted attention in New York and Maryland,

¹⁶ It is known theoretically that site-value taxation also places pressure on landowners to put their land to its best use. This does not imply, however, that a site-value tax forces vacant lots to be developed. If the option value of waiting to develop a lot yields a higher expected value to the owner than currently feasible projects, then a rational owner will delay development, regardless of the site-value tax. That is, land taxes are neutral with respect to the timing of development.

¹⁷ Prior to the new policy, land was taxed at twice the rate applied to structures.

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among other states. Site-value taxation and split-rate policies are also used in other countries, such as Australia.

The split-rate reform in Pittsburgh coincided with a decade-long construction boom in the city (mainly in non-residential structures), “Renaissance II.” The real value of building permits rose on an annual basis by about 70 per cent in the 1980s compared to the 20 year period preceding the reform. The surge is all the more striking because only one of the other 15 cities in a sample studied by Oates and Schwab (1997) witnessed an increase in construction over the same period, with Pittsburgh being the only city relying heavily on site-value taxes. But these results must be taken with a grain of salt: the year of the tax reform also coincided with an acute shortage of commercial space in Pittsburgh, and, moreover, the growth in construction did not extend to the suburbs of the city.¹⁸ The authors of the study concluded:

Had an increase in land-value taxation not been introduced, city officials would have turned to another form of taxation: higher taxes on structures, or a major increase in the city’s wage tax....Land-value taxation provides city officials with a tax instrument that generates revenues but has no damaging side effects on the urban economy. In this way, it allows the city to avoid reliance on other taxes that can undermine urban development.

While site-value taxation has theoretical appeal, many commentators have noted that it is very difficult to separate land value from the value of the structure on the land. Assessors can use information on the sales of vacant lots to estimate site-values, but clearly, there can be a paucity of such data.¹⁹ The theory of land-value taxation also serves to question the common practice of taxing vacant lots at a *lower* effective rate than developed lots.²⁰

¹⁸ It is, however, noteworthy that there was also a modest increase in residential construction in the city, despite a nationally depressed housing market in the early 1980s. Furthermore, some of the other cities in the sample also had low commercial vacancy rates yet weak non-residential construction (Oates and Schwab, 1997).

¹⁹ Implementation of a land-value tax is discussed in Arnott (2005).

²⁰ The “gold standard” for a fiscally-neutral municipal tax is the “head tax”—a fixed per capita levy on all residents. Since the head tax is independent of economic behavior, it does not distort capital flows. France levies a head tax called the “habitation tax.” Head taxes are efficient but are seen as unfair to the poor and

V. SOCIO-ECONOMIC DISTRIBUTION OF THE PROPERTY TAX BURDEN

Citizens typically care more about, or at least are more familiar with, issues of equity than issues of efficiency. I have already briefly discussed the “benefit principle” of equity in the section on market value assessments. Two other equity criteria are often invoked. “Horizontal equity” refers to the equal tax-treatment of those with similar incomes (those with a similar “ability-to-pay”). One argument in favor of full market value assessments, put forward earlier, is that other methods tend to cause large variations of effective tax rates on properties of equal market value, which is a violation of horizontal equity. The economics literature focuses mainly on the “vertical equity” criterion, which states that the socio-economic distribution (“incidence”) of tax burdens, as a proportion of household income, should be a rising function of household income—i.e. taxes should be “progressive.” Since home ownership is a significant fraction of wealth for many households, and wealth may be viewed as a comprehensive measure of ability-to-pay, property taxes appear to follow the principle of vertical equity. This belief is likely to be one of the reasons for the enduring citizen support for property taxes as a source of municipal finance, despite the complaints to city councilors, over the course of a century. However, there are several caveats.

The market value of a house is usually much larger than the owner’s home equity. Furthermore, home equity is only one of several forms of household wealth. If residential property value is taken to be a proxy for household net wealth, it is only a loose approximation. In any case, a basic question is whether the property tax is, in fact, progressive, or its opposite, regressive? A simple answer, based on dividing each taxpayer’s property tax bill by his or her income describes the short-run impact, but is likely to be dubious in the long run, because it omits from consideration the response of market forces to taxation. Property taxes on real estate (i.e. *structures* as well as *site-values*) cause capital investments to adjust over time, which lead to *price changes*, and,

were the cause of riots in the U.K following Margaret Thatcher’s introduction of the “poll tax.” Vancouver, Edmonton, and Saskatoon had poll taxes many decades ago.

therefore, to the possibility of “shifting” property tax burdens from capital owners to landowners, or to tenants, or to wage workers, or to consumers of goods. The burden of the property tax in the long run depends on the socio-economic patterns of ownership of land and capital, the mobility of capital and labor, household preferences, and technology. The short-run economic impacts of property tax reforms perhaps weigh most heavily in the calculations of the incumbent politicians, but the long-run outcome is more relevant for social evaluations.

Some examples can illustrate the long-run impacts. If a higher property tax in Calgary incites fewer home renovations in the city, then land values would fall all around—and this fall would be in addition to the capitalization of the tax liability from taxing land values themselves. The distribution of the tax burden would depend on how land ownership correlates with income. Since richer people tend to own relatively more land, this portion of the analysis suggests the property tax is progressive.²¹ On the other hand, owners may curtail investments in renovations, maintenance, and new structures, which gradually makes the housing stock scarcer and causes the unit price of residential floor space to rise. Since the share of household expenditures on housing tends to decline with income, the lower end of the income distribution is hurt disproportionately from this market adjustment. For similar reasons, it is believed that landlords can pass on property tax increases to renters, who are generally of lower income. Furthermore, a general property tax hike may also result in less non-residential construction, leading to lower worker productivity, fewer jobs, and lower-than-would-be wages, especially for less mobile workers, who are most often the less skilled and lower paid. This effect, then, tends to make the property tax regressive. The traditional view is that, on the whole,

²¹ A complication is that we must distinguish between the tax burden caused by the *existing* property tax and the burden caused by a *change* in the property tax. One can expect that existing tax rates on the land value portion of the property tax have *long ago* been capitalized into land prices. New buyers may *believe* that they are bearing the burden of the property tax, but in fact they would have had to pay more for their property in its absence. The original landowners, i.e. at the time when the tax was introduced, or when the tax rate was changed, bear the burden of the land-value part of the property tax via capitalization. The capitalization of property tax reforms into the prices of land must be considered by policy-makers, both from the standpoint of fairness and political acceptability.

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property taxes are regressive—i.e. the poor are more burdened by it than the rich. It is for this reason that historically governments everywhere have provided various forms of tax relief for lower income households, or else applied property taxes on a sliding scale (like with income taxes) in favor of lower income groups.

The traditional view of the distribution (or “incidence”) of the property tax has been seriously called into question by researchers over the past three decades. While the effects discussed above are not disputed, the “capital view” of the property tax stresses that, to the extent that property taxes are levied *everywhere* in North America, capital investments are actually unable to “flee” the property tax and, therefore, the burden of the tax is ultimately borne by capital owners everywhere.²² Since capital ownership is strongly related to income level, the capital view sees the property tax as progressive when considered from a national (or North American) perspective. The relevance of the capital view, from the standpoint of a *given* municipality, depends very much on the extent to which local governments coordinate their property tax rates, either, explicitly, or implicitly via “yard-stick” comparisons with neighboring jurisdictions. To the extent that municipal property taxes in Canada are uncoordinated with the rates in the U.S., the traditional view may be a better guide for how the property tax is distributed among income groups in Canada.

The traditional view has also been tempered by empirical work which has found that, when, either, the *lifetime* incomes of households, or home equity, are used as measures of ability-to-pay, rather than actual current incomes, then the property tax appears much less regressive than previously believed.²³ The consensus among tax economists today seems

²² Residential property taxes in Toronto, for example, are comparable to the property taxes in several of the largest U.S. cities, though much lower than in Chicago and Detroit (Slack, 2003).

²³ Some older studies have cast some doubt on the regressive nature of property taxes. Netzer (1973) provided strong arguments against believing that landlords can pass most of the property tax burden on to tenants. Aaron (1975) reported that property taxes are less regressive if lifetime income or permanent-income is the measure of ability-to-pay. There is a strong argument in favor of using lifetime incomes. For example, university students may have low cash incomes, but they are making voluntary, self-interested investments in human capital to raise their future incomes. In this sense, they are not “poor,” and loans are

to be that property taxes are progressive at the higher income levels (due to the capital income effect), roughly proportional for the middle class, and, probably, regressive at low income levels. Whether or not the property tax is actually regressive at the lowest income levels, it is certainly perceived to be so by advocates for the poor and local governments have responded by providing tax relief for low-income households. I describe these relief programs next.

VI. CIRCUIT-BREAKERS

The various forms of property tax relief are known as “circuit-breakers”—i.e. when a household’s property tax exceeds a pre-determined fraction of its income, the excess property tax is “cut-off” via rebates, exemptions, grants, or income tax credits. Sometimes the fraction is based on a sliding-scale that declines with household income. The usual purpose of circuit-breakers is to compensate low-income households for the (perceived) regressive nature of residential property taxes. In some states, as with the British Columbia homeowner grant discussed earlier (see Box 2 in Section II), relief is available even for relatively wealthy homeowners. Circuit-breakers are used in most U.S. states and many municipalities. When implemented by local governments, applicants generally are required to apply for relief and have their case decided by a committee. In some jurisdictions, circuit-breakers apply only to the elderly; and most states and provinces provide relief to the blind and disabled. Some states and provinces also allow renters to qualify for tax relief, based on the assumption that some portion of the property tax is passed forward from landlords to tenants.

Homestead exemptions are another form of property tax relief which is used in 45 U.S. states. These are basic exemptions from the assessed property values of primary residences, which go tax free or else are converted to personal income tax credits. Homestead exemptions favor lower-income households in the same way that the basic

available to smooth their consumption flows. In general, current incomes reflect life-cycle positions related to age, suggesting again that lifetime income is a better basis for comparisons of tax burdens across households. Kitchen (1987) showed that when home equity or house price are used as the measure of ability-to-pay the property tax does not appear to be regressive at any income level in Canada.

personal income tax credit does: as a household's income rises, the credit or exemption becomes less important. In some states the homestead exemption only applies to the elderly.²⁴ Obviously, higher exemptions require a higher property tax rate to achieve the same revenue target. Exemptions imply that effective property taxes are non-uniform.

It is not evident that circuit-breakers achieve their intended purpose of promoting vertical equity. Some households, particularly elderly ones, may be income-poor but have relatively large home equity. Conditioning property tax relief on the size of the property tax liability and on the owner's current income may have the perverse effect of subsidizing many wealthy homeowners.²⁵ Furthermore, households' expenditures on housing depend, not only on income, but also on their preferences and the number of children in the family. For these reasons, help for the poor might be better targeted with property tax rebates to welfare recipients and/or grants to tenants on welfare; or the aid could be a function of the Goods and Services Tax Credit or the Guaranteed Income Supplement for seniors, for instance. The Alberta Seniors Benefit Program, for instance, gives cash grants to all low-income seniors, with the amounts varying with their type of accommodation.

Provincial personal income tax credits for property taxes, such as in Manitoba and Ontario, have also been criticized. First of all, homeowners and renters may see little connection between the *income* tax credit they receive and their *property* tax payments. More importantly, it seems questionable whether local financing methods should be integrated into the broad-brush system of income redistribution achieved through the income tax structure of the upper-tier governments and through intergovernmental

²⁴ Circuit-breakers can also be a way of shielding homeowners from rapidly rising property taxes (Gold, 1979), though typically they are not specifically designed for this purpose. In my view, circuit-breakers would be a clumsy way of dealing with the problem of rising property taxes, because they would lead to substantial deviations from the principle of full market assessment. See Section II.

²⁵ This also raises the question as to whether the measure of "income" in the calculation of circuit-breakers should be market income, or a comprehensive measure of income that includes, e.g., government transfers. See Bird and Slack (1978), Chapter 5, for a discussion on the income measurement issues.

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transfers. From this perspective, aid for property tax burdens should perhaps be restricted to selective cases of severe financial exigency, as judged by the local governments.

Boxes 4 and 5 provide details on the Ontario and Manitoba provincial property tax credits, respectively.

Box 4: Ontario Property Tax Credit

Ontarians may claim a property tax credit on provincial income tax returns. The tax credit for a home owner is 10% of property taxes paid in Ontario for a principal residence plus an additional amount of \$250 if the owner is under 65 (seniors over 65 years of age may add \$625). This tax is clawed back such that normally only households with low incomes (about \$27,000) benefit from the tax credit.

Box 5: Manitoba's Education Property Tax Credit

Manitoba has an Education Property Tax Credit to help residents offset the cost of property taxes paid to help support the public school system. Both home owners and renters are eligible for the tax credit but how it is administered differs for the two groups. Low-income households and seniors may also apply for additional credit amounts on their provincial income tax returns.

For most homeowners the credit is deducted directly off their property tax bill. To be eligible the property tax bill must be greater than \$250 a year; the next \$400 of the tax bill can be deducted as a credit. This credit is independent of household income.

Homeowners earning less than \$27,500 can claim an additional \$275 credit on the provincial income tax return. Seniors are eligible for an additional credit of \$400 against income taxes as long as their income is below \$37,500.

Renters may also apply for the Education Tax Credit on their tax returns based on the property tax amounts they pay through their rent.

VII. SOCIAL MIX AND HOUSING MIX

Fiscal and planning policies may inadvertently influence, or be deliberately used to influence, the social mix and housing mix of communities in the city. For example, zoning laws and low-income housing subsidies can promote “mixed” housing stocks within a neighborhood to cater to different income groups. However, if rising property taxes in the area cause low-income households to move to cheaper areas, then the objectives of the planning policy are frustrated by the fiscal policy.

Researchers have stressed several social issues. One of these is the concern that concentrations of poverty, as opposed to its dispersion across neighborhoods, may reduce the opportunities of the poor for social and economic advancement. A lack of good role models for youngsters can, for example, reduce their efforts at acquiring skills, thus harming their labor market prospects and reduce their opportunities “to bridge the gap with people with resources.” A series of studies have examined the effects of segregation on poverty and on unemployment, by comparing neighborhoods with mixed stocks to homogeneous ones. The results are somewhat surprising. Ostendorf et al. (2001) found that, in the Netherlands, mixing did not reduce poverty. Musterd (2005) used Swedish data to arrive at a similar conclusion. Oreopoulos (2003) used longitudinal data to follow the long-term economic prospects of children from low-income families in Toronto, where the families were randomly assigned to public housing projects in different neighborhoods that varied substantially in income levels and housing stocks. He found that neighborhoods quality had little effect on future labor market outcomes or educational attainment.²⁶ Researchers have generally been unable to validate the belief that mixed income and mixed house stocks lead to better outcomes for the poor than in income-homogeneous areas. On the other hand, a lack of good data has made serious research sparse on this topic and the conventional wisdom remains, especially in Europe, that highly segregated cities create negative social impacts on the poor.

A second type of social impact that concerns city officials is the effect of the design of urban space on the attractiveness of the city for high-skilled creative workers, e.g., in high-tech industries, financial and business services, cultural industries and consumer service industries.²⁷ The hypothesis is that these workers prefer socially and culturally heterogeneous communities, rather than income-segregated communities, as well as

²⁶ The author did find, however, that those assigned to poor neighborhoods were more exposed to crime. Calgary’s commitment to safe neighborhoods is certainly one argument supporting mixed housing. See, also, Oreopoulos (2005).

²⁷ Musterd (2006) describes, more specifically, the activities of advertising, media products, *avant-garde* theatre, architecture and design, universities, financial institutions, law centres, accountancy, and information and communications technologies.

many public spaces, a wide variety of restaurants, and lively (sub)-cultural scenes. The implication is that these urban qualities are required for the agglomeration of knowledge-based industries in a city. The evidence on this hypothesis is mixed. Musterd (2006) surveyed existing studies for U.S. cities, which cast doubt on the supposed negative effects of social spatial segregation on economic performance. The researcher also examined the correlations between three indicators of socio-economic segregation and the responses of senior managers and board directors of 501 companies from Europe's 15,000 largest companies regarding the quality of life and the availability of qualified staff in European cities. The author found "no evidence that cities that are more socially integrated are performing any better in economic terms, or are more attractive for employees who are working in the city's businesses."²⁸

Finally, I return to the issue of people changing neighborhoods because of hardships associated with higher property taxes due to house price appreciations. Recent research on the subjective determinants of well-being—i.e. self-reported levels of happiness—show that *trust*, including specifically, trust in one's neighbors, is a very strong factor in people's reported happiness in Canada (Helliwell, 2005). This suggests that rapid neighborhood turnover, which surely impedes neighborly trust, is socially harmful in itself. This underscores the need for promoting stability via, e.g., municipal property tax rebates for the poor and a deferral system for the elderly, as discussed in Section III.

The issues of urban design are intimately connected to the issues of urban sprawl, which are examined next.

VIII. URBAN SPRAWL

Critics of urban sprawl point to long commutes, traffic congestion, infrastructure deficits, loss of agricultural lands, increasing pollution from automobile fuel emissions, and social

²⁸ At the same time, Musterd (2006) examined residential choices in Amsterdam and did find that, while workers in the financial sector and in information technologies tended to live in suburbs, workers in the "creative sectors," e.g. architecture and advertising, tended to reside in the downtown core, where the social and cultural varieties are greater. Thus urban form may matter for attracting certain industries.

fragmentation, as evidence that cities have expanded too much.²⁹ In the introduction, I discussed two types of external costs that should lead one to believe that housing choices in a free market lead to excessively rapid urban expansion. In this section, two questions are addressed. First, what effect does the existing property tax regime have on sprawl? Second, can, and should, property taxes reforms be used as a tool for reducing sprawl?

The literature identifies four effects of property taxes on sprawl. Recall that the existing property tax in Calgary is levied on real estate, which is to say, on the value of a structure and the value of the land it sits on. In our previous discussion on fiscal distortions (see Section IV), the portion of the tax falling on land values was expected to be capitalized in the land price, but not to lead to a distortion because land is immobile. The part of the property tax falling on housing structures, however, penalizes capital investments. If the local residential property tax rate exceeds the rate in competing jurisdictions, one can expect local developers to construct shorter buildings, with less floor space, than would be the case with a neutral tax (i.e. a tax *only* on land, or a head tax, or a property tax that is levied more or less at the same rate everywhere). If dwelling sizes remained the same, then this means that each acre of land is developed less intensively as a result of the property tax. Thus, to house any given size of population, more land is needed, causing sprawl. Essentially, land is being substituted for capital in the supply of housing. This is the first effect of property taxes on the issue of sprawl.

There is a second, but countervailing, effect. Since property taxes are likely to be partly shifted onto consumers in the way of higher house prices, this suggests that consumers will demand comparatively smaller dwellings as the property tax rate increases. Consequently, more people can live on a given acreage. Thus there is a house price effect that tends to reduce urban sprawl, and a capital intensity effect that tends to worsen sprawl. Which effect is more important? There is no clear cut answer, theoretically, and

²⁹ For recent exposé on sprawl and property taxes in Canada, see Slack (2002a). The report, *Toward Smart City Growth in Calgary* (<http://www.sustainablecalgary.ca>) states that in 2003 Albertans consumed considerably more fuel on a per capita basis than residents of any other province.

empirical work on this question is only just beginning. The theoretical models, calibrated to reflect the estimated price-elasticities of demand and supply for housing, have tended to find, that overall, property taxes may be *reducing* urban sprawl (Arnott and McKinnon, 1977, and Brueckner and Kim, 2003). The theory predicts that property taxes tend to promote sprawl only if consumers are have a very low willingness to substitute housing size for other goods and services (e.g. cars, travel, recreation, restaurants, etc.).

A third effect arises when individuals are mobile across neighboring municipalities (Steen, 1987). Suppose a municipality in the region levies a uniform residential property tax to pay for its own community-specific public goods. If the benefits of the public goods are similar for all the residents in the municipality, then the owners of more expensive homes are *de facto* subsidizing the consumption of public services by the owners of less valuable homes. The upper-income groups may prefer to move to a more income-homogeneous suburban municipality with either a lower tax rate or better local services. This creates a proliferation of geographically separate “satellite” municipalities, which is a form of sprawl.³⁰ This “flight of the rich” effect on sprawl depends crucially on the use of zoning laws in suburban jurisdictions to preserve a homogeneous housing stock, i.e. houses of similar values so that property tax bills are similar across households (Fischel, 2001). Recent research has cast strong doubts on whether zoning has been used to enforce homogeneity in suburban communities (Ladd, 1998).

Correcting this fiscal distortion may seem to call for tax relief for neighborhoods that “clearly” have not witnessed recent improvements in public services. But, as I argued against unitization in Section II, it is difficult, both conceptually and in practice, to separate changes in market values from changes in public services at the level of individual neighborhoods. Rather than attempting to finesse effective property tax rates, a more defensible approach is to impose development cost charges at the time new

³⁰ It is possible that some of the city’s affluent citizens provide important “external benefits” to the city in the form of volunteer work in their capacity as talented organizers and community leaders. I have no evidence on this, but if it were true, then their outflow from the city limits to a neighboring municipality, in response to high property taxes, would imply an economic and social cost to the city.

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communities are created, so that, from the beginning, infrastructure and amenities are reflected in the house prices charged by developers. Development charges should apply on a per-area basis, rather than on a per-dwelling basis, as otherwise developers have an incentive to reduce the number of lots by increasing the frontage on the remaining lots. In addition, “betterment levies” can be imposed for a brief period on properties benefiting from a major public investment in the neighborhood, such as a subway extension, bridge, park, etc. These levies may be most appropriate on commercial properties, where the levies capture the increase in the commercial rate of return attributable to the public investment. The issue of development charges brings us to the fourth fiscal distortion of property taxes, which many commentators believe is the principal cause of excessive sprawl.

Historically, development charges have not reflected the marginal cost of municipal infrastructure: the mantra of, “growth pays for itself,” is rather new. Even as recently as 1999, Calgary’s development levy per hector was about one-third of this year’s amount. Critics of urban sprawl in the United States and Canada argue that cities have subsidized outward expansions by not obliging developers to face the costs of constructing and servicing suburbs. Only in the past few years have Calgary’s development charges reflected the full costs of capital extensions to a new community, based on detailed engineering studies.³¹ The same is true of the other major cities in Canada. Development cost charges pay for, e.g., storm sewers, roads, street lights, libraries, police stations, and community recreation facilities (as of last year). Currently, the charges do not cover operating costs or rolling stock, e.g. police vehicles. The use of development charges clearly promotes economic efficiency by reducing the *subsidization* of sprawl.

³¹ However, even today, the infrastructure costs of new industrial developments in the Calgary North East appear larger than the development charges for those acreages. The worry is that raising the charge will deter businesses from locating in Calgary. In my view, this perpetuates inefficient allocations of capital. At this time, when the Calgary economy is so strong, it seems opportune to consider raising the entry charge for new business developments. At the same time, the city might consider reducing the industrial and commercial property tax mill rates toward the residential rate.

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In summary, property taxes interact with the choices of developers in several ways. The contention that property taxes promote sprawl is disputable; but the historical practice of setting inadequate development cost charges has likely been a factor in the rarefaction of North American cities. Researchers who have interviewed developers and urban planners in Ottawa-Carleton and Toronto (Skaburskis and Tomalty, 2000) concluded this:

Although most interviewees originally expressed the view that property taxes had little or no impact on urban form, probing interview questions suggest that the net result of property taxes is to encourage development decisions that result in lower density development and a more spread-out urban area....

Overall, respondents appeared more aware of the effects of development charges than of property taxes. As with property taxes, recognition of the substitution effects of development charges arose from the differential rates applied to various building types. Where the ratio of lower to higher density housing was large enough, development charges encouraged higher density development.

This brings us to the question of whether something should be done about real estate property taxes to reduce sprawl.

A split-rate system with a relatively higher rate on land-values is one possibility (though the net effect of this on sprawl is unclear, as explained above). Another possibility is that, suburban residents could face a higher mill rate than downtown residents; or preferential rates for multiple-dwellings could be considered to promote density. This approach of using variable tax rates to achieve municipal land use objectives is advocated by Andrejs Skaburskis and Ray Tomalty from the School of Urban and Regional Planning at Queen's University and by the experienced municipal finance specialist Harry Kitchen.³² An argument for taxing one type of structure more lightly might well be made. My sense, however, is that we have an insufficient empirical understanding of the effects of property taxes on sprawl, not to mention the effects on the distribution of the tax burden across socio-economic groups, to justify these actions. Lowering the tax rate for one

³² See Skaburskis and Tomalty (2000) and Kitchen (2005).

category also means having to raise the general rate to maintain revenues. Moreover, the principle of uniformity is easy for citizens to understand, whereas differential property tax rates may lead to confusion and political resistance.

It is probably better to use explicit *cash grants* to subsidize certain types of construction projects that accord with specific urban planning goals in the downtown area. Secondly, zoning laws are a more direct way to influence development patterns than taxes. Thirdly, officials may want to consider charging for community amenities or so-called zoning bonuses, as in Vancouver, in addition to charging for capital infrastructure. In the longer run, developers could also be made to shoulder a portion of the operating costs of suburbs, to the extent that these costs are subsidized by taxpayers in the inner city. Downing and Gustely (1977) found that high-density development, compared to low-density development, significantly reduces both capital *and* operating costs of the police, fire and solid waste collection and disposal services, water supply, and sanitary and storm sewers.³³

Another fiscal tool is a municipal fuel tax. A city can use a fuel tax, not just for revenue-raising purposes, but to discourage sprawl. It is hard to know to what extent driving would be curtailed, because no Canadian studies have measured the fuel price-elasticity of demand. Of course, residents of suburbs will be made worse off, at least in the short run, as a result of an increase in the fuel tax, and they will undoubtedly resist the policy change. If the fuel tax is used as an instrument to combat sprawl, then the incremental fuel-tax revenues should be *earmarked* for public transit. In this way, suburban residents can benefit directly from the increase in public services, and citizens at large can understand the tax as a component of a long-term plan for sustainable development of the

³³ These results are challenged by a well-regarded empirical study by Ladd (1992), based on 247 large counties, covering 59 per cent of the U.S. population. She found that, when the cost of policing and other operating expenses are added to the infrastructure costs, the total cost of public services, at the large county level, *increases* with density, even after controlling for such influences as income levels and demographics. Ladd's study compared, however, municipalities of varying density, rather than comparing neighborhoods within the municipalities. Nevertheless, Ladd's study indicates that the connection between density and operating costs are not as clear as previously supposed.

city.³⁴ Finally, urban road tolls can be considered as part of a longer-term method of controlling congestion and sprawl. Singapore uses a transponder system to charge for road use, with prices varying by time-of-day and location.

IX. CONCLUSIONS

The Triple Bottom Line approach to policy evaluations obliges analysts to examine a broad range of considerations. In the context of a growing city, such as Calgary, there are many “margins” of economic behavior where market outcomes may be sub-optimal, either from an efficiency standpoint or an equity standpoint. I have touched on several of these margins: e.g. distorted allocations of capital between residential and non-residential structures; the lack of capital intensity in land development; the external costs and fiscal distortions which tend to promote urban sprawl, with attendant pollution and loss of green spaces; the suffering of the poor and the social harm caused by geographic clusters of poverty; and so forth, including the obvious need to raise public revenues. The question, then, is, can municipal property taxation serve as a revenue-raising instrument *and* as a tool for social policy?

A fundamental proposition in economic theory is that policy-makers require a distinct policy instrument for *each* margin of behavior the government wishes to influence. These instruments can consist, for example, of different taxes, zoning laws, pollution controls, road tolls, subsidized public transit, grants, etc. In combination, the different taxes can raise the necessary revenues and their distortions can be offset by, or accentuated by, the other policy levers, depending on the balance of economic, social, and environmental objectives pursued by the government. When the number of instruments falls short of the number of social objectives, then generally none of the objectives can be closely satisfied. In this light, too much cannot be expected of property taxes alone.

³⁴ A higher fuel tax also adversely affects residents who drive frequently out of the city, for example to the National Parks. It can be argued, however, that in North America fuel taxes are in any case too low, when one takes into account the external cost of automobile emissions.

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The principle merit of the property tax appears to be one of good governance. Each city faces its own unique revenue requirements. Property taxes are a simple means of decentralizing fiscal decisions to local political representatives, who are in a better position to judge local issues than the upper tier governments. Reasonable alternatives or supplements to a municipal property tax certainly do exist.³⁵ in the United States, local governments levy a general sales in 31 states and in D.C. ; and about 3,800 local governments across 16 states, including five of the largest 24 cities, have an income tax. Income taxes account for more than 90 per cent of local revenues in Luxemburg and in Scandinavian countries.³⁶ Another possibility is the Business-Value-Added tax.³⁷ Each of these taxes has, however, its own sets of administrative problems and fiscal distortions.³⁸ The property tax has, moreover, the advantage of being perceived by many citizens as a proxy wealth tax.

It is conceivable to set tax levels differentially across parts of the city to foster certain policy objectives, such as reduced sprawl, or more compact living via multiple unit dwellings. This might be done best through neighborhood-specific development charges or impact fees, according to pre-specified criteria. I am more skeptical about varying residential property tax rates themselves. Fiscal history has shown clearly that any deviation from uniformity tends eventually to degenerate into arbitrary, ethically indefensible, economically inefficient, and politically manipulated tax configurations.

After a comprehensive review of the literature on property taxes, I offer my short list of recommendations, or, at least, points worth discussing.

³⁵ See Kitchen and Slack (2003) for a study on new finance options for municipal governments in Canada.

³⁶ All of the figures in this section are provided by Kitchen (2004).

³⁷ See Kitchen (2005) for further details on the business-value-added tax.

³⁸ Many U.S. cities also rely more heavily on user charges than Canadian cities. User charges, when they are designed to equal marginal costs, resemble prices more closely than they resemble taxes, and are therefore less prone to causing fiscal distortions.

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1. Maintain the principle of full market value assessments as the basis for property taxes and keep a uniform residential tax rate.
2. Consider using a two-year moving average of market assessments as the tax base.
3. Strive to reduce the tax rates on commercial and industrial properties to the rate on residential properties.
4. Levy development charges based on the full cost of infrastructure, even in the industrial zones.
5. Consider adopting the property tax deferral method for the elderly used in B.C.
6. Offer targeted, temporary property tax credits to low-income households to defray substantially their rising residential property taxes in a hot housing market.
7. Consider adopting the cap program of N.S. as a temporary solution to run-away residential property taxes in certain neighborhoods.
8. Consider extending residential development charges to include a small portion of the present value of future operating costs in the new suburbs. View this as a tax on sprawl.
9. Use zoning to protect suburban green spaces and to guide re-developments in the downtown.
10. Have a municipal gasoline tax and earmark the funds for public transit.

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