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Housing for the Toronto Economy

Duncan Maclennan

Research Paper 212



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Executive Summary

Housing matters in modern strategies for economic success. It is a complex and important consumption good and asset, and the housing system is one of the key integrative systems in the society and economy, like the labour market or the financial system. Yet thinking on economic and housing policies is disconnected in Canada, Ontario, and Toronto. This study seeks to supply some of the missing connections between housing and the economy in the city of Toronto. It draws upon existing research and data to develop an overview of how the housing sector affects the development of the metropolitan economy.

It is important to make these connections, because Canadian housing policymakers and advocates have eschewed economic arguments for housing and set the social consequences of inadequate housing provision at the centre of policy debates; they have failed to make the case for housing effects on economic and environmental outcomes. This neglect has atrophied the field of housing economics within Canadian universities. Canada lags countries such as the United States, Australia, and the United Kingdom in researching relevant issues.

Globalization has changed metropolitan housing markets like that of Toronto. Deregulation of special housing finance circuits has brought housing and capital markets closer together in an era of lower inflation. Deregulation in trade has also created new opportunities for specialization and rising incomes, but also required new labour market flexibilities and supported rising inequalities in labour market incomes; in the housing sector this has meant that households with real income growth are expressing significant rising per capita demands for housing. At the same time, many in the Toronto labour force, usually the bottom half of earners, have experienced no or minimal gains in real incomes over the last decade.

Older and younger workers have gained the least in the income distribution. This finding has great significance for the future of the city. When differences in wealth are assessed—and the ownership of housing assets lies at the core of these differences—there has been a more marked increase in inequality in Canada, Ontario, and, in all likelihood, Toronto.

In many other countries, globalization has encouraged governments to assess tax, debt, and spending decisions more carefully and to root housing policies more firmly in economic decision-making. After making cutbacks in housing, several countries are reassessing the importance of housing policies in dealing with the dysfunctional inequalities and market failures that globalization has brought. Canada and Ontario, however, have not moved in this direction and Toronto seems, relative to most major OECD cities, to be starved of the resources, powers, and intergovernmental cooperation in housing policies that typify successful cities in the global economy.

With its growing population, particularly a growing population of low-income households, the housing stock in Toronto is under pressure, while many middle- and upper-income households are leaving the city for new, single detached homes. Another worrying trend is seen in the housing careers of recent immigrants. When compared with earlier waves of new Canadians, recent immigrants are living longer in rental homes, making less progress up the income distribution and seeing their children lag in school and job market performance. The Toronto

housing system must be effective in absorbing regional, national, and international moves to ensure the city's long-term competitiveness.

Much of the growth in low-income population in the city, until the early 1990s, was absorbed by social rental housing. Social renting now caters to less than half the expanding set of poor households and this share is falling rapidly.

In the city's private rental sector, rent increases have been modest relative to house prices, but have been increasing at rates faster than incomes in the lower end of the income distribution, raising the real burden of housing payments for Toronto's poorer households. Vacancy rates were above average between 2002 and 2004, but since then have fallen significantly. Arguments that a high rental vacancy rate means that no policy stimulus for rental investment is needed no longer have any basis in market realities.

Poor housing and neighbourhood outcomes have direct productivity effects and can raise costs of non-housing programs aimed at raising human capacities. Human capital levels related to child socialization and learning as well as teenage job and university readiness are significantly affected by housing and neighbourhood quality. Health effects, both physical and mental, which arise from poor housing and neighbourhoods also affect the economy through lowered levels of labour market participation, absenteeism, and reduced productivity.

New housing output in the metropolitan area has doubled since 1996. Within the City of Toronto, much of the new stock is in the form of condominium apartments and townhouses; in the GTA as a whole, less than half of new homes are now single-family dwellings. This substantial supply has supported city cost competitiveness for now. But the longer-term prospect is a greater concern, as the environmental and commuting cost consequences of sprawling patterns of development are likely to be high.

The Toronto housing market has not experienced the recent instabilities of many U.S. markets, although it may become more exposed in future business cycles. The major housing-to-economy effects that are likely to affect the GTA in the next two years will flow through reduced exports to the United States and the rise in the Canadian dollar as home defaults in the United States erode consumer confidence and wealth there through 2008. The fundamental Toronto housing problems are not about a frothy cycle gone sour, but about the fundamentally reshaped geographies and inequalities that have emerged for poorer renters in the metropolitan areas over the last decade.

Residential spread and poverty concentration have private, community, and wider social costs that have to be addressed to meet competitiveness, cohesion, and sustainability goals. But more work needs to be done to ascertain the scale of the spillover effects involved and their growth effects. The report concludes with recommendations for further study, and for measures to help make the connection between housing and the economy at the local, provincial, and federal levels.

Author

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1. Housing and the Economy: Disconnected Policies, Fragmented Ideas

Housing is tightly connected to the Canadian economy. Paying for housing comprises on average a fifth of household incomes and is usually the largest element of consumer spending. Housing wealth and mortgage debts are, respectively, the most commonly held assets and liabilities for Canadians. The construction of new houses and the repair and renovation of old homes typically generates 6 percent of employment in the member countries of the Organisation for Economic Co-operation and Development (OECD). Housing affordability in Canada's cities and communities, not just for the poor, is the subject of continuing research and debate. The collapse of the U.S. housing boom and the emerging trend of reduced household spending, falling prices, and rising defaults has emphasized the potential national and global consequences of millions of local choices.

Housing booms and busts, fears and realities, fill front pages as well as financial columns week in and week out, from Chicago to Sydney. Housing is central to the economics of households, neighbourhoods, cities, and nations. Yet housing policy is often detached from economic considerations. The only element of housing market performance that routinely appears in city performance ranking studies is the rate of house price appreciation. That indicator, although it reflects economic strength, also reveals housing system failure or sluggishness.

While economic policy makers have paid little attention, at least until recently, to housing systems, housing policy makers, bureaucrats, planners, housing providers, and advocates pay equally little attention to the economic arguments for housing. Instead, the social consequences of unequal and inadequate housing provision are at the centre of policy debates. These approaches emphasize "rights" and "needs."

This paper was written to set housing systems and outcomes in the context of wider connections to the economy and, through an economics lens, the environment. The aim is a better understanding of both economic and housing policies.

Making connections: Housing, incomes, stability, and productivity

Perhaps the best-known connection between housing and the economy is the fact that demand-stimulating fiscal and monetary policies affect housing investment and, through multiplier effects, construction employment, income, and aggregate demand in the economy. Immigration, income growth, and interest rate changes also affect the housing system and the wider economy.

More recently, it has become evident that house price instability over the business cycle, through house price and wealth effects, may reinforce economic booms or deepen economic busts. This effect was noticeable in the U.K. economy between 1988 and 1993, the Japanese economy from 1991 to 2005, and the U.S. economy from 2005 onwards. Similar, if less pronounced, effects have been observed in the Australian, New Zealand, U.K., and other European economies (notably Sweden, Spain, and the Netherlands), where home equity withdrawal has caused economic instability. Canada has been largely shielded from these problems, perhaps because the housing market has been relatively stable by international standards. The issues now need to be addressed. Hot property markets are not good for all places and all people at all times.

The effects of the housing sector on the economy (and vice versa) appear to run in cycles. The effects also differ from place to place. But while multipliers, job generation, and cyclical instabilities are important, they do not constitute all the economic effects of housing. Analysis has to go much further.

This study also explores an additional set of housing-economy connections that are largely lost in economic modelling of the sector. Housing outcomes, such as housing wealth patterns, poverty concentrations, or sprawling development, shape future growth prospects for places. These changes often take place through what are referred to as spillovers or externalities. For example, there is evidence that:

- inadequate space for families has a negative effect on children's learning behaviour and therefore on the future human capital of a city or community;
- dwelling size, quality, and location affect the health of the residents, that is, the health of part of the workforce;
- concentrating the unemployed in certain neighbourhoods distorts labour market information systems;
- suburban sprawl affects economies through congestion and environmental pollution effects;
- housing design influences both the reality and perception of crime and security, with implications for economic development.

These linkages are seldom considered in housing policy-making. Forecasts for city planning essentially ignore them. City competitiveness strategies fail to make even the most obvious connections between housing assets, mobility, health, and labour supply. Macroeconomic models simply assume such messy features away. But these impacts have effects that go

beyond questions of income and business cycles to fundamental issues of productivity and growth.

Changing Toronto: Origins and aims of the study

The TD Bank recently published *Update on The Greater Toronto Area (GTA) Economy (2007)*, which draws attention to the pros and cons of change in the GTA over the last five years and the progress and omissions in the policy sphere. The report comments critically on housing and poor neighbourhood outcomes. For example, TD Bank rightly points out that many Toronto residents have gained very little over the last decade, especially when growing housing costs are netted from flat incomes. A more effective housing system could help address such growth issues for the future.

Toronto Community Housing Corporation and the Toronto Community Foundation have sponsored the present report to provide an even more detailed assessment of housing and neighbourhood effects in the development of the city economy. This report is intended to:

- provide a framework of economic ideas that can be used to assess the effects of housing systems on city competitiveness and city futures;¹
- use that framework to review the role of housing in the Toronto economy and identify key housing outcomes;
- identify potential modifications in housing policy and practice to enhance the competitive performance of the city, as well as social cohesion and environmental sustainability.

This study draws upon existing research and data to develop an overview of how the housing sector affects the development of the metropolitan economy. There is plenty of data on Toronto's housing system as well as on income effects and house cycle and stability patterns. However, the research on the spillover effects from housing on productivity more generally is sparse, mixed, and dispersed over different fields of expertise (health, crime, education, etc). Appendix A includes a review of the available information on housing and neighbourhood spillover effects for four areas of concern:

- housing, child development, and education;
- housing and health;
- housing, crime, and security;
- housing and environmental consequences.

The exploratory findings in this study are intended be used as the basis for further discussion with relevant Toronto experts to assess their adequacy and determine how to fill knowledge gaps.

1 An earlier macroeconomic/regional version of this approach is set out in Maclennan (1994). Similar metropolitan studies in the European context are set out in Anderson et al. (2007).

The structure of the report

Chapter 2 explains why housing outcomes and the performance of city housing systems has usually been missing in explanations of competitive city change and provincial scans of success factors in economic development.

Chapter 3 outlines the broad economic contexts in which city housing systems operate, focusing particularly on globalization, environmental sustainability, and population aging.

Chapter 4 identifies the key drivers of change in the Toronto metropolitan housing system and the effects of the economy on housing outcomes.

Chapter 5 offers conclusions on housing patterns and policies in Toronto and a series of policy recommendations.

Appendix A summarizes case studies of housing and neighbourhood feedback effects on the environment, children and schooling, health costs, and security to support a policy case for wider thinking and wider action on Toronto housing.

2. Housing as an Economic System

Housing as an economic good

Housing is what economists call a *multi-attribute* commodity. People's homes have internal attributes such as size, design, layout, finishing materials, heating, and insulation systems that provide not just shelter and working and living space, but also comfort and opportunities for self-expression. External attributes include the lot on which the housing sits, the streetscape, and the neighbourhood context of social and recreational opportunities, public and private services, and familiar physical environments, as well as access to sites within the larger community that the members of the household use for work, shopping, schooling, socializing, and play.

There are three immediate and major consequences of the variety in attributes.

1. Dwellings and neighbourhoods are joint purchases—you cannot have one without the other—and house prices reflect neighbourhood attributes as well as the attributes of the individual house.
2. Dwellings differ in the mix and quality of the attributes that they possess and this difference is reflected in house prices at any point in time. But quality can change over time, so house price figures need to be adjusted for quality variation.²
3. Housing represents durable capital to meet a wide range of household requirements; it therefore forms a large component in household economic decisions.

Canadian households, on average, spend a fifth of their incomes on housing. Proportions differ between renters and owners and between old and young, but Toronto residents spend between a fifth and a half of their household income on housing. Given rising house prices, housing, net of mortgage debts, now comprises the major asset of Canadian households, about 43 percent of total assets on average. So housing shapes not only what people have left to spend or save

2 Canadian cities lack the extensive databases of local, quality-adjusted information available in other countries such as Australia and the United Kingdom.

after providing a home, but also increasingly shapes what households will have to use for retirement, to help children with education or other needs, or to leave as an inheritance.

The fixed physical nature of housing has four further policy-relevant implications.

4. When the demand for housing increases, it takes time to provide new supply. In the short term, lags in supply are reflected in prices and vacancy rates.
5. Housing is a major driver of the construction industry.
6. The ways in which housing is planned, built, and maintained shapes neighbourhoods and whole communities as well as individual homes.
7. Although housing is seen as a private choice, each person's house creates positive and negative spillovers for others. For example, the failure to maintain a home by one owner can affect others. Similarly, poor insulation or housing built at low residential densities may have negative environmental externalities.

Given these well-known features of housing, why has the economics of housing been missing in much Canadian housing policy debate and approaches to city competitiveness?

Missing arguments

The housing sector, both nationally and in metropolitan areas, is managed, organized, and lobbied for by those with an interest in social policy. Issues of poverty and social justice (that is, moral arguments) dominate proposals to put resources towards affordable homes. That approach understates the economic effects of good and bad housing outcomes and their policy relevance. Federal homelessness policies, and elements of housing policy, sit within the realm of social policy. That approach is necessary but not sufficient as a basis for housing policies across all orders of government.

At the same time, the planning is largely separate from economic issues and analysis. Planning forecasts for housing in Toronto make no use of basic concepts of housing market adjustment, such as the elasticity of housing supply, or price and income demand elasticities. Housing sector analyses and related policy analyses tend to be linear or extrapolative. More often than not, studies of the future of housing in the metropolitan area, including official planning forecasts, use simple demographic extrapolations as the basis of planning and public investment decisions.

Understanding and using economic ideas are not beyond the abilities of planners. CMHC, for instance, has developed useful data and modelling capacity, but has not allied the two sets of skills in the context of metropolitan housing markets. Nor has it sponsored much basic research (nor indeed has the Social Sciences and Humanities Research Council) to explore the wider economic impacts of housing systems.

For its part, the economics profession has done little to push forward theoretical models and empirical studies to inform housing policy decision making. At Statistics Canada's annual socio-

economic conference in 2007, amid almost a hundred papers, only one presentation dealt with housing issues (a useful review by Oreopoulos of neighbourhood effects). Literature on city and regional competitiveness, and related performance indicator studies (including the otherwise excellent work of the Ontario Institute for Competitiveness and Prosperity) are systematically weak on housing sector effects.

In the United Kingdom, by way of contrast, the Treasury has a strong analytical capacity in housing economics and a track record of understanding how the sector matters in the economy, at the national, metropolitan, and local levels (see Her Majesty's Treasury, 2006). The analytical framework has evolved significantly over the last two decades. Nothing similar exists for Toronto.

Many models of economic change view the housing sector as a smooth transmission system, in which income and household numbers (on the demand side) trigger predictable responses. This is simply assumed rather than empirically known in Canadian economic thinking. There are no modern estimates of the most basic response limits or supply elasticities. There are no performance indicators of housing system flexibility or response or supply capacity in economic development thinking. Rising house prices are usually seen as a good thing, as they reflect the buoyancy of consumer incomes and demand. But they may also symbolize supply constraints and local system failures in information, construction markets, policy, planning, and infrastructure provision.

It takes the self-evident problem of homelessness and low-income housing shortages prevailing in boom situations, as recently experienced in Calgary, to alert some economists to the fact that there are economic as well as social negatives of rising house prices. The ambiguity about rising house prices and what to do about them reflects a lack of clarity in economic thinking about the role of housing in city development.

Multipliers

The standard macroeconomic approach to housing was, especially in years of cyclical downturns, to argue that housing construction and renovation is a large sector of the economy with significant short-term effects on aggregate income and employment. Although the costs of housing shortages and obsolescence has received some passing attention, mostly in relation to their effects on labour mobility, it was the short-term macro arguments that prevailed.

Although it is useful to assess how changing housing spending will affect income, employment, and tax revenues, it is also important to recognize that not only are there similar effects in other areas of spending, but that raising taxes to pay for such spending will reduce funding to meet other demands, either now or in the future. Unfortunately, the main economic argument made by the housing lobby in policy circles is often dismissed by economic policymakers as just another case of special pleading.

Cycles, booms, and busts

By the end of the 1980s the growing cyclical instability of some regional and national housing markets had moved the focus of analysis from the short term to the length of the business cycle. The concern in European countries, Australia, and New Zealand—most of which have had house price inflation rates well above the Canadian average over the last decade—has been to ensure a “soft landing” after the boom.

In the United States, the soft landing has turned hard. The effects of housing market contraction and mortgage defaults on interest rates, consumer demand, and investor confidence has damaged the U.S. dollar. The downturn in the United States is causing job losses in the Toronto metropolitan area, compounding the 100,000 manufacturing jobs lost in the last five years. Meanwhile, the spread of ownership of mortgage-backed securities based on sub-prime lending in the United States throughout the global capital market has generated losses in France, the United Kingdom, China, and Australia and led to liquidity problems and raised risk premiums across the global financial system. Housing matters, locally and globally.

Empirical evidence from the United States over the last five years and the United Kingdom a decade or more ago has shown that changes in the housing market can reinforce both booms and busts, and add to cyclical instabilities in the economy. Instability, in turn, is regarded as bad for growth and productivity in the longer term. Researchers have identified at least three channels or transmission mechanisms in the housing sector that add to cyclical instability.

First, in the upswing, employment and local incomes rise, leading to increased immigration into an area at rates faster than those at which the construction sector can respond, so prices and rents also rise. This effect can be particularly pronounced at the top end of the market, where profits are related to senior executive payments, especially in the financial sector; high-end houses often boom long and early in an upswing. Conversely, in the downswing, prices fall and demand decreases; lagged supply from the boom period enters a falling market and depresses home values and rents even further. (Housing supply is relatively inelastic and developers' expectations are seldom perfect, so housing effects are usually less stable than the market as a whole.)

Second, the cycle affects more than just housing starts and new home prices. In general, as markets show signs of upward price pressure, the buying and selling of existing homes also increases, stimulating demand for related goods, such as furniture, carpets, and appliances. This activity usually has an upward effects on prices. The opposite occurs when the sector begins to contract.

Third, in owner-occupied housing markets, rising prices can induce expectations of further rising prices, so that new home buyers accelerate their entry into the housing market. Similarly, falling prices reduce search and trading activity.

There are other ways in which rising house prices affect consumption and employment. When house prices rise, households feel wealthier (although this may be, for most people, an illusion). There is a sustained debate at present whether this leads to an increase in household spending. Some economists argue that rational homeowners have already built an assumption about future price rises into their lifetime consumption and savings decisions, so that current price

risers induce little additional spending. Others point to a new propensity, facilitated by financial deregulation, to use housing equity (by taking second or third mortgages to increase consumption on non-housing goods. For instance, in the United Kingdom in 1990, it was estimated that housing equity withdrawal added some 6 percent (or two years' worth of growth effects) to consumption at the peak of the boom.

When market prices begin to rise, many homeowners tend to perceive the time as propitious for a move. If they sell and buy locally, raising the turnover rate, overall housing shortages are unaffected, but there is some rematching of household preferences and choices.³

Beyond a certain point, rising house prices may discourage first-time buyers while benefiting existing owners who feel wealthier. At the same time, increased levels of trading affect the local economy, by increasing demands for surveying, real estate, financial, removal, and repair services. Homeowners also draw on housing equity to refurbish homes with new carpets and appliances. Retail sales trends in Canada appear to have some correlation with house price rises and market turnover, moderating some of the local effects of industrial decline. In that sense, a housing boom helps the local economy, along with wider construction effects.

There is general agreement that changes in housing wealth contribute to stability at the macro level in the upswing. In the downswing, rising interest rates combined with high debt-to-asset-value ratios create the potential for mortgage defaults. The international evidence is that households can cope with high housing payments in the short to medium term, giving up anything except the house, but unemployment among homeowners leads to severe house price depression and further negative effects on housing values and consumption.

One of the reasons to be concerned about cyclical instability in housing is that unduly large or unsynchronized cycles may hamper a community's growth prospects. It should also be a concern that the significant cost increases for existing bricks and mortar, which reduce the post-housing-cost incomes of households, are regarded with apparent equanimity in economic policy. Furthermore, the long-term effects of so much of the wealth of individuals resting in housing rather than enhanced human capital are not well understood, but one might speculate that the fact that individuals make gains without any productive effort does little for the innovative and entrepreneurial character of an economy over time.

The precise mechanics of boom-and-bust scenarios varies from country to country and even city to city. But there is little doubt that they exist, are important, and are connected to shortages of affordable rented housing. A better understanding of how Toronto markets are changing and what these changes mean for the long term is required. There is a case for identifying how total sales volumes and values shift over the cycle in any metropolitan area (and whether Toronto is more or less unstable than competitor cities in North America) and how this translates into local demand, employment, profitability in real estate services, and effects on the local tax base.

One related policy question concerns the extent to which lower-income households are, through rental supply shortages, forced to make ownership choices. Lack of attention to lower- and

3 In the Toronto Real Estate Board Area, at the bottom of the market there were about 35,000 sales of single detached houses in 1995, but as prices rose, the number climbed to about 80,000 a year in the early 21st century. Condo sales also rose through that period.

middle-income rental housing shortages can fuel market instabilities and contribute to price rises and that may destabilize the cyclical path of economic activity as well as have negative effects on longer-term growth, for instance, by discouraging immigration by moderate- and low-income households. Do such effects matter in Toronto?

The U.K. government and, more recently, other European economies have made explicit assessments of how housing market instability and the sluggishness of housing market supply impair national and local economic stability. Land use planning systems and the nature of mortgage markets (they differ across countries) have a role to play, but the U.K. Treasury's analysis also highlighted the inflationary consequences of shortages of low-income housing.

Multiplier effects from housing investment may have important short-term effects on city employment and incomes, and housing outcomes can affect the stability of a metropolitan economy. Indeed the recent TD *Update Report* (2007) draws attention to both phenomena, noting that high levels of housing market activity have compensated for post-2002 contractions in employment in manufacturing (attributed to the strong Canadian dollar), and that the end of the housing boom may have significant effects for the retail and related sectors of the GTA economy. These issues are explored further in Chapter 4.

There are also wider, often more subtle effects of housing on productivity and growth in the longer term that are missing from in the analyses of housing lobbyists and economic modellers alike. For example, there is evidence that housing and neighbourhoods, shaped by the housing system, affect individuals' economic performance and opportunities. Further research is needed on these connections.

Growth and productivity

Productivity growth lies at the heart of a city and nation's competitiveness (OECD, 2006). National and macroeconomic studies of productivity attempt to assess productivity developments and gaps, such as the emerging gap in output per person, hour, or worker between Canada and the United States since the mid-1980s. The analyses are largely based on conceptual models that explain productivity in terms of inputs of capital and labour; any unexplained residual effects are attributed to technical progress. Little attention is paid to the role of *land* in the economy and issues of land, place, connectivity, property, housing, and infrastructure.

International econometric studies show a clear increase in productivity or growth from infrastructure investment, yet the effect of housing investment on long-term growth has received little study. Surely the supply of accessible, well-connected spaces to live, work, and shop affects the capacity and efficiency of production processes in any economy. Yet there are few modern systematic studies of how the spatially fixed investment sectors of transport, infrastructure, or commercial or residential property shape rates of local economic growth.

There is some interest in the consequences of "booms" in house prices or in the importance of housing quality and variety for attracting the "creative class." These analyses may be important in particular times and places, but they have precluded the development of any systematic

method for assessing how housing outcomes affect the performance of the economy. The economic development policy community (including the OECD) ignores “land.”

It could be argued that the heterogeneity of housing assets and the difficulty of measuring accessibility militate against estimating the effects of these factors in economic progress. But ascribing progress merely to human and investment capital ignores the role of place-based investments and the housing and land sectors.

Across Canada, at least in the larger cities, the emerging perspective in business is that infrastructure underinvestment, inadequate transit systems, and shortages of affordable housing are constraining competitive growth in Canadian cities. The Toronto Board of Trade made these points forcibly in its 2006 review and these sentiments are echoed in the 2007 TD *Update for the Greater Toronto Area*. Yet with a few notable exceptions, studies of regional and city competitiveness, economic success, or performance studies (see, for example, the series of reports by the Ontario Institute for Competitiveness and Prosperity) focus on human capital, business capital, and innovation.

The recent TD *Update* is a rare document, not just in Canada, but in the other OECD countries. It combines an understanding of how global and macroeconomic changes (such as the effects of the rise of the dollar on manufacturing employment) affect places, and how the nature of housing, infrastructure, and labour markets within the city provide more or less competitive responses to these external challenges. It is a useful model for others to follow or build on.

The long-term economic issue is how inherently local systems, such as housing, can support responses to global economic challenges. These local systems in any metropolitan area have significant effects on long-term competitiveness.

Housing and productivity

How does housing affect productivity and growth? The effects can be seen at the level of firms and households, and aggregated to the level of the neighbourhood, the city-region, and the nation. The housing system operates at all of these scales.

Housing plays different roles in influencing the locational decisions of households and firms. Natural resource and manufacturing industries with significant, heavy primary inputs face strict limits on their locational choices. For other industries, proximity to markets, either in terms of population or export locations, can be critical. However, just as economists began to talk of the “death of distance” and the new location choices that firms would face once they were uncoupled from old physical proximities, a clear counter trend emerged.

Many high-value manufacturing, research, creative, financial, and business services appear to benefit from clustering economies (Brown et al., 2007). There is growing empirical evidence that these clustering effects have implications for growth and change. At the same time, increases in household incomes have increased the demand for a range of high-level services associated with large cities and their cores, from short holiday break destinations, to restaurants and concert venues, to opportunities for higher or continuing education. These expanding consumption sectors have created a post-industrial economic base for large cities.

The range and quality of these services, as well as the variety, quality, and cost of housing and neighbourhood amenities, can influence location decisions, not least for corporate headquarters. Corporate location decisions increasingly reflect the understanding that attracting and keeping talent involves not just opportunities to work, but also to enjoy life in a particular place (see Florida, 2005). The city, the province, and the nation have to offer not just attractive tax rates, but a complex mosaic of different kinds of housing and neighbourhoods to suit the incomes and lifestyle choices of a diverse population.

Although literature on the causes of the relatively slow productivity growth of Canada relative to the United States since the mid 1980s is growing, the economic and statistical models underlying these estimates ignore the effects of space and place. Whereas a century ago, economists saw progress in terms of land as well as labour and capital, modern economics has lost sight of the role “land” plays in the economy. Yet the quality, accessibility, and cost of the spaces we use to produce and consume clearly affect our productivity.

Even though it is not easy to measure land and housing in productivity tests, this should not be an excuse to dismiss the relevance of the housing sector in growth processes. There is a big difference between saying land and place is difficult to model and that it is unimportant. And until there is better data to incorporate land and housing economic effects, the appropriate response is to acknowledge that such effects matter and to seek to understand them, however partially, through other approaches.

Housing and social outcomes as a factor in productivity

In recent decades macroeconomists looking at growth and development have developed a class of models known as endogenous growth models. These models recognize spillover effects between different economic sectors that interact over time. For instance, education investment today affects productivity and employment in the future and higher productivity and incomes, over time, raise the propensity to spend on education. In short, endogenous growth models include complex connections, feedback effects from investment, and spillover effects between sectors. At local levels where economic systems are more open, the economy is more “chaotic” or complex than traditional models of economic growth might suggest.

System change has affected housing affordability for different income groups and changed their housing, tenure, and location choices. The outcomes then have spillover effects on growth performance through three main channels:

- the physical size and quality of the homes that individuals live in influence their physical and mental health, space for learning, and other contributors to well-being;
- the neighbourhood context that the household chooses jointly with housing may also influence health, learning, safety, and economic linkages;
- the location of the household affects access to sites for household activity, while the systematic sorting of similar income, age and ethnic groups in urban areas shapes wider metropolitan structures with spillover effects, most obviously the environmental effects of home-to-work travel.

Appendix A contains a detailed literature review on the connections between housing and educational outcomes for children and youth, housing and health, housing and crime, and housing and quality of life. The first two sections indicate the weight of evidence for the effects of housing on individual members of the work force, including the future work force. The second two explore the connections between housing and the community good known as “quality of life” which represents a blend of attributes that include safety, environmental health, transportation options, and urban design that fosters social interaction and healthy lifestyles.

Housing, energy use, the environment, and the economy

There is a growing body of research on the connections between housing and the environment. This includes studies on both housing construction, and the planning of residential developments more generally. Materials used in the construction of housing both increase the amount of particulate matter and volatile organic compounds released into the air and contribute to landfill. At the same time, the location of housing and its density affects transportation patterns, and can contribute to urban sprawl. Residents have a significant impact on energy and greenhouse gas emissions through their personal transportation patterns and their lifestyle choices, which determine how much energy and water they consume, their purchasing choices (e.g., what types of appliances they purchase), and how they dispose of their household waste (e.g., recycling and composting).

Canadians rely heavily on fossil fuels to heat their homes and for their transportation needs. When these fuels are burned, greenhouse gases are released into the atmosphere. Generally, the more energy used, the greater the amount of greenhouse gases produced. According to 2004 figures, the residential energy sector accounted for 15.2 percent of Canada’s greenhouse gas emissions. Residential energy use refers to space heating and cooling, water heating, and operating appliances, electronic equipment, and lights.

Four main factors influence residential energy use: activity, weather, structure, and energy efficiency. Between 1990 and 2004, activity (that is, the number of households and the size of the dwelling) contributed the most to the increase in residential energy use; this was slightly offset by significant improvements in energy efficiency. Housing activity increased energy use by 25.7 percent between 1990 and 2004. Weather and structure showed minimal increases in energy use (2.0 percent and 3.6 percent), and energy efficiency showed a drop in energy use by 21 percent (Office of Energy Efficiency, 2006a).

The construction industry is adopting more energy-efficient practices, a trend that is reflected in the statistics showing that air leakage in houses is declining (Office of Energy Efficiency, 2006b). It is more economical to make improvements during home construction as opposed to home renovations; however, given the number of existing homes in the region, retrofitting will be needed.

The design and construction of the residence is much less of a determinant of total consumption use than lifestyle choices (Emrath and Fei Lui, 2007). Therefore, influencing people’s behaviour to reduce energy usage is a fundamental part of reducing residential energy usage and greenhouse gas emissions from personal transportation.

In Canada, more than 81 percent of residential energy consumed is used for space and water heating (Office of Energy Efficiency, 2006a). Operating appliances accounts for another 13 percent. Although the number of appliances in Canadian homes (computers, DVD players, etc.) increased by 33 percent between 1990 and 2003, the energy used by these appliances decreased by 13 percent in the same period (Office of Energy Efficiency, 2006b). The remaining energy usage in the residential sector is for lighting and space cooling.

An important tool for evaluating the impact of housing on environment is a life-cycle assessment, which takes a systems approach to evaluating the environmental impact of a project or product by quantifying the impacts across its life cycle. Many studies on urban form and residential density are qualitative, but there is a need for more life-cycle assessment applications to evaluate housing density.

In terms of the transportation impacts of housing, one study has found that per-capita transportation-related greenhouse gas emissions and energy use from low-density development is 3.7 times higher than for residents of high-density development, due to the greater distances that need to be travelled in the low-density area and to the different type of public transit relied on in low-density developments (diesel bus) compared to that available for high-density developments (streetcars and subways). Public transit accounted for between 2 and 5 percent of transportation emissions and energy use in both the low- and high-density developments, illustrating the large potential for reducing energy and emissions in this sector (Norman et al., 2006). Urban form and density considerations should be given more emphasis within the policy debate on reducing greenhouse gas emissions and energy use.

A common theme in studies on sprawl is that high-density housing, in and of itself, is not enough to reduce dependence on the automobile. Modifying travel behaviour requires other factors: proximity to transit services, nearby amenities, and attitudes and socioeconomic factors conducive to public transit use and walking. Moreover, the effect of density comes from mostly attitudinal and lifestyle variables. In other words, residents of high-density environments choose to reside in these areas because of their desire for a more pedestrian- and transit-oriented lifestyle (Filion et al., 2006).

Nevertheless, the connections between housing and energy use are significant. If energy costs rise as they are predicted to do, this connection will assume even greater importance in future. Further detail on these connections can be found in Appendix A.

The next section outlines the global context that shapes the relationship between housing and the economy.

3. Globalization: Changing Times, Changing Questions

The deregulation of regional and world trade regimes (such as the North American Free Trade Agreement and the rulings of the World Trade Organization) offers more opportunities for nations to trade and compete. Globalization has brought a mix of opportunities and difficulties for firms and households; the results differ from place to place within the metropolitan area. Where they matter, whom they affect, and how they influence the productivity and growth of the city economy are mediated by housing choices and systems. Housing policy has to address the capacity of places to create and shape Canada's advantage, and do so in a less wasteful fashion for the nation's natural capital.

Recognizing what globalization means for housing and neighbourhoods should be at the core of housing policies. Arguably, municipal, provincial, and federal housing policy has ignored globalization, the dominant change process of the times. Our city housing systems are not well planned or configured to build on the advantages and minimize the downsides that globalization inevitably brings. The danger for Toronto and other Canadian cities is that in curtailing policies that ameliorate some of the downsides of globalization, governments may foster the acceleration of dysfunctional outcomes that will compromise future growth and productivity.

This section outlines the effects of global change on housing systems, assesses the impacts on housing policies (because globalization has shifted the political economy of housing policy as well as the economics of housing), and presents a framework for linking competitiveness to the housing sector.

Globalization, big system change, and housing system effects

A decade ago, Maclennan and Pryce (1996), in the wake of the 1980s boom and 1990s bust in the housing markets of several OECD countries, identified some of the likely consequences of globalization for housing markets. That analysis reflected on the longer-term effects of capital market deregulation (and the integration of specialized housing finance circuits into wider markets), labour market change, and flexibility in the means and ends of housing policies.

In retrospect, that analysis underestimated three significant areas of change:

- the capacity for housing markets to sustain another long boom in prices (a trend that has characterized many economies over the last decade);
- the extent to which local and national governments in some countries would become concerned about the greenhouse gas emissions associated with growth-induced development at low densities;
- the ways in which many governments, national and municipal, would restore active housing policies, especially for neighbourhood renewal, to alleviate the downside effects of globalization.

The implications of all three omissions are relevant to Toronto. But first, we need to consider the likely housing system consequences of change.

Financial sector effects

Before the 1990s, the housing finance or mortgage markets of most advanced economies had regulatory or fiscal features designed to enhance their attractiveness to savers and their stability for borrowers. These regulations created special home borrowing circuits. Financial deregulation has led to major changes in mortgage markets in most OECD economies, including Canada. Indeed Canada (along with the United States, the United Kingdom, Australia, and the Netherlands) is regarded by international monetary authorities such as the International Monetary Fund and the International Bank for Settlements as an extensively deregulated system largely driven by market influences. That is, the links between the financial markets and mortgage rates are close, and borrowing amounts and debt ratios reflect risk perceptions rather than ad hoc rules.

Financial liberalization appears to have changed the ways in which metropolitan and national housing markets work (Maclennan, 2007). The spectacle of sub-prime market defaults in the United States reflects what happens when markets make bad choices. Although none of the other liberalized systems have encountered similar experiences, they, like the United States, have been subject to two major trends:

- All have had highly inflationary housing markets over the last decade and although market-based credit availability may not have caused these price rises, it has certainly facilitated them, with innovations designed to stretch the margin of homeownership to lower-income groups, with growth in variable- or adjustable-rate mortgages. Larger loans, lower deposits, and variable-rate mortgages leave the housing market and the economy more exposed to downside risks when interest rates rise and employment reductions signal the end of a business cycle.
- More households are able and willing to extract housing wealth accumulated through past price gains, not just by moving house, but by staying put and borrowing more as asset values rise, through housing equity withdrawal (HEW). HEW makes housing assets liquid and can affect overall consumption and spending in the economy in ways that reinforce boom cycles—that is, house prices rise even more and households withdraw and spend even more. HEW is difficult to identify in the national statistics, but there are signs that it has become a major issue since 2002 (see Klyuev and Mills, 2006).

Canada, despite the national sense that prices are booming, has had a relatively complex pattern of real house price increases over the last decade. The low real rate of inflation of the last decade has resulted, until 2007, in record low postwar interest rates and this trend has strongly affected metropolitan housing markets. Alberta housing markets have been booming while the Atlantic provinces have seen less marked increases. There have been years of faster and slower appreciation, but there have been no major periods of property losses and defaults. The Toronto CMA pattern is described in Chapter 4.

Trade, wages, and migration

Globalization makes countries such as Canada and diverse-economy cities such as Toronto, in aggregate, more affluent. Individuals and households experiencing growth in their real incomes express their lifestyles in ways that involve different housing choices. Planning for housing markets has become more difficult, as higher incomes and more diverse preferences unfold.

The TD analysis indicates, however, that it is important not to overstate the extent of gains over the last five or more years. The outcomes of globalization are extremely uneven. Although the wages of Canadian workers are not set in Beijing (because Canada has different resource endowments and comparative advantages), and taxes on mobile capital have not been driven to the lowest level, price competition in export markets and the flows of new technologies with foreign direct investment into emerging economies are causing new pressures.

The upshot of these changes, even in cities and nations that have received little immigration, has not been so much a jobless economy, but a joyless economy for many. Those in the bottom quarter of the income distribution across Canada have recorded no real gain in income over the last decade. Older and younger workers have suffered most in the relative wage distribution. When differences in wealth are assessed—and the ownership of housing assets lies at the core of these differences—the increase in inequality in Canada and Ontario has been more marked. For the poorest fifth of non-senior households, life has become more like standing at the bottom of an escalator marked homeownership, unable to get on, and watching others rise steadily upwards.

At the same time, households at all income levels face longer commutes to work, higher housing costs, and falling levels of public services. These changes affect housing choices and outcomes, and are reflected in labour market changes. Workers and potential workers realize that human capital may boost their future income, so the number of people in postsecondary education rises steadily, along with the educational debt load that the members of each new generation bring to their first real job. That debt constrains their housing choices in the early years of their career. Once they are established, two-earner households may be essential to support ownership of the family home. Parents and grandparents may want to help, but may hold back as they face lengthening lives and uncertain future health care costs.

Unless workers can secure assets, work has provided little real income progress in recent decades. The traditional trajectory from school to work to household formation to homeownership now occurs less and less often for younger Canadians. How does this affect housing decisions and the housing market? How does the housing market now work for young Torontonians?

Globalization is associated with rising flows of international migration, as mobile workers offering a spectrum of skills move to where the work is. But the character of globalization is changing over time, as global labour flows exceed what was anticipated. The movement of people, and not just the goods they produce, changes housing requirements in destination locations, and may alter wage distributions, too.

We know that immigration into the United States, much of it illegal, has depressed wage rates in the bottom quarter of the wage distribution range. In Canada, Borjas (2007) claims that traditional skills-related immigration prevented the income distribution diverging and has not harmed the poorest Canadians. But as migration patterns shift and immigrants become stuck in lower-income jobs and neighbourhoods, that pattern will change. Has this system changed in Toronto?

These economic changes interact with social and demographic shifts (such as household formation and fertility rates) as the peaks and echoes of the baby boom generation pass through labour and housing markets. In many cities, this means larger proportions of elderly people. However, this trend is muted for Toronto, as immigration constantly rejuvenates the city (by 2021, only 16 percent of the city's population will be retired).

To date, Canada and Toronto have for the most part successfully addressed the cultural, social, and political challenges involved in being a major focus for immigration. The capacity of the city to maintain these integrative systems represents vital social capital. That capital has been shaped, in part, by housing system opportunities and outcomes, and is a key dimension of the city's competitive advantage. Has that changed in a transformative fashion too?

Reducing government, modernizing housing policies

Through the 1980s and into the 1990s, as many OECD governments reduced their national debts and restrained expenditures, globalization came to be associated with budgetary cutbacks, privatization, and program reductions. But recently, international econometric evidence has shown that growth and productivity in globally oriented economies is lower in nations that aim for minimal public debt or greatly curtailed public spending (see Sachs, 2005). The key for governments is to spend effectively. Public programs and investments can help reduce the negative effects of market outcomes, even in predominantly market-oriented societies and economies.

The 1990s saw major changes in housing policies in OECD countries (see MacLennan, 2005). The aim was to make housing systems more flexible in the face of change. Housing subsidy systems were reoriented to income-targeted arrangements and the pricing of rented housing was allowed to move to more consistent market levels. Social housing commanded less support in most, though not all, systems. Social housing stock was sold off or transferred to private management.

In Canada, public policy over the last decade has been largely negative for the housing sector as social housing has been downloaded onto the municipal tax base. Globalization has, until now, evoked only a crude contractionist response; a more constructive suite of policies for

competitiveness and sustainability has yet to emerge. Financial deregulation allied to low real mortgage rates had helped drive homeownership and market expansion.

At the same time, there was greater emphasis on homeowner choices. Homeowner subsidies and tax breaks were reduced in some contexts and augmented in others (with the United States standing out not as the least but as the most subsidized housing market!). In Europe there was also a considerable devolution of power in housing to more local levels; calls for a more federal role for housing in the European Union were resisted. In most countries, rental housing supply tightened and slowed down.

That broad story, albeit with different local details, is consistent with what happened in Canada, Ontario, and Toronto in the 1990s. Where Canada now differs from the United Kingdom, Australia, New Zealand, and most of the major European countries is in its reduced commitment to housing since 2000. Other leading countries have come to realize that globalization means inequalities of wealth and income. Poverty has become concentrated in cities and rental housing has been squeezed out, creating negative effects on city neighbourhoods and economies, in areas of growth as well as decline. This realization has brought many governments back to helping cities expand housing provision to meet economic and environmental goals as well as social outcomes.

Canadian governments have not yet grasped this important idea. The sloughing-off of responsibilities among different orders of government, in a fashion unparalleled in other OECD countries, may have adverse outcomes, not just for Toronto housing, but for Canada's competitiveness as a whole. This is why the economic case being made here matters and why it is inextricably linked to both social justice and environmental outcomes.

Framing questions

In identifying drivers and feedback effects between the economy and the housing system, we need to determine:

- What time period is being considered: immediate, short-term, cyclical, or long term?
- What scale should this issue be assessed at: individual, neighbourhood, municipal, metropolitan regions, or wider?
- Who is affected: households, firms, financial sector, or governments?
- For households, is the concern with existing residents of the core city or metropolitan residents, intra-regional migrants, immigrants, permanent residents, or temporary movers?
- For the business sector, are the impacts on existing businesses, new local businesses, new inward investment, or gross exits and entrants?

It is important to resist the temptation to make any particular labour market group (such as key workers or the creative classes) the centre of attention, but to understand how the housing market and the labour market operate throughout the system as a whole if effective long-term policy and strategy are to develop. The next chapter demonstrates some of the driver and feedback relationships in the Toronto economy.

4. Toronto: Housing Drivers

For much of the 1960s and 1970s city governments were concerned with the decline and decay of city cores and older neighbourhoods. The population of the old core city area of Toronto did indeed decline between 1951 and 1981. Since then, however, the dominant metropolitan process in Canada and Toronto has been growth (see Suttor, 2007, for a detailed description of overall and localized changes in the Toronto metropolitan area). In a fashion consistent with patterns of city change in Europe, the United States, and Australia, Canadian CMAs have grown, the populations of their core cities have increased, and within these core cities, the population and number of households in downtown areas have risen.

In most instances, suburban areas have grown faster than core cities. There has been a relative decline in the population and economic weight of the core city, despite the positive absolute trend in household and job numbers. Toronto, typically for a large Canadian city, is now managing urban growth in the context of even faster metropolitan growth. At the same time, a subset of neighbourhoods within the city and in other parts of the metropolitan area is experiencing both absolute and relative declines in quality and prosperity.

Economic growth is invariably uneven in at least two ways that affect housing and the economy:

- The pattern of employment growth favours some localities within a metropolitan region over others.
- Economic growth favours some skill, age, and income groups more than others, so the ability to compete for and secure homes is also unevenly distributed.

As a result, the attractiveness of locations and their affordability for different groups shift over time.

The drivers of change today—employment, incomes, and population—are mediated by the available choices of home and neighbourhoods. Growth in a city almost invariably means a reshaping of the structure of neighbourhoods in the city and the connections between work and home. City growth is usually a transformative process, not just a linear or even cumulative expansion of what existed before. Planning for residential development and jobs may begin with a linear, extrapolative forecast of change, but it cannot end there. Today's outcomes and spillovers shape next year's rates and places of growth.

Economic growth affects housing prices, construction turnover, and vacancies. But as the housing system, through matching supply and demand, sorts people spatially and socially, the structure of the city, or persistent supply-demand imbalances, have economic spillover effects that influence growth. Housing outcomes feed back to influence growth.

The emerging patterns, although they respond to the immediate demands of the vast majority of the population of the CMA, have spillover outcomes for the environment, the economy, and society. These difficulties are beyond the reach of the city, geographically, administratively, and financially, but they have real significance at the Canadian level. Although there is much debate about the booming home and job markets in Canada's Western cities, given the size of the Toronto CMA, the rates of growth experienced, and the spatial changes that have occurred, the growth of Toronto's suburbs has been the most significant Canadian urban experience over the last 20 years. Between 2001 and 2006 the suburbs of Toronto within the CMA grew in population by 10 percent, or by 408,000. This growth exceeded the total expansion in population in the suburban rings of the next six largest cities in Canada summed together (Montreal, Vancouver, Calgary, Ottawa, Winnipeg, and Edmonton). What is happening in Toronto's suburbs is closely connected to what is happening in the city, and a new Canada is emerging in and around Toronto.

The key drivers of housing system change are:

- demographics (population, households, age structure, etc.);
- income and employment;
- policy change (al though this is weak now in Toronto).

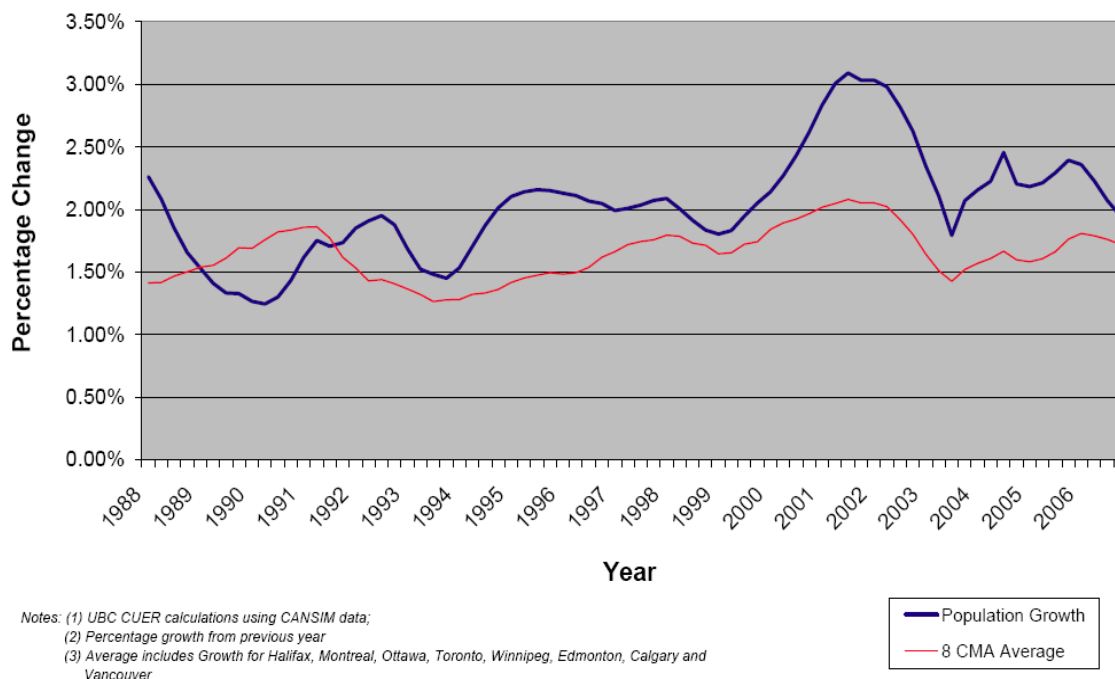
Key outcomes that have feedback effects on the system are:

- prices (with wealth and expectation effects);
- turnover, vacancies, and new construction (with employment and location impacts);
- affordability and homelessness;
- tenure and location choices.

Population growth, aging, and immigration

The Censuses for 1996, 2001, and 2006 reveal that the Toronto CMA grew at 1.8 percent a year over the decade and at roughly similar rates in both periods. Within the CMA, the City of Toronto grew in both sub-periods, but at very different rates: just under 1 percent a year from 1996 to 2001, and at less than 0.25 percent a year after that. This means that the rest of the metropolitan area was growing at just under 2 percent a year in the 2001-2006 period (see Figure 1).

Figure 1: Toronto CMA population growth compared to that of other Canadian cities, 1998 to 2006



The growth rate in some of the areas outside the City of Toronto has been staggering. Between 1996 and 2001, the four fastest-growing municipalities in Canada were Vaughan, Richmond Hill (both of which grew by more than 30 percent), Brampton, and Markham (the latter two grew by about 20 percent). These municipalities were homeownership-oriented, with high-income populations and low tax regimes. Their tie to the City of Toronto was employment. In 2004 only 15 percent of employed residents of Richmond Hill also worked there; 31 percent travelled to the rest of the York region, and 45 percent commuted to the City of Toronto.

The 2007 TD Update drew attention to these growth patterns, noting that over the decade, new development was shifting further and further from the city centre into the edge of the region. For the City of Toronto, this means that its own population growth (even though it was slower) put the existing city housing stock under pressure. At the same time, the major supply response to the growth of the metropolitan economy is the provision of relatively unmixed-income and unmixed-tenure suburbs as competitors for the more mixed neighbourhoods of the City of Toronto. This change is taking place in a context where the City of Toronto comprises a large but now minority share of the population of the CMA (or the Greater Toronto Area).

Population growth is an obvious demand driver in both city and metropolitan housing markets, but other features of the demography matter too. Other broad demographic characteristics are shaping change in the city of Toronto:

- Average household size is declining and in 2001 was 2.5 persons per household.
- Couples with children comprised 27 percent of households; couples with no children comprise 24 percent.
- Single-person households were the largest group, at 28 percent.

Over the last decade there has been growing demand for single-person and single-parent family accommodation in the city.

Housing and tenure demands are related to the life course of individuals and therefore to the age structure of the population. A population pyramid for 2001 shows that the two largest age groups in the population of the city are in middle age, that is, households just reaching their peak housing consumption years. This means that housing demand per household, all else being equal, is not likely to decline quickly. There is already evidence of the under-occupation of homeownership units by older households; the city could house more people if there were a better match of households and house sizes. The population is aging, but at a less rapid rate than other Canadian cities, because immigration and in-migration rejuvenate the city.

The flexibility and accessibility of a housing system matter in economic change. Growth in a locality almost invariably involves migration to that locality, and that process involves a spectrum of skills, incomes, age groups, and durations of stay. Households with few resources, such as new workers or immigrants from poorer countries, need fast access to rental housing, while temporary migrants usually avoid the transaction costs of home-buying by renting.

Toronto has a high-mobility housing system. The 2001 Census data for the City of Toronto shows that:

- 15 percent of households had lived at their present address for less than a year; three-quarters of these movers were from other parts of Ontario;
- 45 percent had moved into their address between 1996 and 2001; two-thirds of them were from other parts of Ontario.

These figures imply that the equivalent of the whole housing market turns itself over in slightly more than a decade, so major shifts in structure can occur in that timeframe. They also underline how important the housing system is in absorbing both regional and national moves.

The City of Toronto is the largest single destination for new immigrants to Canada (more than two-fifths of all immigrants). In 2001, a majority of the population of the city had been born outside Canada (51.1 percent); of those born elsewhere, just under three-fifths had been in Canada for more than a decade. More than one in five households in the city had arrived in Canada after 1991.

Migrants' choices of residential locations are significantly influenced by the choices of relatives, friends, and others of the same ethnicity (Murdie and Teixeira, 2003). They are also concerned about employment and the availability of affordable housing. Housing is therefore an important element in city competitiveness in increasingly competitive global labour markets. The globalization of labour markets will make this source of city competitiveness more, not less, important in the decades ahead.

The housing system also matters after immigrants have settled. Adult immigrants from poorer countries, not least because of difficulties in getting accreditation for their qualifications, usually accept a period of downward social mobility in their occupation. This period has traditionally been followed by one of growing household incomes, child success at school, and a convergence towards the income levels and housing choices of Canadian-born citizens within a decade or two (Aydemir et al., 2007). But recent research from Statistics Canada suggests that

there are now difficulties in this system, as immigrants are staying longer in rental units, making less progress in earning income, and seeing their children lag in school and job market performance. These changes reflect a complex set of issues, including shifting profiles of the immigrant flow, but the housing system may reinforce these difficulties. Such constraints may become important in the near term, as the United States has recently signalled its intention to shift its immigration policy from a focus on “family connections” to “economic migrant” status. Canadian cities ignore the implications for immigrant housing at their peril.

Will Dunning (2006) has explored some of the connections between economic activity, immigration to City of Toronto and GTA, and housing choices, and contrasted the choices of provincial, inter-provincial, and international movers. He notes that:

- Peaks in employment growth translate into peaks in immigration, although government entry restrictions constrain the system.
- Immigrants, regional and international, have less attachment to particular locations than intra-Toronto movers, so their choices are price-sensitive. This means that their choices can be modelled by the ratio of jobs to population and average house prices within areas. Also, rises in core house prices divert immigrants elsewhere⁴; currently the price of housing in the inner part of the Greater Golden Horseshoe (GGH) is increasing demand further out.
- Inter-provincial migration is sensitive to the same ratios; therefore the rise in house prices in the inner suburban ring of the GGH is reducing migration to the GGH from other parts of Canada.
- For intra-provincial moves, the inner ring of the GGH is losing population to the rest of Ontario as house price sensitivity shapes choice.

Taken together, these findings indicate that housing prices affect patterns of immigrant settlement within the Toronto region, and overall migration into the region.

Employment and incomes, overall

Employment change drives migration to and population changes within places. Incomes and house prices affect household formation rates and family sizes and living arrangements in terms of house type, size, location, and neighbourhood, not just at a single point in time, but over the long term. However, detailed descriptions of local housing market changes in the Toronto region, in terms of prices and turnover, are poor compared with cities in the United Kingdom or Australia. Dunning (2006) has prepared some interesting projections exploring demand, migration, and construction sector changes in the region, but they fall short of a model of interactions and effects. This section therefore relies on interpretation of various market figures and outcomes rather than on explicit modelling.

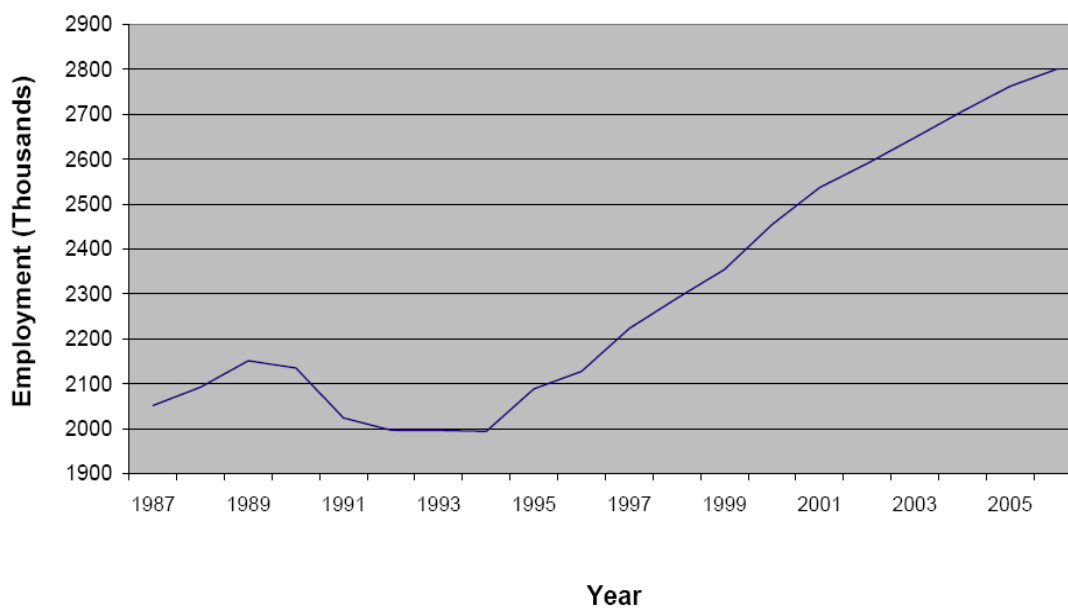
⁴ This adjustment is not built into planning models.

Employment growth

For the Toronto CMA, the recession of the early 1990s was short and sharp, but deeper than that in other Canadian CMAs. But since 1994, annual employment growth rates in the Toronto CMA have been between 2 and 4 percent (see Figure 2). These rates are consistently but marginally higher than those of other CMAs. The cumulative scale of expansion has been considerable, with three-quarters of a million jobs added in the decade 1995 to 2005. Over the same period, CANSIM measures of the unemployment rate for the CMA show a fall from 9 percent to just under 7 percent, with the Toronto CMA rate lying above the average of the other CMAs since the start of the 21st century (see Figure 3).

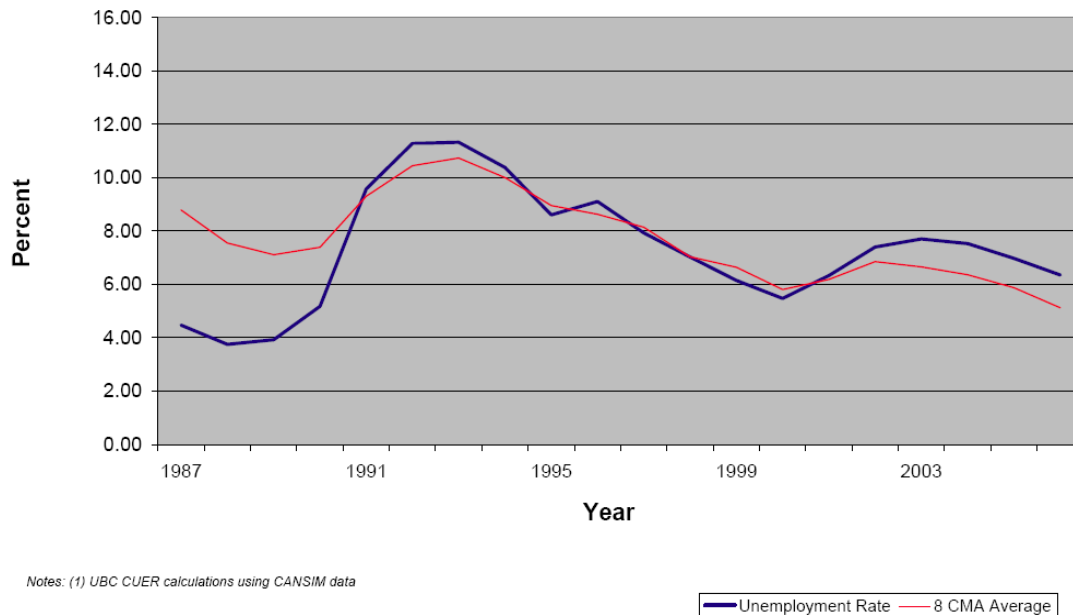
The population differences between the City of Toronto and the rest of the metropolitan area have been mirrored in job changes. Job expansion rates outside Toronto have been at least half as large again as inside the city and this difference is reflected in labour market outcome indicators. Whereas the overall CMA now has an unemployment rate of 6.4 percent (below the Canadian average), the City of Toronto rate is 8.1 percent. Evidence on incomes also suggests that residents in the rest of the metropolitan area earn on average 6 percent more than City of Toronto residents.

Figure 2: Toronto employment levels, 1987 to 2006



Notes: (1) UBC CUER calculations using CANSIM data

Figure 3: Toronto unemployment rates, 1987 to 2006



The City of Toronto versus the rest of the metropolitan area

The metropolitan area outside the City of Toronto not only houses the majority of the population of the CMA, but in 2006, it represented more than half of regional GDP and in 2007, for the first time, it was home to half the region's workforce. By contrast, the City of Toronto is home to 55 percent of the population of the CMA that is not in the labour force. Jobs as well as homes have decentralized in the last decade and the TD (2007) report noted that the number of head offices located in City of Toronto fell from 136 to 107 between 2002 and 2006 period, but rose from 62 to 77 in the rest of the metropolitan area.

That said, the city, like the region, is significant as a component of both the Canadian and North American economies. One in six employed Canadians works in the Toronto CMA. The city is home to half the businesses in the region and has strong specialities both in its land use and occupational structures. The City of Toronto includes:

- three-quarters of the region's office space;
- just under half of the retail space;
- two-fifths of the industrial space.

The 2006 flow of development permits hint at how these patterns are continuing to change. The City has less than 20 percent of intended new industrial footage, 27 percent of residential, 38 percent of the institutional footage, and 45 percent of the commercial spaces.

These patterns offer a glimpse of a future with even stronger rates of suburbanization of jobs (as employment spaces in the city fill up) and with city workplaces, and possibly workforces, specializing in office functions and non-industrial activities. Nothing in the trends, permit data, or city plans suggests that the future will be other than sprawl-dependent (and probably socially segregated).

The TD review draws attention to the extent of and some medium-term consequences of sprawl within the rest of the metropolitan area. It also highlights the concern that between 2002 and 2006, the GTA share of Canadian population rose from 16 to 16.5 percent, but the GTA share of Canadian income fell from 17.7 to 16.8 percent. That is, in the GTA, per-capita income growth barely reached an average of 0.5 percent a year, below the Canadian average and well below comparable cities in North America. This difficulty stemmed from a variety of influences on the Ontario and Toronto economies, including the appreciation of the Canadian dollar (leading to the loss of 100,000 manufacturing jobs), the lack of investment in human capital, and limited fiscal policy benefits.

Labour market changes

Globalization has brought jobs and opportunities for the City and the CMA. But the gains in incomes have been unequal, and for many they have not occurred at all. These inequalities become even greater when wealth outcomes are considered, not least as low incomes usually exclude households from acquiring housing wealth.

Within the city, the service sector has created jobs across the income spectrum; from 1996 to 2006, the larger sectors with marked expansion have been Finance, Insurance, and Real Estate and Business Services. The importance of growth in the highest-order service sectors, which often demand regular face-to-face contact between senior staff and customers, has boosted demand for high-income housing close to the city centre. The labour market has changed in other ways that have significance for the housing sector and vice versa:

- The proportions of part-time jobs (16 percent), self-employed individuals (15 percent), and women workers (47 percent) have increased significantly, though short-term employment contracts did not increase markedly after 2000.
- The share of the population with a university education and a higher degree has risen from 20 to 34 percent from 1990 to 2005.

These changes have the following implications for a housing market with steadily growing demand pressures and suburban competition:

- There is more demand for homes that allow two earners to work, since two-earner families are now the norm.
- There are growing concerns that poorer households unable to attain homeownership or forced to rent housing outside the city will either have to take cuts in real incomes by enduring long commutes or will fail to connect to more remote job opportunities; the evidence of a home-jobs mismatch across the CMA is growing.
- The increased carryover of educational debt as young people enter the rental and homeownership markets is occurring without any real policy thought to the issues involved.
- There are new concentrations of highly educated and differently organized households seeking downtown and other niches within the metropolitan area. Appropriate housing, neighbourhoods, and services will be required to retain these creative workers in the

Toronto region. Bad housing design, poverty externalities, poor transit, and poor amenities will discourage such workers from participating in the Toronto economy.

These problems affect mainly those with good incomes and a voice in the policy domain. But the more important issues for housing in the city are the number of people who face homelessness or impermanent housing at a time and in a place where housing costs are rising but incomes are atrophying.

The number of jobs has increased in more than just the skilled office sector. The proportion and number of low-skilled jobs has also been increasing, but middle-income jobs have hardly increased at all. This polarization means that there have been significant increases in real incomes for people at the upper end of the income distribution spectrum, and their share of total income has increased, while incomes have been stagnating for the poorest third of Torontonians. There are more poor or low-income people in the city now than there were in 1991; they are mostly less educated, younger, and part-time workers.

These changes in the structure of incomes and in the spatial structures of homes and jobs have transformed the Toronto housing system and the challenges it faces for the long term. How has the system reacted in the short term?

Short-term and cyclical effects on housing

Markets are systems for reconciling supply and demand characterized by automatic adjustment mechanisms (although the adjustments are not necessarily acceptable as social outcomes). The exact extent and phasing of system adjustments varies from market to market, even submarket to submarket, so the sequence of changes set out below is a stylized one.

It is assumed that demand persistently exceeds supply in the Toronto market (this has been a reasonable assumption over the last decade), and the following broad pattern of market adjustment prevails:

- when turnover supply and vacancies are relatively fixed, prices respond to shortages and rise to clear the market; in response, consumers extend their search patterns and durations;
- in the short term, turnover and advertised vacancies may rise;
- in the medium term, developers may speed up the completion of already started units;
- in the long term, the supply of housing units increases and new neighbourhoods are built.

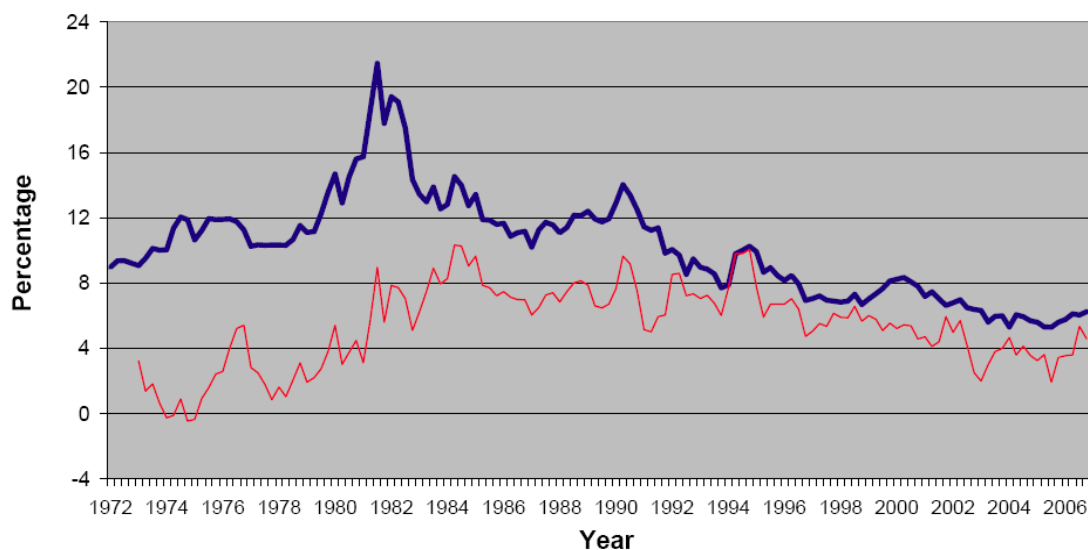
Throughout these processes, consumers face affordability issues.

The balance of these means of adjustment can determine the extent to which the housing system hinders or complicates the functioning of the economy. For example, if developers have foresight, demand growth is slow and predictable, and land planning controls are loose, then increases in demand may occur without significant increases in prices or affordability burdens. This is called an elastic or flexible housing system and it favours the competitiveness of a local economy by restraining wage and land costs. In an inelastic system, significant price effects raise affordability burdens and land costs and reduce mobility.

Outcomes: prices and vacancies

House prices in any market are driven by a blend of national and local economic factors. For almost a decade, from 1996 to 2006, the national macroeconomic situation favoured growth in housing demand, while interest and mortgage rates remained low (see Figure 4). With growing employment and population in the region, and the low cost of credit, demand for housing, especially for homeownership, rose sharply, even with moderate increases in real incomes.

Figure 4: Five-year mortgage rates in Canada, 1972 to 2006

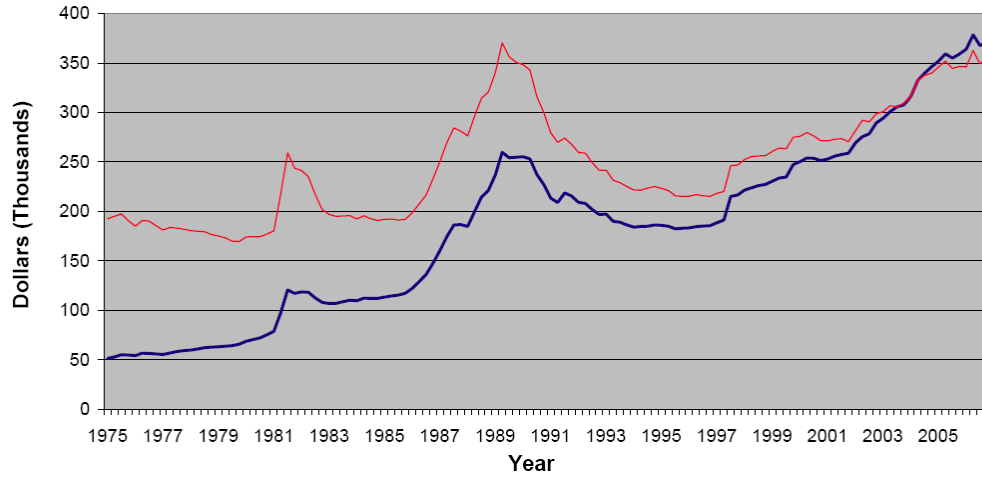


Notes: (1) UBC CUER calculations using CANSIM data;
 (2) Real rates calculated by taking the Bank Rate less the percentage change in the CPI from the previous year.

Price levels and price appreciation rate cycles differ across Canada's metropolitan housing markets. The patterns of quarterly real house price changes for Toronto are strongly associated with changes in the Montreal, Halifax, and Ottawa housing markets (with correlation coefficients in excess of 0.8), less so with changes in the Vancouver market (correlation coefficient of 0.55), and much less so with changes in Prairie cities (correlation coefficients between 0.2 and 0.25). Average house prices in Toronto were for a long period the highest in any of Canada's CMAs, but since the start of the millennium, higher inflation rates in Western markets have meant that Vancouver is now the most expensive metropolis in Canada. Calgary prices have reached Toronto levels. The quarterly price data also suggest that the stability of house prices differs across the CMAs, with the Calgary and Toronto having the greatest variation in prices and Ottawa and Winnipeg the least.

Demand pressures of the last decade have been manifested in a protracted increase in both nominal and real house prices. The pattern of real house prices is shown in Figures 5 and 6. Estimates available suggest that price rises have been sustained through 2007.

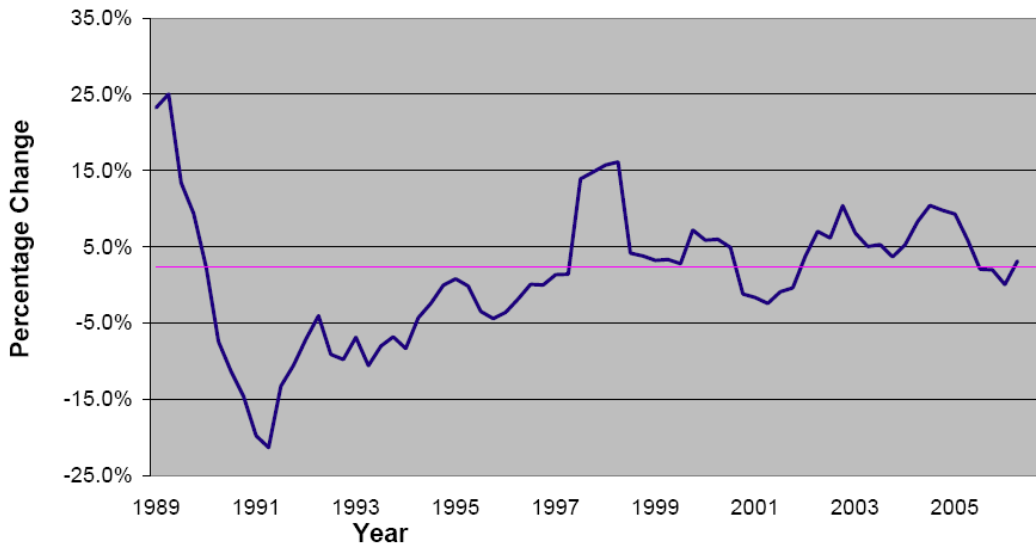
Figure 5: Toronto average house prices, 1975 to 2006



Notes: (1) UBC CUER calculations using Royal LePage Housing Price Index
 (2) House prices reflect the estimated average market value of two house types:
 i) single storey, 3BR, 1.5 bath, 1,200 sq. ft. house on a 5,500 sq. ft. lot and
 ii) two storey, 4BR, 2.5 bath, 2,000 sq. ft. house on a 6,500 sq. ft. lot.
 Real prices in 2004 Q2 Dollars

— Nominal House Price
 — Real House Price

Figure 6: Percentage growth in real house prices in Toronto, 1989 to 2006



Notes: (1) UBC CUER calculations using Royal LePage Housing Price Index
 (2) Percentage growth from previous year
 (3) House prices reflect the estimated average market value of two house types:
 i) single storey, 3BR, 1.5 bath, 1,200 sq. ft. house on a 5,500 sq. ft. lot and
 ii) two storey, 4BR, 2.5 bath, 2,000 sq. ft. house on a 6,500 sq. ft. lot.

— Real House Price Growth
 — Average Real Growth

Two important questions arise about the economic effect of these changes in real house prices (leaving aside for now the immediate wealth effects for those who hold housing assets).

1. Have these rises in the cost of living for households eroded the competitiveness of the economy in the short term, by discouraging immigration or inward investment, for example?

The short answer is: probably not. With Toronto prices rising less rapidly than other major cities in Canada, with the exception of Montreal, and being in line with average U.S. city price performance, the city's growth has not been hampered in the short to medium term.

2. What happens when the price mountain scaled over the last decade suddenly collapses, as is now happening in some U.S. markets?

Wealth and turnover effects that reinforce housing market change have been little researched in Canada and they are at the heart of concerns that Canadian city house prices may now begin to follow the slide being experienced in the United States, although this likelihood should not be overestimated for Toronto.

However, the Toronto housing market has not experienced the recent instabilities of many U.S. markets, although it may become more exposed in future price cycles. The major housing-to-economy effects that are likely to affect the GTA in the next two years will flow through reduced exports to the United States and the rise in the Canadian dollar as home defaults in the United States erode consumer confidence and wealth there through 2008.

Rental outcomes

If the behaviour of prices in the owner-occupied market is largely predictable, price outcomes in the rental sector, home to half of those who live in City of Toronto, are not. Some rents are determined by rules in the social sector. Rent controls have had significant effects too, with vacancy decontrol taking effect in Ontario after 1998. Figure 7 indicates a decade of flat rent increases at about the inflation rate to 1999 with a two-year spike following deregulation to 3 percent, followed by rent increases of close to zero.

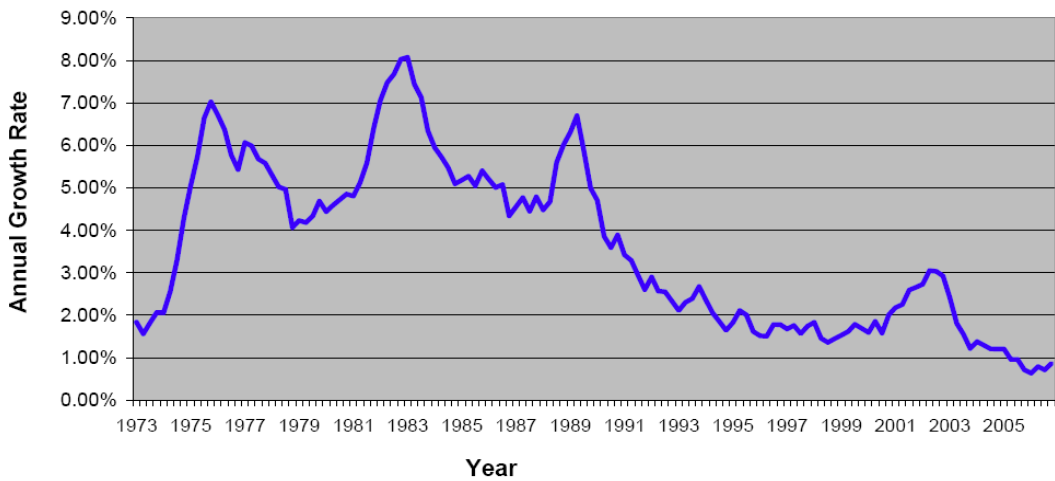
Stagnating rents can boost business competitiveness, as long as dwelling stock is maintained in quality and scale, since this situation makes rental housing more affordable for workers in lower-wage jobs. This is not, however, a long-term sustainable outcome, as disinvestment is likely to ensue.

Rising house prices combined with stagnating rents may be the result of several possible factors:

- Rising real house prices coupled with low real interest rates encouraged all those who could buy to do so; this trend would have raised vacancy rates in the rental sector.
- Deregulation of the rental sector means that higher-income households no longer capture, over time, the benefits of rent controls.
- The slow real income growth of the bottom half of the population set demand limits on what typical renter households could pay.

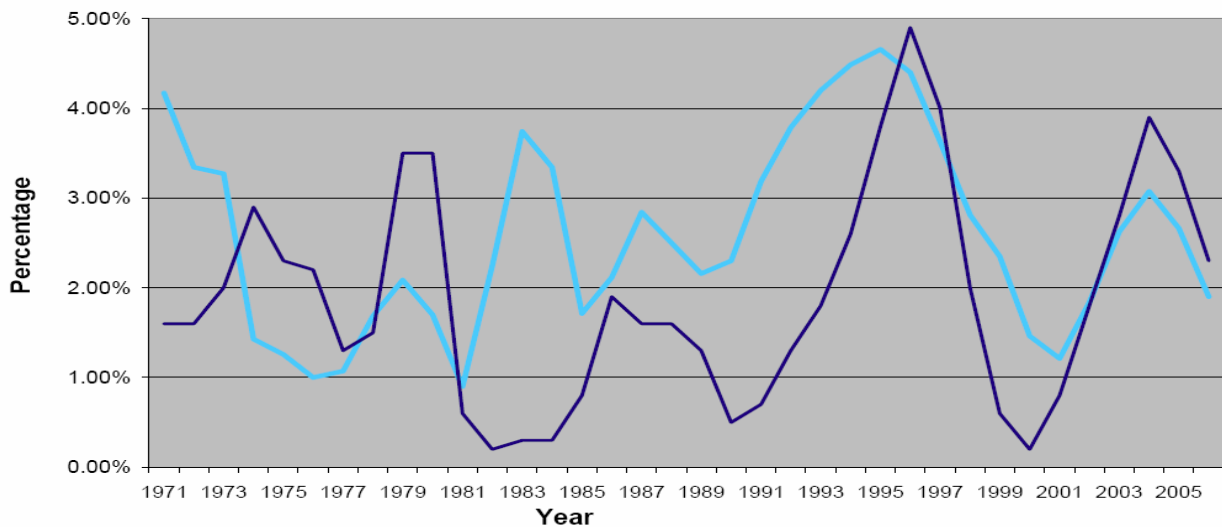
Flat rents in relation to rising house prices after 2000 was consistent with the marked increases in rental sector vacancies in the 2002–2004 period. Figure 8 suggests that national rental markets, and particularly the Toronto market, were relatively unpressured.

Figure 7: Percentage growth in apartment rents in Toronto, 1973 to 2006



Notes: (1) UBC CUER calculations using CANSIM data
 (2) Percentage growth from previous year

Actual Rent Index



Notes: (1) UBC CUER calculations using CANSIM data

8 CMA Average
 Toronto

Figure 8: Toronto vacancy rates, 1971 to 2006

Dunning (2005) has argued that vacancies were spread across the variety of locations and quality ranges in the market and that vacancies were likely to rise, perhaps even double to 7 percent over the next three-year period; in consequence, social investment in rental housing was not required. The latter conclusion was understandable, but a non sequitur, since rental demands and needs are segmented and the waiting list for social renting in the city and

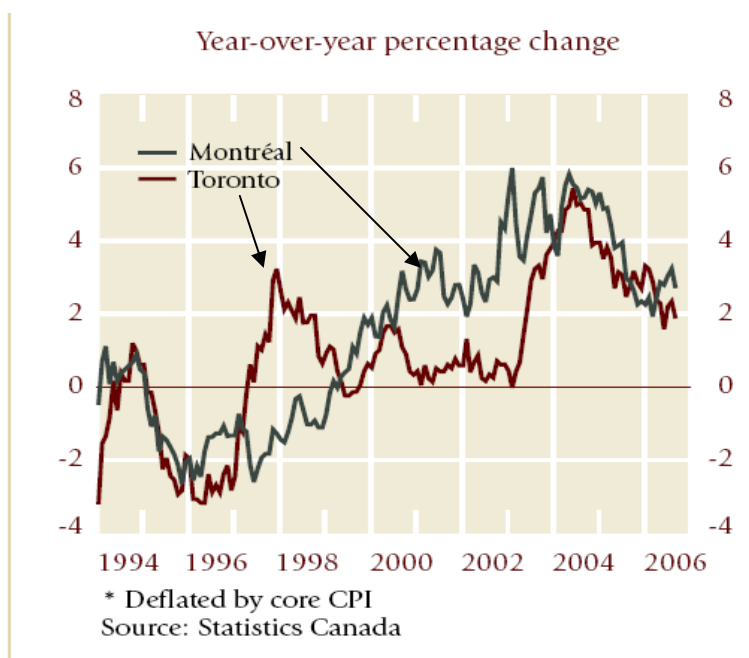
estimated core need figures were still well above available vacancies. Other market advocates have suggested that vacancies in the private rental sector make a case for rent-supplement programs rather than social investment.

Rent supplements have their uses, but excess supply may best be dealt with not by subsidizing landlords, but by allowing rents to fall. And if long-term provision for low-income rental households is a policy goal, supplements are only a short-term tactic for housing provision. As the post-2004 Toronto experience shows, the market vacancy rate has already fallen significantly and is closer to long-term averages. The forecast for vacancy rates in Toronto noted above turned out to be inaccurate and the case for vacancy decontrol and removing rent supplements misplaced. It is the modest income growth per capita of the region and its unequal distribution that most likely explains the patterns of rent and price change in the last decade. The long-term housing prospects for poorer and younger households in the Toronto housing system remain an issue.

Construction impacts

The relatively modest appreciation of real house prices since 2000, given the demand pressures that prevailed (real house prices in Toronto have grown less rapidly than they have in Montreal, which has had less rapid employment expansion; see Figure 9), reflect some robustness in the supply of housing. There are, however, no published econometric estimates of city and metropolitan housing supply elasticities for Toronto; the Province should remedy that gap.

Figure 9: Real House Prices, Toronto and Montreal, 1994 to 2006



Although locational, environmental, and social issues may arise from the suburbanization of so much middle- and upper-income housing demand in the metropolitan area, the marked

expansion in supply (thus avoiding even higher cost and price outcomes) should be noted. Planning strategies may have supported current competitiveness at the price of significant future costs.

Will Dunning (2006) has outlined the main relationships between economic change and new housing construction that prevailed through the long cycle in housing output that started in 1987 and peaked in 2004 (and appeared to peak again in 2006). He notes:

- The flow of social housing into new construction ran close to 4,000 units a year in the early 1990s then largely disappeared (it has re-emerged at a level below 1,000 units annually in the last two years).
- In the 2001–2006 period, the number of dwelling units in the metropolitan region rose by 10 percent, a remarkable level of expansion.
- Expansion favours the suburbs; the City of Toronto has currently half the GTA dwelling stock but only a fifth of new construction.
- Within a built-up city with almost no greenfield land, more than 10,000 new homes have been constructed in the City of Toronto over the last decade; development applications are likely to sustain that level of growth for some time.
- Over time, the share of dwellings built in City of Toronto is shifting predominantly to condominium apartments and townhouses. Densification is a well-developed market process, with more than 70 percent of recent and planned output in condominiums; in the GTA overall, less than half of new homes are single detached dwellings.
- Throughout the region, but especially in the city, faster growth means larger shares of condos; many apartments and condos are bought as investment properties—in mid-2006, about 25 percent of condos were in the rental sector.

This supply response has maintained housing cost competitiveness in the city in the short term. The longer term prospect is less positive, but city and metropolitan planning discussion of housing pays little regard to the long-term competitiveness of the economy.

The cumulative effect of many apparently small decisions throughout the GTA has had potentially large structural consequences for labour markets, transportation, and the environment. The increase in city centre condos for upper- and middle-income urbanites and further suburban sprawl for similar income groups have obscured polarizing income patterns within existing neighbourhoods. Income and social differences between the city and the suburbs have become more rather than less marked. There are also marked contrasts in density: the urban density of the city at 4,177 persons per km² is 8 times higher than on the edge; the difference indicates an environmental footprint for suburbanites that is unsustainably high.

Multipliers and cycles

TD's *Update* noted that housing sector activity had fuelled expansion in the services sector. That expansion, driven by turnover expenses and wealth withdrawal, explains only part of the relationship between the housing market upswing and the growth in retail sales in the local economy. New construction and renovation boost employment demand within a local economy.

Because local labour inputs are a significant component of construction expenditures, housing spending tends to have high local multiplier effects on local demand.

Dunning (2006) has estimated employment effects for expenditures on new construction and renovation in the GTA area. For the GTA as a whole, construction has actually comprised 5 to 6 percent of total employment for the last decade. Wages in the sector have typically been 3 to 5 percent above the GTA average, and therefore have contributed more than 6 percent of regional GDP directly. Dunning estimates the direct and indirect effects of housing construction for the period 2001 to 2006. In 2004, a roughly average output year for the period, the following results were observed:

- New homes required 39,500 person-years of construction labour and generated a further 34,800 person-years of employment.
- In the renovation sector, employment was 29,200 direct and 25,800 indirect job-years.
- Other construction-related activity for the residential sector generated 7,400 and 6,500 direct and indirect jobs.
- Total jobs generated reached 143,300.
- Combined renovation, new construction, and other residential construction, with direct and indirect effects, contributed a total wage bill of \$6.31 billion.

Dunning's estimate (for which he is careful to point out the limitations of both the data and analysis) suggests that housing construction and renovation directly and via multiplier effects influence 12 to 14 percent of jobs in the GTA. These multiplier effects are by no means unique to the housing sector, but the magnitude is significant. Clearly reductions in either renovation or new construction activity will lead to some contraction in the wider economy. At the same time, Dunning, the TD report, and the Bank of Canada now assume that construction activity in the GTA and the City of Toronto has peaked and we are entering a period of cyclical slowing.

Housing also drives spending through wealth effects in a psychological sense ("My house price has risen, therefore I feel wealthier, therefore I can spend more of my income") as well as through housing equity withdrawal. This phenomenon is relatively unresearched in Canada (Pichette and Tremblay, 2003, is an important exception). However, recent cross-national studies have emphasized that housing constitutes a significant proportion of household asset portfolios in Canada (Sierminska and Tahktamanova, 2006). Research suggests that housing equity withdrawal in Canada is increasing over time. Since 1999, a 1 percent increase in household housing wealth has led to a 0.10 percent increase in household consumption (the ratio increases over an individual's life cycle). So the real price increases experienced by average homeowners in Toronto between 1996 and 2006 may have raised their consumption levels by 5 or 6 percent beyond those associated with income gains. Established homeowners benefited, but renters, with squeezed incomes, enjoyed none of these gains.

Rising house prices, coupled with housing equity withdrawal and construction effects, reinforce the cyclical upswing in an economy. There is also growing concern that they may reinforce a downswing. The U.K. collapse of the early 1990s and the housing-induced contraction in the United States that began in 2007 suggest caution in housing matters. In both countries, rising interest rates imposed on high debt-to-income and debt-to-asset ratios for marginal

homeowners who had crowded into the sector, attracted by incautious home loans, led to defaults. Defaults grew as unemployment rose, and default rates were compounded as forced sales kept prices low, while asset cover fell and households faced negative equity (dampening consumption).

Such events are unlikely in any Canadian CMA market. Toronto prices have been driven largely by fundamentals, lending does not appear to have been profligate, and a downward spiral like that in the United States is unlikely. The relatively secure asset-to-debt and debt-service-to-income ratios for Canadian households are indicated in Figures 10 and 11. Torontonians will not lie far from these Canadian averages.

Figure 10: Proportion of households with a debt-service ratio above 40 percent

	Proportion of households with DSR>23%*	Share of total debt held by households with DSR>23%**	Proportion of households with DSR>40%*	Share of total debt held by households with DSR>40%**
1999	29.3	40.5	2.6	4.9
2000	31.2	43.8	4.6	6.3
2001	30.6	43.8	3.9	5.8
2002	28.4	41.1	3.0	4.6
2003	29.2	39.8	2.7	4.3
2004	26.3	36.5	3.6	5.6
2005	25.1	34.7	2.6	4.0
2006	25.2	34.4	3.2	4.0

* As a percentage of total households with debt.

** Vulnerable debt as a percentage of total household debt.

Figure 11: Proportion of households with a debt-to-asset ratio above vulnerability thresholds

	Proportion of households with DAR>2*	Share of total debt being held by households with DAR>2**
1999	4.7	0.6
2000	5.1	0.6
2001	5.2	0.8
2002	4.7	1.1
2003	5.2	1.9
2004	6.6	3.6
2005	6.8	3.1
2006	6.9	3.6

* As a percentage of total households with debt.

**As a percentage of total household debt.

It is unlikely that Canadian housing will reinforce any slowdown in the GTA economy. The negative housing economy effects will be felt in reduced exports to the United States and the rise in the Canadian dollar, as home defaults in the United States erode consumer confidence and wealth there. The fundamental Toronto housing problems are not about a frothy cycle gone sour, but about the fundamentally reshaped geographies and inequalities that have emerged for poorer renters in the metropolitan areas over the last decade.

System change outcomes: Affordability, tenure, and location choices

Affordability reflects both changes in housing system costs and changes in household resources. National studies have consistently shown, regardless of the specific measures used, that the Toronto CMA has disproportionately high affordability challenges. Such conclusions emerge consistently from CMHC data, and a different approach by Luffman (2006) presents similar conclusions. Luffman analyses household expenditure data for CMAs from the Survey of Household Spending and shows that Toronto had by far the largest shelter costs for renters in 2004 (\$9,370 for rent alone, compared to the Canadian average of \$7,040 or Calgary at \$7,820). Toronto average mortgage costs were \$12,080, compared to the Canadian average of \$8,680. A third of Toronto renters, excluding those that live in social housing spent more than 30 percent of their budgets on shelter.

Although rent increases have been somewhat flatter than house price rises over the last decade, this finding does not mean that affordability outcomes are deteriorating for owners and improving for renters. A number of factors must be taken into account, including the importance of interest rates to owners, the different incomes of renters and owners in line with different income gains across the wage distribution spectrum, and the shift of higher-income renters into homeownership.

Dunning (2006) has measured homeownership affordability in terms of the real dollar values of typical mortgage expenditure for CMA owners, and new CMA owners. He concluded that homeownership affordability, largely because of low interest rates, had been at a historic high for much of last decade and this trend has coincided with a huge increase in employment.

Renters who could not or did not switch to homeownership fared differently, despite much lower annual rent increases. Renters, who comprise almost half the population of the City of Toronto, are a diverse set of households, but a disproportionately high proportion of households in the lowest quartile of incomes are renters. This income group has experienced the smallest expansion in real income over the last decade.

The TD *Update* illustrates how badly poorer households in Toronto have fared. Statistics Canada research by Heisz and McLeod (2004) shows that through the 1990s, with high average real income growth, almost all the gains for Canada as a whole went to upper-income households. The top 10 percent of the income distribution earned 26 percent of income in 1990, and 31 percent by 2001. Upper-middle-income households held their relative share, but the middle-income and poorer households lost share. Similar patterns have been observed in Toronto. Suttor presents the bleak finding that 6 percent of Torontonians had a real income of \$16,000 or less in 1990, but households in this category had doubled to 12 percent by 2001 (with the number of households affected rising from 68,000 to 158,000 and families with children

badly affected by the changes). These households were often working poor and not dependent on government transfers.

At the same time, the homeownership share in the city was slowly falling as the city expanded. As the GTA has grown, the City of Toronto has become the specialized area of rental provision within the region. The rental tenure share in City of Toronto is one-half (a fifth of this in the social housing sector) and has been around that mark for almost the last half century, whereas in the surrounding metropolitan ring, rental housing represents a fifth of all housing. One wonders where the children of the new suburbs will find their first homes.

Between 1996 and 2005, average rents in Toronto rose by 31 percent, and the city has the highest market rents in Canada. This is not a good thing for an a city that serves as an entry point for so many new Canadians. In the same period, wages rose by 25 percent. Michael Shapcott, using Statistics Canada data, makes a similar argument for Ontario as a whole. He notes that from 1992 to 2004, the real incomes of renters fell from \$31,500 to \$27,800 while average rents for a typical two-bedroom apartment rose from \$672 to \$883. Rents rose 30 percent, and real incomes fell by 12 percent (Shapcott, 2007).

Unlike homeownership, rental housing has become less, not more affordable, while the stock of housing available to low-income renters has contracted. The City of Toronto argues that the number of reasonably priced rental units in the city fell from 121,000 in 1996 to 88,000 in 2005. In the same period, the proportion of households facing non-affordable housing costs (as defined by CMHC) rose to 45 percent for rental sector, and to 22 percent for owners. Yet during this period, the government, aside from rent deregulation, has steadily refused to invest in new rental housing or support any significant market assistance program while private rental investment has plummeted. Of the existing stock, 90 percent predates 1975 and requires significant investment to improve energy efficiency.

The housing system in Toronto does not serve the needs of poorer workers or of the young with low-income (or careful) parents. Matters are made worse by the resorting of the geography of the city, as higher-income and homeownership-oriented families have moved to the suburbs to buy new homes, and often take the new jobs there, too.

A harsher geography?

Spatial change in the city has occurred at two levels. The broad zonal shifts have been explored in detail by Suttor (2007). Within these broad zones are marked and now well-recognized differentiations of households by income and ethnic grouping, although visible ethnic minority separation is more subtle than any crude ghetto argument would imply (Walks and Bourne, 2006; Freiler et al., 2006).

Broad zones

The growth of employment and residences in the downtown area has been evident over the last decade, as in so many other OECD cities. Between 1996 and 2001, the number of people working downtown rose by almost a quarter to 395,000 or around 30 percent of all jobs in the City of Toronto. Among those who hold these jobs, 75 percent actually live within the City of

Toronto, and of that share, 75 percent travel to work on transit, or by cycling or walking (of the other downtown workers, half use transit and half cars). However, between 1996 and 2001, job growth was split roughly 50:50 between City of Toronto residents and those from the surrounding area.

By 2001, the downtown had become home to 125,000 people. A third of them worked downtown. There may be a need to assess whether supply mix or affordability issues require many households to make the long commute from the suburbs to the downtown, and whether this problem is exacerbated for younger, middle-income families by the changing nature of the older, inner suburbs.

The central core is losing middle-income households and polarizing as gentrification and upmarket condo construction bring more high-income households to live in neighbourhoods previously dominated by the city's poorest residents.

Suttor argues that the profoundest shifts in the metropolitan area are in the inner suburbs. These were largely developed in the 1950s, as car-dependent dormitory areas, dominated by single-family housing but with some apartments and starter homes in apartments on the main routes. Today this area houses a diverse ethnic population, with a disproportionate number of post-1991 immigrants and visible minorities experiencing declining incomes. Suttor notes:

- real incomes declined by a fifth in most inner suburbs between 1970 and 2000;
- the Toronto District School Board records lower school success rates in the inner suburbs to the northwest and northeast of the CBD: rates for literacy, school graduation and university application are all much lower in these zones;
- health outcomes and housing conditions are lower in these localities than in other parts of the City of Toronto.

The outer suburbs are characterized by higher incomes, lower levels of social mix, homeownership, single-family homes, and car-dependence, with limited social infrastructure. Suttor notes that the outer suburbs are becoming less diverse, and are much less diverse than new suburbs in the past: they are also becoming more detached from the city core. A quarter of population in the outer suburbs can be classed as low- or middle-income, half the rate in the inner suburbs.

Neighbourhoods

Toronto once had a reputation as a city of robust, supportive, and ethnically diverse neighbourhoods. Many places retain such characteristics and the city is still widely regarded as a good place to live. But problems have arisen over the last decade that are not yet being addressed systematically. There is no coherent neighbourhood renewal strategy for the city that one would expect to find in many U.S. and European cities.

Poverty by Postal Code (United Way, 2004) established the significant and growing extent of neighbourhood difficulties that are manifested in and reinforced by housing system outcomes.⁵ Freiler shows the share of low-income households living in low-income neighbourhoods in City of Toronto rising from 18 percent in 1980 to 43 percent in 2001. The number of neighbourhoods in the City of Toronto with a concentration of poorer households rose from 80 to 121, so the problem has spread as well as deepened. Moreover, the number of children (the future labour supply for the metropolitan economy) living in these areas doubled to 160,000 in the 1990s. Within these areas, the proportion of newcomer and immigrant households rose from half to two-thirds of low-income families between 1980 and 2001.

David Hulchanski (2006) has mapped these areas and how they have emerged over time. Heisz and McLeod (2004) conclude that in the City of Toronto:

- neighbourhood income inequality has increased faster than overall inequality, reflecting the income-separating effect of the housing system;
- the bottom quintile of neighbourhoods in Toronto saw 10 percent reductions in real incomes between 1980 and 2000;
- higher-income neighbourhoods had higher increases, with the upper two quintiles recording a 20 percent.

Most households in the poorest neighbourhoods are housed by the private rental sector. Much of the growth in low-income population in the city until the early 1990s was absorbed by social rental housing. Social renting now accommodates less than half of the increasing number of poor households and this share is falling rapidly.

As with the social, political, cultural, and security arguments as to why low-income concentrations pose risks for Toronto and Canada, there are economic consequences. The connections between poor-quality housing and poor educational and health outcomes is provided in detail in a literature review in Appendix A.

5 Housing is not the root cause of concentrated poverty. However, given the affordability difficulties for poorer households in securing appropriate housing, the housing system and housing outcomes can reinforce the effects of concentrated poverty.

5. Policy Conclusions and Recommendations

Policy challenges: Process and substance

Global competition can punish poor constitutions and short-sighted policy-making. In Ontario for the last decade, governments have assumed that competitiveness is best ensured through keeping taxes, expenditures, and borrowing at a minimum. Meanwhile, other OECD countries have begun to move away from that approach to focus on policies that promote competitiveness in the context of environmental sustainability, social justice, and security.

The lesson of the OECD countries over the last decade has been that policy that links social, economic, and environmental outcomes is needed if the aim is to achieve economic development and productivity growth. Two major conclusions have shaped the recommendations set out below.

- Although there is much useful research on Toronto held by the city or available in high-quality reports from CMHC, the housing policy-making processes are far from the best available modern practice and are weak on conceptual framework and the use of evidence.
- Housing outcomes (such as housing wealth, housing for low-income households, or sprawl patterns) can shape a city's income and growth prospects; however, the economic drivers and outcomes of housing systems and policies are neither substantially nor systematically embedded in Toronto's policy thinking and planning.

In consequence the recommendations below address Policy Processes, Places, People, and Providers.

Policy processes

Current processes for housing planning and policy for the City and metropolitan region (by all orders of government) lead to a narrow understanding of how housing systems operate and underestimate their wider economic and environmental outcomes. Economic arguments should

be included explicitly rather than being ignored or assumed in policy choices for housing. A better framework is needed to set housing at the core of economic ideas for city and Canadian futures.

This study concluded that there are no recent econometric modelling studies of housing and urban change in Toronto (City of Toronto or CMA). Indeed, detailed descriptions of local housing market changes, in terms of prices and turnover, are relatively poor compared with cities in, say, the United Kingdom or Australia. Demographics serve as a rather unsteady handrail for stumbling into the future, and official housing planning approaches are largely linear extrapolations of what are in reality complex feedback systems.

Recommendation 1: The City of Toronto and the Province of Ontario should form an information partnership to identify intra-metropolitan spillover effects of housing and carry out econometric modelling of the housing system to support long-term policy making in this sector (Regional Information Laboratories in France could serve as a useful model). Governments, housing providers, funders, and the research community (much of it university-based), should be involved in this initiative.

Such a collaborative approach could facilitate new economic understanding of housing systems and their consequences for competitiveness.

Currently, there is no organized evidence base on housing-economy relationships in the city and region. However, there is much informed opinion on the housing markets and systems of the city within the finance, business, government, and non-profit sectors. And there is a considerable stock of high-quality geographic and social research that needs some economic underpinning. It needs to be captured, systematized, and used.

Across the nation, the emerging perspective in business is that infrastructure underinvestment, inadequate provision of transit, and shortages of affordable housing are constraining competitive growth within Canadian cities. In Toronto, the Board of Trade made these points forcibly in its review of 2006 and these sentiments are at the core of the TD *Update* for Toronto for 2007.

Recommendation 2: The City and the Province should collaborate in the development of an appropriate set of models for the metropolitan housing market connected to existing transportation, land use, and environment models. To facilitate this approach:

- **Developers, lenders and others should support the development of a geographic information system for housing sales and prices that would bring Toronto into line with other major world cities and inform consumers as well as researchers and policymakers.**
- **The City should host an annual housing market working conference to report progress on its plans and review with stakeholders and the housing sector recent progress and future directions.**

Countries such as the United Kingdom, Australia, New Zealand, and most of the major European countries have rethought their housing policymaking processes and priorities since 2000. Most have recognized that poverty distributions and concentrations were building up

within cities and that rental housing more generally had been squeezed out by change. This had negative effects on the functioning of city neighbourhoods and economies and in areas of growth as well as decline. This has brought governments back into the field of helping cities to expand housing provision to meet economic and environmental goals as well as social outcomes. Canada would do well to take the same approach.

Any new commitment of resources for the sector will have to be in the context of clear priorities. The following sections highlight key issues for Places, People, and Providers.

Priorities for places

Successful cities are often those where the difficulties of change, such as the housing problems of low-income households and poor neighbourhoods, are recognized, understood, and addressed. Globalization makes diverse economy cities such as Toronto, in aggregate, more affluent but more polarized. Places of growth and new housing investment coexist with localities of concentrating poverty and housing quality decline. For the city to succeed in the longer term, Toronto and the Province of Ontario have to fashion not just attractive tax rates, but an appropriate offer of housing qualities, tenures, prices, and neighbourhood qualities.

The province and municipalities should work constructively to ensure the metropolitan region offers the best possible mosaic of different kinds of housing and neighbourhoods for a population diverse in incomes, cultures, and lifestyle choices. Achieving this outcome require renewal strategies for poorer neighbourhoods.

Recommendation 3: The City of Toronto has done much to understand the pattern of neighbourhoods in the city and integrate some services. However these city initiatives need to be strengthened with a framework for neighbourhood renewal that involves and integrates the Toronto actions of *all* orders of government. Such an approach would be on a par with the other great cities of the world: strategic in vision and aim, integrated and partnership-oriented in its design and delivery. Housing, including the refurbishment of what already exists and is deteriorating, should be a key element. The framework needs to be firm and appropriately funded. The integrated strategy for renewal of the city's poorest neighbourhoods needs to be put to other orders of government as a funding priority.

The absence of such a strategy is remarkable in a city with such a past reputation for strong neighbourhoods.

Reversing decline and reconnecting poorer households to the mainstream requires multi-service and multi-order-of-government cooperation in strategy and funding along with a programmatic and strategic approach to change. Canadian governments fail their citizens, and fail to meet good standards of program delivery, by neglecting to have integrated solutions for difficult issues. Also, within these programs, Toronto Community Housing has shown how housing providers can take a local lead when resources are available. However there will be localities where deep capital subsidies will be needed to ensure change.

For Toronto, growth has long meant rapid suburbanization. If present choices continue, new growth will likely be even more sprawling, automobile-dependent, and socially segregated. No

changes in planning and pricing policies for transit and infrastructure provision will mean significant future environmental costs, with wider economic consequences. It will also leave metropolitan areas exposed to the risks of any significant rise in future fuel costs or carbon taxes. These possibilities are likely to be soon built into settlement decisions and will have a major shock effect on patterns of development. At the same time, there have been few measures, say in contrast to Vancouver or Montreal, to use the benefits of growth to promote affordable homes and infrastructure through inclusionary zoning agreements and the leveraging of public investment decisions. Again this omission is stunning for a metropolitan region and city with global aims.

Rising land and housing costs are an inevitable feature of successful metropolitan economic expansion. They cause difficulties for low-income households in paying for housing. However, they also offer the possibility of addressing such issues by redistributing the unearned and often speculative gains from existing landowners. Extracting such gains does no damage to the productive economy and is a leading element of housing policies in the United States, the United Kingdom, and Australia.

Recommendation 4: The City and the Province need to develop mechanisms to ensure that the gains from zoning and public infrastructure provision do not simply flow to speculative landowners, but are subject to some form of gain capture in the interests of the public and the poor: inclusionary zoning of affordable rental homes in new suburbs would make some contribution to meeting the current deficit without public spending; a provincial gain-capture vehicle similar to the land renewal companies of Australian states could make an important contribution in both brownfield and greenfield land development

Pressures on people

Immigrants

Canada and Toronto have an established expertise and international reputation in relation to their past immigration absorption capacities. The nation and the city have successfully, in the main, addressed the cultural, social, and political challenges involved in being a major focus for immigration. The capacity of the city to maintain these integrative systems and inter-ethnic trust are vital social capital for the future. That capital has been shaped, in part, by housing system opportunities and outcomes, and it has been a key dimension of the competitive advantage for Toronto and Canada. That will become more important as global labour market integration and competition accelerates over the next two decades.

There are now worrying signs that Toronto's integration processes are not working as well as they used to. There is a complex set of issues involved, including shifting profiles of the immigrant flow, but growing shortages of adequate, affordable rental housing for lower-income households are now trapping poorer and newer Canadians into localities that hold them back. If this process is allowed to continue, it will have fiscal costs, threaten social cohesion, and lower Toronto's future human capital endowments. Such outcomes for the immigrant poor will erode Canada's attractiveness to migrants, especially if the United States shifts the bulk of entry

permissions from “family connection” to “economic migrant” status. Canadian cities ignore immigrant outcomes in housing at their peril. Housing systems must offer not just the ability to settle in a place, but to thrive in it too.

Recommendation 5: The City and the Province should jointly review the apparently deteriorating outcomes for recent immigrants to the city and region, assess the extent to which housing plays a role in exacerbating these difficulties, and address the housing policy requirements emanating from any such review.

Younger people

Globalization has put new pressures on the young to improve their human capital and increase their personal debt to pay for education. They enter the world of work facing flat earnings for many years and are confronted by diminished homeownership opportunities as house prices rise out of their reach. A few lucky young people have parents who can provide a down payment, but for most of them, the transitions from school to work to household formation to homeownership, now operate less and less effectively. But little is understood about how these patterns are changing and choices fracturing.

Recommendation 6: The City should assess whether new shared ownership and equity-sharing arrangements could promote faster homeownership for younger households with modest but sustained income; and develop panels of citizens, including younger people, to comment on city plans and priorities for housing and promote their involvement on the boards of non-profit housing providers.

Policies for providers

Ownership

There is much that works well in the Toronto housing market, but there are concerns about affordable homeownership across the bottom half of the income distribution. Some of these issues have already been noted above, but they also need to be integrated into a cross-sectoral low-cost and low-income homeownership strategy. Given the demand for space in the city and the sustained sluggishness of real incomes for half the population, the need for such a policy and practice will only grow.

Recommendation 7: The City should undertake a comprehensive review of the possibilities for promoting homeownership for lower-income households in the city, recognizing that some households will not have the incomes and preferences to support homeownership and that rental options are improved as well. This is likely to involve:

- **new planning and inclusionary zoning measures to mix affordable ownership and rental housing into market developments;**
- **ensuring that renewal of social housing and neighbourhoods puts in place a range of tenure choices, including shared equity schemes;**

- **ensuring a flow of suitably scaled grant aid to encourage households to buy and renovate rundown property;**
- **considering schemes to encourage social rental tenants to take ownership of homes where they can sustain the mortgages required.**

Rental housing

The fundamental Toronto housing problems are not about a housing cycle in a downturn, but about the reshaped geographies and inequalities that have emerged for poorer renters in metropolitan areas over the last decade. The modest income growth per capita of the region and its unequal distribution most likely explains the patterns of rent and price change in the last decade. Viewed in these terms, this suggests significant long-term issues for poorer and younger households in the Toronto housing system.

Rent supplements have their uses, but the supply of private rental housing may be best dealt with not by landlord subsidies but by allowing rents to fall to clear the market. Excess supply now appears to have vanished in Toronto. If the long-term provision for low-income rental households is a policy goal, rent supplements guarantee nothing for the sector beyond the short term. In the past, social housing played a key role in housing the poor and it is clear that there are a growing number of needy cases that will not find adequate housing in the market sector. This is unsurprising, is supported by official statistics and stems from the simple facts that affordable rental supply for poorer households has fallen as their numbers have increased.

Recommendation 8: The City of Toronto, the Province, and the federal government should jointly aim to foster an effective and appropriately scaled non-market sector within Toronto, to agree upon real needs, a feasible program, and technical support for change. The aim should be to create a new model for the non-profit sector in which providers of non-market tenancies may also undertake other housing functions, such as promoting homeownership and market renewal and also be a base for other neighbourhood services. Fiscal support for the non-market sector should be partly contingent on providers' willingness to be creative and effective. This is likely to involve:

- **the development of a strategy for a new sector;**
- **a substantially enhanced resource commitment, and the engagement of innovative financing and other measures, including planning, to secure affordable housing investment;**
- **the involvement of more new and younger staff as well as enhanced training programs in the sector.**

In relation to the private rental sector, the key challenge is not the provision of rent supplements, but the design of renewal grants and related measures that will provide impetus to the sector and its quality.

For almost a decade there has been little social investment and almost no private rental investment in Toronto housing. There is no lack of evidence of a shortage of affordable rental housing for low-income households in Toronto. However, policymakers do not seem to understand the long-term costs of these outcomes. That must change, for the competitiveness

of the City depends on its continuing attractiveness to immigrants and the sustaining of human capital. Rental housing and non-market rental housing have important roles to play in the economic competitiveness of the city and metropolitan region. Rental housing in the city has to work well if Toronto is to play its role as the lead absorber and integrator of new residents and citizens for the nation.

The stock of housing available to low-income renters has contracted, yet the government, aside from rent deregulation, has not invested in new rental housing or supported any significant market assistance program, while private rental investment has plummeted. And of the existing stock, 90 percent predates 1975 and requires significant investment to improve its quality and energy efficiency.

Recommendation 9: The City and the Province should fund an expanded commitment of grant aid to support quality improvements and energy efficiency upgrades for poorer quality market rental homes.

Appendix A: Literature Review on Housing Effects Related to Education, Health, Safety, and Quality of Life

Housing outcomes for the education and development of children and youth

Housing affects specific population groups in two ways: through the direct impact of poor-quality housing, and its co-occurrence (and therefore heightened impact) with other challenges—particularly low socio-economic status (Carter and Polevychok, 2004). Cooper (2001) cites three conditions (cf. Stroick and Jensen, 1999) for securing children’s well-being—adequate incomes, effective parenting, and a supportive community environment—and notes that the relationship between housing and these factors is bi-directional; good housing both affects and is influenced by these enabling conditions.

In a recent review of American literature on the relationship between good-quality housing for low-income households and education and health outcomes, Mueller and Tighe (2007) cite evidence of a strong, negative relationship between both frequent residential mobility and poor housing conditions on one hand with children’s educational performance on the other. However, they note that the extent of this impact—and its social costs—has not been well articulated. A brief review of Canadian literature appears to confirm these relationships between housing and children’s educational outcomes, but also confirms the lack of research on cost implications. This case study reviews available findings, emphasizing Canadian research while drawing on American literature reviews, on child and youth outcomes associated with housing and neighbourhood conditions.

Crowding and disrepair

The impacts of crowding and housing disrepair have been noted on a range of health, education, and behavioural outcomes. Drawing on 1996 census data from the Household Income Facilities and Equipment micro-data base (HIFE) and on the National Longitudinal

Survey of Children and Youth (NLSCY),⁶ CMHC (2000a) found that 9 percent of Canadian households with children in 1996 were short at least one bedroom relative to the number of residents, with 3 percent experiencing a two- or three-bedroom shortfall. While 89 percent of children aged 0 to 11 in good housing reported excellent overall health, only 72 percent reported excellent health when living in crowded housing that was in need of repair (CMHC, 2000a). Further, while only 12 percent of children in good housing exhibited aggressive behaviour, 33 percent of children in crowded housing in need of repairs did so. Boyle and Lipman (2002) cite inadequate housing as a strong, reliable predictor of behavioural problems for children aged 4 to 11.

Also drawing on NLSCY data from 1994 and 1996, Jackson and Roberts (2001) found that 38.9 percent of children without a dwelling problem (neither crowding nor disrepair) experienced asthmatic conditions in the 12 months prior to the survey's administration, but the percentage rose to 47.2 percent for those exposed to dwelling problems in the year before both of the surveys.

In a Housing Checkup survey administered voluntarily to 1,360 clients at the Children's Hospital of Eastern Ontario in April 2005 (representing a 25 percent response rate), newcomers disproportionately reported living in crowded conditions; one-quarter of households with six or more members had someone living in a common area rather than an individual bedroom.

In her literature review, Cooper (2001) cites the risks of accidents in poor housing arising from poor heating, electrical deficiencies, and fires. Evans (2006) also points to an association of lead poisoning with IQ deficits in grade-school children, reading and language deficits, elevated high school drop-out rates, and socioemotional development difficulties through adulthood. He also notes that living in a noisy environment is associated with lower reading levels, heightened blood pressure, and reduced motivation.

In a comprehensive literature review of the role the physical environment—particularly that of housing—plays on child development, Evans (2006) points to additional associations with crowding, including the social withdrawal of preschool and elementary school-age children and diminished parental responsiveness to children. Gagné and Ferrer (2006) note the adverse affects of housing disrepair on children's math scores, while Evans (2006) cites a range of adverse impacts on social and academic competency in elementary-school-age children and on adolescent absent-mindedness and forgetfulness. Lower educational attainment at age 25 has been linked to crowding; high school students in crowded housing demonstrate weakened motivation and persistence. Citing a study of 4,000 residents aged 19 to 22 in New York, Mueller and Tighe (2007) found reduced high school graduation rates—11 percent for males and 6 percent for females—when residents lived in crowded housing.

Gifford and Lacombe (2006) investigated whether children's socioemotional health—as manifested in behaviour problems—is related to the physical quality and form of their housing and neighbourhood. Drawing on a standard behaviour problem inventory (completed by a schoolteacher and parent), on a housing and neighbourhood checklist of 245 physical features (conducted by someone rating the child's residence and neighbourhood), on interviews with

6 The NLSCY is a national database on the characteristics and life experiences of children and youth in Canada as they grow from infancy to adulthood.

parents (regarding 65 other physical aspects unnoticed in a one-time walkthrough), and on demographic variables, they studied 95 children aged 9 to 12, representing a wide range of household incomes, recruited from public schools in Quebec City and Victoria, B.C. While housing form (e.g., single-family versus multiple-unit dwellings) was not significantly associated with behavioural patterns, the authors found that a higher physical quality in the residence's interior and exterior, and in that of the overall neighbourhood, were significantly correlated with fewer behaviour problems—the residence interior had the strongest effect. The relationship held when controlling for household income, parental education and mental health status, the child's gender, and residential stability. In sum, housing and neighbourhood physical quality accounted for at least 8 percent (and up to 26 percent) of the variance in children's socioemotional health. The authors articulate the need for research to better develop and test propositions to account for this finding.

Tenure

Carter and Polevychok (2004) cite several positive education outcomes associated with children living in owner-occupied housing. Gagné and Ferrer (2006) examined whether and why living in subsidized or owner-occupied housing might improve cognitive (reading and math), behavioural, and emotional outcomes for children aged 4 and up. They found that children in owner-occupied housing do better on average on all cognitive and behavioural outcomes than children in other groups, though the difference was less for boys than girls. Housing in need of repair and residential instability were found to negatively affect math scores.

In assessing the impacts of housing tenure on child outcomes, proxies may be involved, in that behavioural outcomes may be correlated with the factors that determine homeownership tenure rather than arising from the characteristics of the tenure per se. Gagné and Ferrer (2006) note that family functioning is correlated with homeownership, and that housing in good condition may relate to wealth or motivation. Cooper (2001) suggests that two-thirds of the benefits of homeownership can be accounted for by socioeconomic differences. CMHC (2000a) found that while 15 percent of households with children experienced core housing need, this number represented only 7 percent of owner households, compared with 36 percent of renter households. The Housing Checkup from the Children's Hospital of Eastern Ontario found more than 10 times the number of children living in rental housing reporting inadequate conditions versus those in ownership housing (OCHAI, 2006).

Outcomes associated with homeownership may also reflect cultural norms—an investment in community and a sense of attachment and belonging. Given the associations with homeownership, the fact that affordability and debt load challenges have contributed to a drop in homeownership rates at age 37 from 70 percent in 1981 to 60 percent in 2001, with even greater declines for younger families experiencing rising debt levels (Jackson, 2004) may be cause for concern.

Drawing on 1992 data from the Toronto Children's Aid Society, Carter and Polevychok (2004) cite inadequate housing as a contributing factor in 18 percent of cases where children are placed in care, arising from difficulties paying rent, eviction, transience, shelter living, overcrowding, and living in housing below standards. Another study found that for one in five

children in care, the return to their parents' home was delayed by housing problems (Chau et al., 2001).

Residential instability

Residential mobility has also been shown to affect child outcomes. Gagné and Ferrer (2006) found a negative association between residential instability and children's math scores, and note that while boys are negatively affected by housing instability, the length of residency actually increases girls' indirect aggression scores. Drawing on U.S. research, Mueller and Tighe (2007) cite reading and math scores 41 percent and 33 percent, respectively, below average scores among third graders attending three or more schools since first grade. Children who changed schools four or more times by eighth grade were at least four times more likely to drop out than those who remained in the same school; the odds of dropping out are significant even after controlling for family characteristics and prior academic involvement.

Evans (2006) points to challenges in children's psychological adjustments after housing relocation, and to general psychological and emotional distress for children and adolescents arising from home chaos. Drawing on NLSCY data, Kohen et al. (1998) point to the negative effects of residential mobility on grade repetition, school achievement, emotional problems, and high school completion (cf. Cooper, 2001).

Housing and neighbourhoods

In a review of literature demonstrating links between neighbourhood quality and children and youth outcomes, Jackson (2004) suggests that children from deprived neighbourhoods are less likely to be ready to start school and more likely to drop out of high school, become pregnant while teenagers, experience unemployment as youth, or be involved in the criminal justice system. In their analysis, Mueller and Tighe (2007) concur with the importance of understanding neighbourhood effects, but identify disagreements about the specific mechanisms by which neighbourhood effects produce outcomes.

Drawing on NLSCY data from 1994–1995, Boyle and Lipman (2002) examined parental and teacher assessments of behavioural problems of 14,226 children aged 4 to 11. Neighbourhood variation was found to account for 7.6 percent and 6.6 percent of parent and teacher ratings, similar to U.S. estimates of 5 to 10 percent variation presented by Leventhal and Brooks-Gunn (2000), suggesting a "true contextual effect" (p. 387). Multilevel analysis suggested that neighbourhood measures accounted for less than 1 percent of the unique between-area variation in behavioural problems, whereas parent/family variables accounted for as much or more.

Also drawing on 1994 NLSCY data, Curtis et al. (2004) examined the impact of neighbourhood quality on the well-being of children aged 4 to 11. Three indices of neighbourhood quality were created: safety, cohesiveness, and problems (such as garbage or drugs). They found a more cohesive neighbourhood to be strongly associated with better child outcomes in three areas—lower conduct disorder scores, lower hyperactivity scores, and lower emotional disorder scores—while neighbourhood problems raised these scores. Although individual and family characteristics had statistically stronger associations with child outcomes than neighbourhood

characteristics (living in rented dwellings or in dwellings in need of repair was associated with higher numbers of children's problems), neighbourhood quality remained statistically significant after controlling for individual and family characteristics.

Gagné and Ferrer (2006) factor in the importance of gender, finding that boys were less negatively affected by poor neighbourhoods than girls (and pointing to similar findings with U.S. *Moving to Opportunity* experiments), leading them to suggest, "It may be better to leave a boy in a marginal neighbourhood than to move him, but better to move a girl from a marginal neighbourhood to a good one" (p. 293). In considering when neighbourhood effects are felt, Gifford and Lacombe (2006) also find that while behaviour problems are relatively constant over the better half of the range of neighbourhood quality, they rise rapidly as neighbourhood quality falls below average.

Kohen et al. (2002) examined linkages between neighbourhood characteristics and the behaviour patterns of Canadian preschoolers aged 4 to 5, drawing on census socio-demographic data and NLSCY data—gained from social observation—from the 1994 cycle, which included 3,497 preschool children. The authors found that behaviour problems were higher when children lived in neighbourhoods with fewer affluent residents, high unemployment rates, and low social cohesion—even after controlling for family socioeconomic factors, maternal distress, poor social support, and poor health. In sum, about 3 percent of the variability in child outcomes is accounted for by neighbourhood association—findings similar to U.S. research, despite higher education levels and lower rates of single motherhood in the Canadian sample. The authors cite a need for further studies to explore the processes by which neighbourhood effects are transmitted to young children.

Kohen et al. (2002) also examined links between neighbourhood characteristics and the verbal competencies of Canadian preschoolers. They found that higher verbal ability scores were positively associated with residence in neighbourhoods of affluence and negatively associated with residing in poor neighbourhoods of low cohesion—even after controlling for family-level sociodemographic characteristics and other social and emotional characteristics of the mother. However, the associations of neighbourhood affluence and poverty were diminished by consideration of neighbourhood disorder. Gagné and Ferrer (2006) also suggest that higher-quality housing and neighbourhoods may have a positive impact on children's cognitive development, but that the impact is likely limited. Other studies appear to confirm limited associations between educational and income outcomes and neighbourhood quality alone.

Drawing on longitudinal data from the Ontario Child Health Study, Boyle et al. (2007) examined the contextual influences of neighbourhood and family on a young person's educational attainment (years of education). Children aged 4 to 16 ($n = 2,355$) in 1983 were examined in 2001, when they were between the ages of 22 and 34. A large variation (36.88 percent) in educational attainment was attributable to between-family differences, with family income and parental education and living in a rented dwelling exhibiting the strongest correlation; living in a rented dwelling was associated with an educational shortfall of 0.784 years. The authors suggest this significance may be explained not only by homeownership as a tangible asset, but also as an important investment in locale, "accompanied by concern for neighbourhood quality and processes" (p. 183).

While neighbourhood affluence was significant, the coefficient was reduced from .595 to .167 when family status and personal capacity variables were included in the analysis. In the final model, unique variances of 14.53 percent for neighbourhood and family-level variables were identified. Indicators of status (e.g., socioeconomic and demographic characteristics of families) were most significant. The combination of unique and shared variance associated with neighbourhood affluence was 3.83 percent.

The positive association between neighbourhood affluence and educational attainment in Boyle et al.'s (2007) study does not hold for children living in non-rental accommodation. Further, more problems were assessed in children from poor families living in advantaged neighbourhoods, suggesting that relative disadvantage may be an important determinant of behaviour.

Another longitudinal study (Oreopoulos, 2003) links the Intergenerational Income Database to Toronto public housing addresses of the 1970s and 1980s. Oreopoulos examines income attainment for youth 16 to 19 in the mid 1980s, who were aged 30 or higher in 1999, and who lived in public housing before age 17, comparing the outcomes of those who had lived in high-density public housing (such as Regent Park or the Jane-Finch corridor) with those who had lived in low-density public housing (projects with less than 250 units, in census tracts with fewer than 30 percent of households living below the low-income cutoff). He found that low-density public housing developments were situated within neighbourhoods more closely resembling moderately low- to middle-income neighbourhoods (with poverty rates of 25 percent compared to a city-wide mean of 21 percent and a mix of rental/ownership housing), while high-density projects were in neighbourhoods averaging 61 percent low-income rates—enabling him to examine broader questions of neighbourhood impact. While living conditions and exposure to crime vary significantly across developments (with high-density neighbourhoods faring more poorly), rates of unemployment, mean earnings, income, or welfare participation among young adults in 1999 are nearly identical across neighbourhoods—leading him to question the impact of neighbourhood quality.

The counter argument is that conditions for children deteriorated in the 1990s compared to the 1980s, so future impacts may be more significant. The Toronto District School Board currently identifies poor education outcomes for children from these places. Oreopoulos's study needs to be replicated over time, but it serves as a reminder of the need for careful assessment of these questions rather than simplistic, single-sector causalities attributed to particular sector or sectors of household activity and policy.

Several theoretical frameworks have been developed to articulate the means by which neighbourhood effects may be produced (see Kohen et al., 2002, for a helpful overview). One U.S. study indicates the potential for multiple analyses and approaches by which to research the question. Bauder (2001) suggests that neighbourhood effects may operate through the practices of community-based institutions. Based on interviews with administrative officers and staff of community-based career and education-related organizations in two Hispanic neighbourhoods in San Antonio, Texas, in fall 1996, Bauder demonstrates that staff's perceptions of the cultural attributes of youth in the neighbourhood where greater numbers (37.3 percent and 62 percent in the neighbourhood's two census tracts) are neither enrolled in school nor formally employed result in their being channelled towards secondary careers. He finds

services are biased according to cultural stereotypes, as administrators promote mainstream cultural traits. Those deemed culturally “dysfunctional”—those “living for the day,” those less able to cope with crises and life priorities, or those with less cultural capital—are categorized as future manual labourers and low-level service workers. Bauder suggests services, such as affordable childcare, are important to minimize cultural marginalization rather than simply facilitating acculturation.

Housing and health

A long range of studies, most originating within the health rather than the housing sector, have drawn attention to a number of broad impacts of housing outcomes for health:

1. Poor-quality and substandard housing undermines health.
2. High shelter costs constrain access, since lower-quality housing may be lower cost and lower-income marginalized households household cannot afford good-quality housing, while high shelter costs crowd out other expenditures such as food and can therefore lead to poor nutrition and related health effects.
3. Poor health related to substandard housing affects the labour market and productivity because of higher rates of absenteeism and lower levels of concentration.
4. Homelessness exacerbates and causes health issues, including stress-related mental health problems.
5. Homeless individuals, many of whom suffer from severe mental health problems and/or addictions, have higher hospital admission rates and incur costs in the emergency part of the hospital system.

The epidemiology of poor housing quality

Extensive research has been conducted on the health consequences of poor housing conditions, for instance, how inadequate plumbing, poor heating, poor ventilation, and lack of heating lead to health problems caused by mould (see Dunn, 2002).

Epidemiological studies show that indoor contaminants such as mould, moisture, or cockroach antigens cause or exacerbate respiratory problems, particularly in children. Other research directly links structural deficiencies and overcrowding in housing with physical and mental health problems. Indoor environmental hazards, such as exposure to carbon monoxide, excessive heat or noise, pesticides, and cigarette smoke, are also linked to negative health outcomes (Jackson, 2004).

While historically poor housing conditions were associated with low incomes (see Mueller, 2007), this is less significant today. In Canada the number of dwellings in need of repair is quite low—less than 7 percent in need major repair, falling to less than 3 percent once a low-income

(core housing need) threshold is applied. So poor housing conditions are not exclusively associated with low income.

Poor health is, however, associated with socioeconomic status—various studies on sense of empowerment and self esteem have found a correlation between socio-economic status and health in terms of longevity, employee absenteeism, and dependence on prescription drugs (Canadian Housing and Renewal Association, 2003).

Low incomes result in natural market sorting in housing markets with resulting concentrations of poverty in lower cost/rent areas, sometimes also associated with a spiral of declining physical condition, and resulting health effects (Vandivere et al., 2006).

The 2003 Canadian Housing and Renewal Association (CHRA) Symposium on Health and Housing concluded:

- Much research focuses on the links between poor-quality, rundown, or crowded housing, and high rates of injury, disease, and physical ailment.
- A significant body of research shows that where we live affects our health. Dr. Richard Lessard, Director of Public Health for Montréal-Centre, showed that most of the city's health and social problems are concentrated in the inner-city, low-income, rundown neighbourhoods of Montréal-Centre.
- Bad housing outcomes particularly affect children. Dr. Gary Evans of Cornell University clarified how poverty affects children's social and emotional development. Low-income children are exposed to significantly more environmental stressors, such as noisy, crowded, poor-quality housing, than their better-off peers. Such children register higher levels of stress and stress-induced hormones. Cumulative exposure to housing-related stressors steadily widens the gap between poor and middle-income children and has potential implications for educational performance and future labour market participation.
- The links between homelessness and poor health are incontrovertible (Ambrosio et al., 1992). Homelessness is associated with high rates of accident, injury, physical and sexual assault, and medical conditions including tuberculosis, skin disease, poor blood circulation, and foot problems. The rate of mental illness among the homeless is high and life expectancy is low. Approximately one-third of Toronto's homeless population suffers from mental illness, often complicated by addictions, and these conditions are often left untreated. In fact, homelessness can actually precipitate both mental and physical illness.
- Many on- and off-reserve Aboriginal peoples live in abject poverty and poor health. Poor housing is a symptom of that poverty. Dr. Marja Korhonen of the National Aboriginal Health Organization noted that overcrowding is widespread and acute, affecting as much as 70 percent of the population in some Inuit communities. Forty percent of First Nations on-reserve housing is inadequate. And between 27 and 34 percent of all Aboriginal peoples are in core housing need as defined by CMHC. The health and social consequences are profound. Life expectancy among Aboriginals is much lower than other Canadians, and the rates of suicide, substance abuse, injury, disease, infant mortality, and family violence are much higher.

At a 2004 Canadian Housing and Renewal Association national symposium, *Why Housing Matters*, Andrew Jackson reviewed the literature across a number of domains:

- Dunn (2002) found that housing is part of the epidemiology of everyday life which works to bring about poor health outcomes for persons from lower socio-economic status groups; for example, life expectancies are higher in more affluent neighbourhoods.
- Links between poor housing conditions and health have been summarized in Hwang et al. (1999), including the association of dwelling disrepair with physical injury; moulds and toxins related to respiratory diseases; and poisoning from asbestos, lead pipes, and urea formaldehyde insulation.
- Children's health effects have been documented by CCSD (2001), which found that the incidence of poor health, particularly asthmatic conditions, was twice as high (28 percent) for families living in housing in need of major repair compared to the general population (11 percent).
- The research evidence must be balanced. There is a relationship between socio-economic status and health, but the underlying contribution of material deprivations (lack of good food, poor quality housing) is not directly correlated. The prime issue may be one of stress and lack of self-esteem arising from relative material deprivation. Many of these outcomes are a result of neighbourhood effects (a natural market sorting process may leave a neighbourhood in decline, even if a specific house does not have substandard conditions), but in most cases poor housing and poor neighbourhoods co-exist (Galster, 1992; Mueller and Tighe, 2007).

Lack of affordable housing and exposure to poor housing and poor neighbourhoods has lasting impacts. Harkness and Newman (2005) provide a quantitative look at the impact of housing affordability on children. They used the 1997 National Survey of America's Families (NSAF), supplemented with data on geographic variation in housing affordability, to examine whether children's health, school engagement and performance, and behavioural and emotional problems are associated with variations in housing affordability. Generally, they are. These authors also find that housing affordability appears to affect poor children's well-being primarily because less money spent on housing means more money available to buy necessities when children are young.

Using longitudinal data from the [Canadian] National Child Development Study, Marsh et al. found housing played a significant and independent role in health outcomes. Greater housing deprivation showed a dose-response relationship to severe/moderate ill health at age 33. Living in substandard housing and poor neighbourhoods affected children directly and indirectly, since increased stress is related to parents' financial and psychosocial distress. For those who experienced overcrowded housing conditions in childhood to age 11, there was an increased likelihood of experiencing infectious disease. In adulthood, overcrowding is linked to an increased likelihood of respiratory disease (Marsh et al., 1999).

Neighbourhood effects and homelessness

Neighbourhood effects (as a separate set of variables from dwelling condition) on health can be explored by examining the results of relocating households. The empirical evidence remains

thin, as only a few studies have included health-related variables, but there are indications that mobility strategies—helping poor families move to better neighbourhoods—does have a positive association with health outcomes. Acevedo-Garcia et al. (2004) found that mobility can improve the health of both adults and children. The strongest empirical evidence comes from two studies, one of the Moving to Opportunity Program and the other from research on scattered-site public housing in Yonkers.

However policies that use relocation do not necessarily contribute to better outcomes. A study of residents in redeveloped public housing in the United States (HOPE VI) who were offered the option to relocate found significantly higher incidence of health problems. At every age level, HOPE VI Panel Study respondents are much more likely than other adults overall to describe their health as fair or poor; the rates are even higher than those of black women, a group with higher-than-average rates of poor health. HOPE VI Panel Study respondents suffer many serious conditions including arthritis, asthma, depression, diabetes, hypertension, and stroke at rates twice as high as black women nationally; a significant number of HOPE VI Panel Study respondents also face multiple serious health problems. And the death rate of HOPE VI residents far exceeds the national average of black women, with the gap increasing dramatically at older ages. These findings imply an urgent need for better and more comprehensive support for families as they undergo the stress of involuntary relocation.

Health conditions associated with homelessness have also been documented. Those who sleep on the street have higher than normal rates for a variety of illnesses. A survey in Toronto in the early 1990s found that homeless people had a much higher risk than the general population for many chronic conditions, including respiratory diseases, arthritis, rheumatism, high blood pressure, asthma, epilepsy, and diabetes (Ambrosio et al., 1992). Recent work by Khandor and Mason (2007) confirms these findings.

In a seminal study in the United States Culhane et al. (2001) examined the impacts of supportive housing on individuals who had previously been homeless and suffered from severe mental disorders, compared to those who remained unassisted living on the streets and using the emergency shelter system. The study tracked almost 5,000 individuals between 1989 and 1997 and their use of public shelters, public hospitals, Medicaid-funded services, veterans' inpatient services, state psychiatric inpatient services, state prisons, and city jails. The research documented significant reductions in shelter use, hospitalizations (regardless of type), length of stay per hospitalization, and time incarcerated. Prior to placement in supportive housing, homeless people with severe mental illness used an average of \$40,449 per person per year in such services (in 1999 dollars). Placement in supportive housing was associated with a reduction in service use of \$16,282 per housing unit per year, adjusting for concurrent changes in the controls' service use patterns—two and one half times less expensive than the costs for those who were homeless.

Mueller and Tighe (2007) note that current empirical literature has begun to outline the ways that neighbourhood conditions in low-income neighbourhoods affect residents' socioeconomic and health status. The strongest evidence comes from public health research, where specific connections between housing problems such as lead paint, cockroach infestations, and other factors are linked to specific illnesses and injuries. The evidence is most compelling and the effects most easily understood for children. However, more needs to be done to reinforce these

findings and build confidence in the methodology behind them and to attach meaningful social costs to poor conditions.

Housing, safety, and crime

Success as a city requires communities to think of quality of life as a commodity that can be cultivated and managed. City quality is not enhanced by growing concentrations of poverty and decay or by rising crime rates. Studies have demonstrated that crime is also not randomly distributed, but associated with the distribution of other factors related to the population and land uses of the city. Yet few studies explore these dynamics, and even fewer consider the role of housing in this new environment.

Measuring crime

While crime rates have not risen in recent years, there is a growing perception that some Toronto communities are unsafe. Toronto has often been referred to as a city of neighbourhoods, but the quality of these neighbourhoods have been called into question by a series of reports in recent years (United Way, 2002a, 2002b, 2003).

Researchers have developed various methods of measuring the societal costs of crime. The Quality of Life Adjusted Index (QALYI) is widely used in health economics and estimates the combined effects of health factors or interventions in changing the duration as well as the measured quality of life. It has been used to assess the costs of crime. The methodology normally includes estimating the emotional and physical, lost output (productivity and unemployment), and health costs of crimes (Brand and Price, 2000).

A comprehensive report by researchers at the Washington Institute for Public Policy, describes the bottom-line economics of programs that try to reduce crime (Aos et al., 2001, 2006; Waller et al., 1999). To make these determinations, the Institute quantitatively reviewed over 400 program evaluations conducted mostly in North America over the last quarter century and organized individual evaluations into policy-relevant topics, such as early childhood education programs, adult drug courts, cognitive-behavioural programs for juvenile sex offenders, and so on. Researchers systematically analyzed these programs and then determined whether program benefits, as measured by the value to taxpayers and crime victims are likely to outweigh costs.

Increasingly, crime is being understood in relation to geography. Statistics Canada has over the last few years funded a series of studies on the spatial distribution of crime in Regina, Winnipeg, and Montreal, using a combination of statistical analyses and crime mapping based on Geographic Information System (GIS) technology (Statistics Canada 2004, 2006a, 2006b). Results of these studies show that while socio-economic disadvantage makes the largest relative contribution to the explanation of both violent and property crime rates, disadvantage is followed in importance by the relative contribution of the condition of housing in the neighbourhood, indicated by the proportion of dwellings in need of major repairs. As the proportion of dwellings in need of major repair increases, so do the violent and property crime rates net of the other variables in the model. Most significantly, these studies demonstrate that crime is concentrated in relatively small proportions of the total geographic area of the city.

The links between crime and community geography and infrastructure have elevated quality of life concerns to the forefront of crime prevention efforts. Moreover, every dollar spent on prevention provides society with other important returns. Because of these important connections, crime is increasingly studied in the neighbourhood context and crime prevention pursued in relation to community revitalization efforts. Many outcomes of urban regeneration are essential interim objectives for safer communities and offer important mid-term indicators of success.

But studies quantifying the costs and benefits of crime prevention rarely include estimates of non-crime related benefits—the spillover effects into other areas of the community. In other words, researchers have yet to develop systematic approaches for quantifying the social and economic gains realized from investments in crime reduction. Also, the consequences of crime have rarely been connected to the macro economy. Opportunity costs and productivity losses are calculated at the individual, household, or business level, as a means of quantifying national expenditures, but rarely are these findings considered in the context of growth. Questions about the effects of crime levels on growth and investment decisions, and the opportunity costs incurred by communities with high rates and perceptions of crime, may be raised but are seldom answered.

Developing methodological approaches to measure crime within this larger framework rests upon having a better understanding of how crime relates to the community and how the community relates to the macro economy.

Environmental design

Planners and design scholars have long linked the design of the built environment with safety from crime. This tradition begins with classic works by Jane Jacobs (1961), C. Ray Jeffrey (1971), and Oscar Newman (1972), and continues to the present day, with international organizations such as CPTED (Crime Prevention Through Environmental Design). Through their involvement with design and construction, architects, planners, and builders can help create safer neighbourhoods and communities. Design features include those that make neighbourhoods look “defended” (attractive landscaping, clear assignment of semipublic spaces to specific units), design elements that discourage disorder (the elimination of graffiti, improved maintenance), and opportunities for surveillance (seating near outdoor public spaces, windows overlooking the street).

The application of Crime Prevention Through Environmental Design (CPTED) principles has been proven to decrease crime, especially property crime. Based on the findings of a comparative study of seven countries, the International Centre for the Prevention of Crime concludes that urban planning and maintenance issues, such as bad traffic planning, poor lighting, and abandoned buildings, accounts for 16 percent of responses to the question of root causes of crime (International Centre for the Prevention of Crime, 1997). There is broad agreement in the literature that while bad design does not create crime, bad design can increase the possibilities of a crime being committed successfully. Towards achieving these goals, the Toronto Police Service as well as most others across the country have developed a CPTED Safety Audit Checklist.

Though relevant as a crime prevention technique and as a model connecting the notions of crime and community, CPTED design are limited in their application to theories of growth.

Social capital

Social capital generally refers to the trust, institutions, social norms, social networks, and organizations that shape the interactions of actors within a society. At the macro level, social capital is believed to affect the economic performance and the processes of economic growth and development. The concept of social capital has received increasing attention in recent years from both academics and the policy community. It has come to be widely used in debates about crime, housing, and neighbourhoods and figures strongly in discussions of social cohesion, community development, and neighbourhood renewal.

A study by Saegert et al. (2002), for example, compares five programs that house New York City's poorest, mostly minority, residents. The effectiveness of social capital in preventing crime is assessed using data from surveys of 487 buildings in Brooklyn and crime from the New York City Police Department during 6 months in 1995. Three components of social capital—basic participation in tenant associations, tenant prosocial norms, and a building's formal organization—are related to reducing various types of crime in the buildings under study 6 to 12 months after social capital is measured. The effectiveness of social capital is related to alternative ownership structures, building characteristics, and housing policy.

The City of Toronto scores well on measures of connectivity: Toronto citizens are generally quite connected to their neighbourhoods and communities, which adds to their safety and security. According to a 1998 survey for the Community Safety Task Force, every week, Toronto citizens make an average of 2.2 trips to neighbourhood grocery stores, and 1.4 trips to other neighbourhood stores. Each month, Toronto citizens go to a restaurant or club in their neighbourhood an average of 2.8 times, make 6.8 visits to neighbourhood parks, take 12.3 pleasure walks (in the summer), and have 13.1 talks with their neighbours. One in five Toronto citizens belong to a neighbourhood or community organization, such as a residents' association or a community watch.

The notion that social interactions have economic worth is integral to understanding the nature of the present knowledge-based economy and to the increased strategic relevance of urban communities, but using the social capital literature to develop these connections further may be challenging given its poorly-defined nature (see Middleton et al., 2005).

Urban regeneration initiatives

Bradford (2003) reviewed the literature on cities and communities and examined Canadian and international case studies. He focused on 11 small and medium-sized cities in Canada, the United States, and Europe that have made dedicated and creative efforts to turn local assets into a community-wide strategy for economic renewal and a better quality of life. Each one, in its own way, is trying to overcome inadequate local problem-solving capacities to create what the author calls learning communities.

Urban regeneration initiatives are common in the United States and Britain, which experienced the negative consequences of neighbourhood-based exclusions. Canada trails this experience and can take advantage of lessons learned. Urban regeneration initiatives, such as that in Regent Park in Toronto, offer significant opportunities to address crime as they normally involve a more coordinated approach and engender deeper investments from a broader base in the community.

But mixed results from these approaches point to a need to better understand the contextual differences that might explain differences in outcomes. Cummings et al. (2002) examine two developments subsidized by the City of Philadelphia that offer newly constructed homes at well below cost. The study is based on a unique survey of these new owners to measure what residents gained in terms of structure and community attributes as they make the transition from renting to owning. Results indicated that while the new owners in the complexes significantly improved their housing structures (all new and significantly larger than their previous rental homes), these gains come at a substantial cost to them through a marked decline in community quality compared with their previous neighbourhood. The new neighbourhoods were more segregated, had higher incidences of crime, and lower-quality schools.

The study is one of the few that discusses the economic consequences of these strategies. It finds that although these developments were expected to increase economic activity, there was no evidence of local spillover benefits. Moreover, the estimated dollar increase in housing consumption by the residents was substantially lower than the public subsidies used to build to these projects. Given the minimal gains in the face of substantial subsidies, the study concludes that consideration should also be given to the trade-off between using scarce subsidy dollars for homeownership programs versus using those dollars to improve community quality through programs that reduce crime, improve schools, or increase retail activity.

There is a need therefore, to develop approaches that can better assess the costs and benefits associated with these initiatives. Clearly the extent of positive spillover effects depends on how these programs are implemented and on particular contexts at the neighbourhood level. Questions linking these separate notions, such as how housing conditions contribute to employment stability and productivity in these communities before and after revitalization efforts, have rarely been studied.

Regeneration strategies can be also seen as part of a broader set of ideas on how to promote and manage growth, often referred to as “Smart Growth.” The theory is that Smart Growth helps communities reach their economic potential by building on their local strengths, facilitating decisions on issues that cross community boundaries, and promoting investments consistent with the Smart Growth vision. Additionally, Smart Growth promotes using resources more wisely by optimizing the use of existing infrastructure such as roads, sewer, and water systems.

The connections between Smart Growth principles and crime are well developed. It is understood for example, that promoting housing choices and human-scale design is vital to self-policing, that mixed-use development discourages crime, that walkable environments are safer environments, that accommodating productive activity discourages destructive activity, and that partnerships and neighbourliness contribute to long-term public safety. In general, then, public safety enhances the livability of cities (Zelinka, 2002).

The next section explores the wider meaning of Smart Growth, and its contribution to quality of life that goes well beyond safety to include benefits relating to environmental health and social cohesion.

Housing and quality of life

Planning for growth

Until 25 years ago, Toronto was held up as a model of successful urban development largely due to transportation policies that balanced road and public transit investments. Toronto places second in North America in terms of the number of residents who use public transit and its residential density is higher than the North American norm. However, new developments beyond the newer City of Toronto boundaries do not perform better than the North American norm because of the absence of planning over the entire region, reliance on the automobile in the new developments, and insufficient investment in public transit to keep up with new growth (Filion et al., 2006).

That growth has been rapid. In the last 50 years, the population of the GTA has tripled from 1.5 to 4.7 million and suburban cities such as Markham, Brampton, Vaughan, and Richmond Hill are the fastest-growing municipalities in the GTA and indeed, Canada (Gilbert et al., 2005).

In the early 1990s as a response to urban sprawl, Metro Toronto promoted the development of “Main Streets,” a program that consisted of transforming arterial roads bordered by one-storey commercial structures into higher-density developments with mid-rise residential buildings and retail to encourage walking and public transit use (Filion et al., 2006). However, this concept has had only partial success. While it has attracted a greater diversity of housing to Toronto, only one node (North York Centre) is meeting its goals for density, public transit use, and walking level expectations. The reasons cited for this disappointing outcome include the change of provincial government in 1995 and the lack of provincial transit funding to help achieve the goals of this strategy. As well, too many nodes were designated, making it difficult to achieve the critical mass needed to warrant high quality transit services (Filion, 2003).

Research on six regions in Canada found similar discrepancies between policies for growth management and what is taking place on the ground (Tomalty and Alexander, 2005). Many of the indicators surveyed suggest that progress on key principles is absent (mixed use, nodal concentration of employment), minimal (density increases), or retrograde (intensification, housing affordability, range of housing types, protecting ecologically significant features, increasing transportation options). There seems to be little application of the principles outside Toronto’s more sophisticated renewal schemes and almost none in the mushrooming outer suburbs.

The study concluded that these results reflect not only a lack of political will all levels of government, but also constraints such as the regulations put in place over the decades that militate against innovation in planning and development, the lack of widespread interest in the development community in non-conventional development designs, the financial barriers posed by municipal taxation and development charges policies, and consumer preference for lower-density urban landscapes.

Needed changes will depend on an understanding of how these practices affect the value of a community: environmentally, socially, and economically. Efforts to address social policy issues within Canada's complex federal system are much more likely to succeed within a shared understanding of what the challenges are and how they relate to other policy issues. At present, housing policy remains a permanent victim of jurisdictional ambiguity.

One of the greatest challenges to achieving smart growth is the existing urban form, which features low densities and car dependence. However, even when mixed-use developments are successfully built, they usually fail to reach their public transit objectives (Filion, 2003). Changing these relationships will be critical to reducing the negative effects of growth on the environment and the economy.

The other great barrier is public attitudes, specifically opposition to high-density developments. In addition, studies have demonstrated the potential efficiencies to be derived from influencing lifestyle choices that contribute to excessive energy use and greenhouse gas emissions.

Quality of life as a commodity in the macro economy

Livable urban communities have become increasingly significant to the global economy for a number of reasons. First, companies realize that their workers want to live in communities that offer reasonable commutes, a vibrant social life, environmental amenities, and housing and transportation choices. Second, certain kinds of business are increasingly conducted beyond the boardroom—in cafes, restaurants, health clubs, and public spaces—places where people come together, converse, share ideas, and network. Third, the private sector in the new economy equates competitive advantage with the ability to be where the action is and this is in urban or town centres. Therefore, while technology frees businesses to locate anywhere, proximity to suppliers, an educated workforce, and networks of learning is drawing business to the central business district (see, for instance, Sassen's concept of "agglomeration dynamics" in Sassen, 2001, or the notion of "learning communities" in Bradford, 2003).

The new economy demands a social and communication infrastructure (one that supports safe networks of interaction) as well as a proper physical infrastructure (one that reduces the costs of business, but also supports well-functioning communities). In this new global environment, "quality of life" at the urban level, therefore, has become key to national growth. Urban centres with a high "quality of life" are now a national commodity.

As communities and local governments become increasingly concerned about quality-of-life issues, community indicators have become a widely used tool. In Ontario, for example, the Social Development Council is using the Quality of Life Index to monitor key indicators of social, health, environmental, and economic progress. The results indicate that the quality of life in Ontario has declined since 1990.

Indicators provide a way to understand and address community issues from a holistic and outcomes-oriented perspective. They are useful, within the context of an overall community-improvement process, both as a planning tool, based on a community's vision, and as an evaluation tool to measure progress on steps taken toward improvement.

But these indicators provide only a static snapshot of what has taken place rather than an analytical tool that can capture the interrelationships of the variables, such as the role that adequate, affordable shelter plays in providing households with stability and security, and how stability and security contributes to growth by providing the conditions necessary for individuals to maximize their contributions to society. Thus housing and neighbourhood design can be understood as an integral predictor of security and growth and by extension, of economic health. Theories on social capital, urban regeneration, and smart growth may offer a useful framework for making these connections, but need to be extended further to include economic concerns. At present, questions about how housing and neighbourhood design, management, and location facilitates interactions with other social and economic sectors have been under-researched.

A report by the City of Toronto argues that its greatest economic asset is the quality of life that Torontonians enjoy, which attracts people and firms (City of Toronto, 2000). This statement reflects an understanding of the strategic importance of cities within the context of a knowledge-based economy and provides the needed justification for developing these multidisciplinary methodological approaches. If the city believes what it says then it must, given the salience of housing in shaping community and city quality, begin to expand renewal and renovation of poorer places in the city with a new purpose and commitment.

Housing outcomes and environmental effects

Research on housing and the environment generally involves three types of studies:

- new standards or pilot projects for housing types (e.g. R2000, EQuilibrium Housing) that are more efficient than conventional housing at conserving energy, water, and other resources, that are built with construction techniques that limit construction waste, and that incorporate materials which emit less pollution into the air;
- relationships between housing and energy or housing and greenhouse gas emissions;
- the impact of housing densities and corresponding transportation patterns on urban sprawl.

The latter two types of study are relevant to this review.

A U.S. study has shown that demand management (such as turning off lights when they are not in use) can have as great an impact on greenhouse gas emissions as the number of appliances or other amenities in the home. Household behaviour and number of occupants plays an important role in determining energy used in households for cooking, laundry, water heating, lighting, and operating televisions and other electronic devices.

One recent study (Norman, MacLean and Kennedy, 2006) provided an empirical assessment of the energy use and greenhouse gas emissions associated with two case studies from the City of Toronto. The data is from 1996–1997. One case is a compact, multi-storey, high-density condominium close to the city's core employment area and the other is a low-density residential subdivision. Three elements of urban development were considered:

- all activities associated with resource extraction through material production for infrastructure (building, utility and road materials);
- heating, cooling and electricity for dwellings;
- transportation (car use and public transit).

In terms of building operations impacts, the study showed on a per-capita basis that low-density developments of single-detached dwellings used 1.8 times more energy for building operation in 1997 than high-density apartment developments. However, when the findings are presented based on energy use per square *metre* of living space, the two types of developments are essentially equal in annual energy use.

Upon examining the building materials, the authors found that brick and drywall in residential buildings contributed disproportionately to urban embodied energy/greenhouse gas emissions. Therefore, using more benign alternatives such as different forms of siding instead of brick, would result in significant reductions.

In terms of housing and its effects on transportation patterns, Filion et al. (2006) have looked at the relationship between density and transportation mode shares based on 1996 data. They found a positive relationship between density and public transit use and between density and walking, particularly with respect to housing clustered around certain subway stations and walking levels generated by downtown residential development. The study also reports that large suburban public housing projects were sited due to the availability of cheap land instead of accessibility to transit services. The coordination of high-density developments with high-quality transit was neglected.

The authors note that the distribution of high-density areas is responsible for an imperfect match between public transit use and density. They attribute this pattern, characterized by scattered pockets of high density, to a compromise between the pro-high-density lobby and the anti-high-density lobby which has reduced the potential positive impact of density on transportation. Public transit has to provide service across a vast expanse of low-density land to service high-density developments, thereby driving up costs.

The authors conclude that on its own, density has a weak effect on transportation mode shares. It must be accompanied by other factors such as proximity to high-quality transit services, large concentrations of activities, and an environment conducive to walking. Though Toronto's vision of Main Streets was intended to lead to this ideal combination of density, transit and services, public protests over high density developments led to a watering down of this model. Therefore the need to educate residents on the environmental impact of low density developments is paramount.

In another study, Filion (2003) divided the GTA into two realms: one concentrated, the other dispersed. The concentrated area, built before the Second World War, has low car use while public transit, cycling, and walking account for 25 percent of the transportation mode share. It has high-quality transit and mixed-use, dense, walkable neighbourhoods. The dispersed area was built between the end of the Second World War and the present and is characterized by a "scattered distribution of activities." This low-density development is commonly referred to as sprawl or exurban sprawl. This rigid separation of residential and other land uses requires

extensive use of the automobile. Retailers such as “big box” stores can locate based on land availability and cost instead of proximity to transit, since their customers will visit the stores by car. The cars require ample surface parking, which allows less potential for densification and creates neighbourhoods that are not pedestrian-friendly. Suburban residents value green space more than proximity to pedestrian-oriented activities and commercial streets and accept the car as their prime mode of transportation. Developers provide the types of housing that consumers demand and homes are getting larger and larger, which is in turn driving up energy use in the residential sector.

Evaluating future housing developments

The IBI Group has developed a model of greenhouse gas emissions from personal urban transportation, looking at variables such as housing design, socioeconomic characteristics, and location (Canadian Mortgage and Housing Corporation, 2000b). The model provides a tool to evaluate development proposals in terms of impact on greenhouse gas emissions. Data obtained was based on a transportation survey carried out in 1996 and the geographic area examined was the 832 census tracts or 1,036 traffic zones in the GTA. The study was limited to greenhouse gas emissions from car use. The authors developed nine different neighbourhood scenarios based on three different designs with neighbourhoods located 5 km, 10 km, and 30 km from the central business area of the Toronto Census Metropolitan Area. The authors based the neighbourhoods on the Inner Area, Inner Suburbs and Outer Suburbs of the GTA.

The authors found that the low-density outer suburbs produced about three times more annual greenhouse gas emissions per household than the mixed-use, compact neighbourhoods near the business area. It was also found that the principal reason for this increase in emissions in the low-density area was its location rather than its design variables. The authors concluded that infill development is more effective than developing greenfields in slowing down the growth of greenhouse gas emissions, even if the greenfield is designed to be denser and friendlier to pedestrians, transit users, and cyclists than a traditional suburb.

However, neighbourhood variables are still an important determinant of greenhouse gas emissions. The following variables were found to be significant:

- an increase in housing density (number of units within a 1 km radius of the neighbourhood centre) slightly decreases vehicle ownership and increases travel by transit;
- a high degree of mixing housing types in a neighbourhood can slightly reduce car ownership;
- the availability of bike paths and recreational paths slightly reduce car use.

One of the authors' suggestions in terms of further research is to examine neighbourhood design variables such as parking, traffic calming, and streetscapes to determine the correlation between these and greenhouse gas emissions from travel.

Developing medium-density housing

Our expectations for ideal housing are usually based on where we grew up, which for many people today was in the suburbs (Filion, 2003). The authors of the CMHC study, *Multiple*

Housing for Community Sustainability, describe the image of ideal urban housing in Canada as a detached dwelling in a low-density community. Their study strives to encourage more medium-density housing at the expense of lower-density housing. The research involved focus group sessions to identify consumer expectations, identify precedents for medium-density projects, design studies of new forms of medium-density housing, and gauge consumer reaction to the new designs (CMHC, 2000c). The study area was the former Regional Municipality of Ottawa-Carleton.

The authors describe the adverse effects of low-density development as the inefficient use of land, increased use of the automobile, and environmental degradation. By contrast, large-scale medium-density developments can incorporate alternative systems for conserving water, energy, and other natural resources. Medium-density development refers in the study to townhouses, duplexes, stacked townhouses, garden apartments, and apartment buildings of 6 storeys or less. The authors argue that medium density offers more choice, flexibility, and affordability than lower-density developments. The land required to service a dwelling decreases as density increases, so the efficiencies of medium density are passed onto the consumer. Given the higher number of residents it can accommodate, this kind of development leads to more businesses and amenities in a community and to a greater diversity of options for travelling in the community. The market for medium-density housing includes a segment of the market that would normally be drawn to lower-density housing. The study details attributes and features that medium-density housing should incorporate to attract both traditional and new segments of the market.

One of the barriers to this type of housing is the higher cost per square metre of medium-density housing compared to low-density housing, particularly infill housing. The authors suggest that an “environmental accounting” analysis should be applied to the development costs, property taxes, and so on to demonstrate that multiple housing has a financial edge over lower-density developments.

An agenda for future research

The research presented in this appendix makes the case that housing outcomes have spillover effects that are important for policy goals and productivity growth. A number of steps are needed to extend this research:

- The reviews summarized here should be used as a basis for sectoral expert discussion groups to validate and expand the evidence collected.
- A wider framework for spillovers, encompassing other significant effects, should be agreed upon, and data and research reviewed to lead to a meta review of housing and neighbourhood spillovers.
- A consistent cross-sectoral methodology for assessing effects and putting economic weights upon them needs to be developed.
- Where gaps exist, a review should establish whether this is because of methodological difficulties, data omissions, or policy neglect.

The aim should be to work towards a conceptual and data framework that government and neighbourhood renewal and development agencies could use to capture the spillover effects of housing and neighbourhood programs. Such an evidence-informed approach to policy already exists in other sectors, such as health provision and education.

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