

The Canadian Urban System in 2011: Looking Back and Projecting Forward

Jim Simmons and Larry S. Bourne

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1.0 Introduction

Canadian cities continue to undergo massive social and structural transformation. Some of these changes are of recent origin while others are longer term and in a few instances bear a similarity to changes in previous periods. While some of these changes are driven by external forces (such as globalization, trade competition and currency fluctuations), others derive from internal or domestic factors and policy decisions (or non-decisions). Notable among the domestic factors is the combination of the ongoing demographic transition, including low fertility levels and the resulting trend to an aging society; and federal policy decisions encouraging high levels of immigration.

In parallel, economic development appears to be increasingly focused on two ends of the settlement continuum; that is within the country's urban system. At one end of the continuum growth is concentrating within the larger cities and city regions, mirroring the logic of agglomeration economies and the rapid expansion of service industries, and the destination choices of immigrants; and at the other end, by resource development in more sparsely populated peripheral regions. The latter in turn generates resource-based revenues that while widely distributed across the country nonetheless remain largely in the producing regions (e.g. the provinces). This emerging geography of economic activity and production acts to support—indeed encourage—the concentration of skilled human capital for the service industries in the larger metropolitan regions and the import of large numbers of transient (often temporary) skilled and blue-collar workers for the resource sectors and peripheral regions. As a result, the country's urban character is being redefined, with consequences that remain to be identified and assessed.

This paper picks up these themes through an examination of the initial results from Canada's most recent Census of Population, 2011. It argues that the pattern of population change, and, to some degree, the operation of the country's space-economy, resembles—and in a number of important regards—the pattern of development of a century ago. This was back in the era when Canada's economy was dominated by 'staple' products, as the expanding western frontier – fed by waves of new immigrants into resource industries such as agriculture, forestry and mining—stimulated parallel waves of population growth in the largest cities of Eastern Canada, and whose growth has also been driven primarily by immigration. While today's economy is obviously far larger, more complex and more oriented to services than it was in 1911, recent trends suggest that the Gross Domestic Product (GDP) is currently shifting towards the primary

sectors and away from traditional manufacturing. As one result, Canada's political system, in which the provincial governments reap most of the resource revenues which they can then spend on services such as education and health, is also changing yet again. Although the benefits of resource development tend to remain within the staple-producing provinces, population growth and the investment in new infrastructure and public services tend to concentrate in the largest cities in those provinces.

The paper also notes some of the striking differences from the past in terms of the country's evolving urban system. For example, the geographical scale of urban concentration has clearly changed, as the largest cities are not only much larger but now exert influence over far more extensive tributary regions, regions populated by other smaller towns and cities that in combination form an integrated 'metropolitan sphere of influence' (or MIZ zones), or what we will call here a 'mega-urban region.' Perhaps the most significant difference from one hundred years ago, at least in the demographic sphere, is the overall aging of the Canadian population, in that the most rapidly growing age cohorts are now over forty years old. This, in turn, has led to a reduction in the level of natural increase and a vigorous policy response from governments at all levels, but notably the federal government, in the form of encouraging increased levels of immigration. The latter now accounts for two-thirds of Canada's population growth, and that proportion is increasing. This transition has changed the spatial distribution and the social character of growth and change, both nationally through the urban system and within the city. The paper concludes with a brief discussion of some of the implications of this shift, supported by population projections for 2036.

Note that this discussion is primarily limited to population and the demographic characteristics of age and sex, family and household characteristics. The remaining economic and social measures of interest will be released as part of the National Household Survey (NHS) but not until later in 2013 and thereafter. Note also that in the following discussions we use the terms city or 'cities', unless otherwise stated, as synonymous with Statistics Canada's functionally-defined urbanized regions—that is, the census metropolitan areas (CMAs) and smaller census agglomerations (CAs) that combine several smaller municipalities. CMAs have over 100,000 population while the latter have from 10,000 to 100,000. In 2011 there were 33 CMAs and 114 CAs, which together we define as the country's urban system. Subsequently, those CMAs and CAs that are located in close proximity and that are also functionally integrated (e.g., as labour markets, social spaces and consumption spheres), are grouped into clusters we call urban megaregions. These clusters suggest a new model of urbanization is emerging—providing a possible signpost to our urban future.

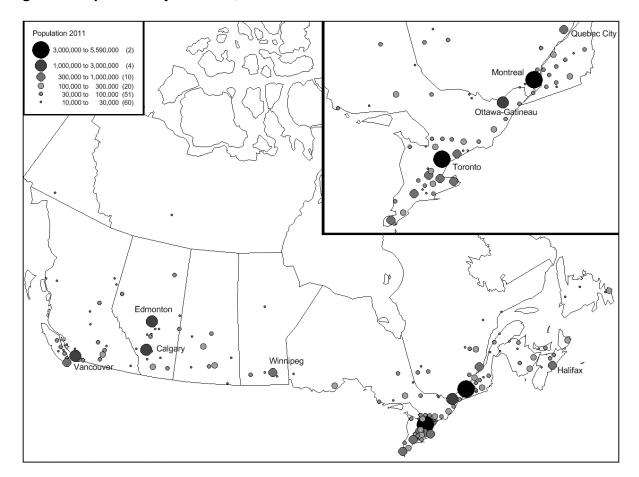
1.1 Overview: The 2011 Census

1.1.1 The Concentration of Urban Growth

Recent press releases from Statistics Canada and the popular media have emphasized the regional shifts in population and economic activity towards Western Canada revealed by the 2011 Census. However, a closer analysis of changes in the urban system and a comparison with earlier Census results (cf. Simmons and Bourne, 2007; Bourne et al 2011) suggests that the changes—at least at this macro-geographic scale—are rather less dramatic. The urban size hierarchy is largely unchanged (see Figure 1) and the largest cities (census metropolitan areas or CMAs) have continued to dominate the distribution of urban growth since 2006 (see Table 1

and Figure 2). The Toronto CMA added 470,000 population (actually 525,000, if one includes the adjacent metropolitan areas of Oshawa and Hamilton) while Montreal has grown by nearly 200,000 for a total of 660,000—about one third of the net urban growth in all of Canada. If the two largest cities are combined with the four other CMAs with more than one million people (Vancouver, Calgary, Edmonton, Ottawa-Gatineau) their aggregate growth accounts for two thirds of all urban growth. The continuing attraction of the largest cities and metropolitan areas, and the economic activities and social networks they support, is perhaps the single most important theme in the latest Census results.





At the same time, the other large and medium size cities have attracted most of whatever remaining growth is taking place across all regions and provinces of Canada. Domestic migrants are still leaving rural areas for nearby urban centres, such as Halifax, and these same centres have become the dominant points of attraction for any immigration into the region. For the urban system as a whole, urban decline is in evidence but is not, at least as yet, widespread. Only 28 urban places out of 147 actually lost population in the recent census period, most of them by quite modest amounts. Although city size is still an important factor in determining growth, the difference in average growth rates by city size category has declined in this Census. The fastest growing group (the cities of the second size rank) has grown by 10.4 per cent and the slowest growth group (including the smallest cities) by 4.3 per cent. This variation in growth rates by city size group is roughly in the same range as the regional growth

differences across the country—from 4.5 per cent in the Atlantic region to 10.6 per cent in the Prairies.

The resultant map of urban growth (Figure 2) resembles a similar map from one hundred years ago, when Alberta and British Columbia were still attracting agricultural settlers, and the big cities in the East were booming through the production of manufactured goods (encouraged under tariff protection) and the provision of services to an expanding national market. It would appear that the classic "Staple Theory" as an explanation of variations in regional economic growth in Canada, with some modifications, is still highly relevant. The resource base and immigration are once again driving urban growth. The urban system continues to evolve in response; and the largest cities continue to dominate the system.

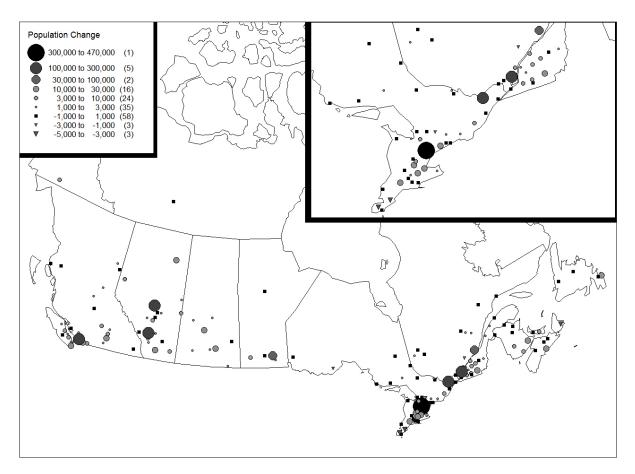
Table 1: The Urban System in 2011

Region / City Size	ВС	Prairies	Ontario	Quebec	Atlantic	Total	Share of	
						Ca	anada Total	
Number of Cities								
Over 3 Million	0	0	1	1	0	2	1.4%	
1 to 3 Million	1	2	1	0	0	4	2.7	
300k to 1 Million	1	1	6	1	1	10	6.8	
100k to 300k	2	3	8	3	4	20	13.6	
30k to 100k	9	8	15	14	5	51	34.7	
10k to 30k	14	17	12	9	8	60	40.8	
Total	27	31	43	28	18	147	100.0	
Urban Population, 2	2011 (1000's)							
Over 3 Million	0	0	5,583.1	3,824.2	0	9,407.3	28.1%	
1 to 3 Million	2,313.3	2.374.7	1,236.3	0	0	5,925.4	17.7	
300k to 1 Million	344.6	730.0	2,740.6	765.7	390.3	4,971.3	14.9	
100k to 300k	350.0	577.2	1,128.6	511.5	565.0	3,132.2	9.4	
30k to 100k	608.8	446.4	830.1	744.5	273.9	2,903.8	8.7	
10k to 30k	282.6	260.9	200.5	189.5	162.5	1,096.0	3.3	
Total	3,899.4	4,389.2	11,719.2	6,035.4	1,391.8	27,435.0	82.0	
Share of Canada	11.6%	13.1	35.0	18.0	4.2	82.0		
Change in Urban Po	pulation, 200	6-2011 (1000	r's)				Share of Growth	Growth Rate
Over 3 Million	0	0	469.9	188.7	0	658.6	35.3	7.5%
1 to 3 Million	196.7	260.5	102.7	0	0	559.9	30.0	10.4
300k to 1 Million	14.5	35.4	94.5	46.6	17.5	208.4	11.2	4.4
100k to 300k	28.7	53.1	35.4	19.0	29.1	164.5	8.8	5.5
30k to 100k	33.8	45.3	3.7	32.1	12.9	127.8	6.9	4.6
10k to 30k	12.3	26.3	5.5	1.3	0.0	45.3	2.4	4.3
Total	286.0	420.5	711.7	287.7	59.5	1764.6	94.7	5.0
Share of Canada	15.3%	22.6	38.1	15.4	3.2	94.7		
Growth Rate	7.9%	10.6	6.5	5.0	4.5	5.0		5.0

While Table 1 summarizes the urban system in 2011 and the changes that have occurred across the system as a whole since 2006, Table 2 provides examples of the extreme values of several growth variables—that is, those particular urban areas that are growing most rapidly or

most slowly (or not at all). These places exemplify several of the points made above. The population rankings of cities are filled with familiar names that have dominated the list for some time; and the magnitudes of change that have been recorded over the last five years suggest that the urban system, at least at this spatial scale, is remarkably stable. The traditional urban leaders (Toronto, Montreal, and Vancouver) have attracted far more growth than even the Alberta challengers. Nonetheless, the urban newcomers do very well in the rankings for population growth rates.

Figure 2: Population Change, 2006-2011

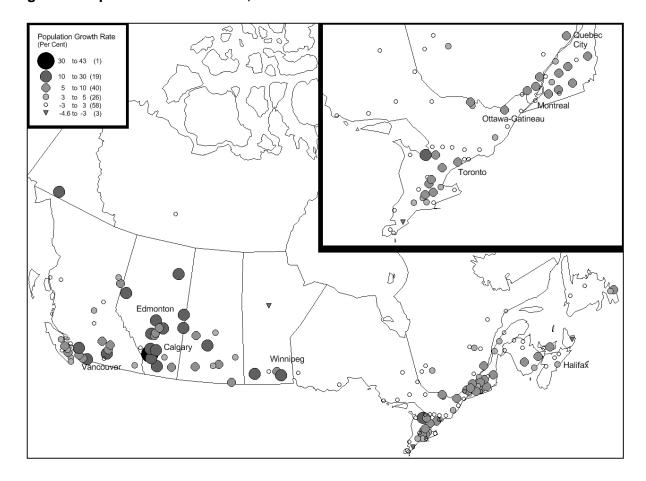


Moreover, four of the five fastest growing cities (in percent change) are smaller places located within the larger metropolitan megaregions, in which commuting to work into the metropolitan core is feasible: Okotoks, High River and Strathmore are close to Calgary, and Steinbach is near Winnipeg. Wood Buffalo (Ft. McMurray), based on exploitation of the oil sands, is one of the few standalone high-growth cities in the country (see Figure 3). The most rapidly declining places also tend on average to be smaller and they are all geographically isolated, well removed from a metropolitan zone of influence, and often they have local economies based on a depleting natural resource or a declining processing industry.

Table 2: The Highest and Lowest Values for Growth Variables

Rank Population, 2013	1 (1000's)	Change, 2006-2012	l (1000's)	•	Growth Rate, 2006-2011 (Per cent)		
1. Toronto	5,583.1	Toronto	469.9	Okotoks AB	42.9		
2. Montreal	3,824.2	Vancouver	196.7	Wood Buffalo AB	27.1		
3. Vancouver	2,313.3	Montreal	188.7	Steinbach MB	22.2		
4. Ottawa	1,236.3	Calgary	135.5	High River AB	20.6		
5. Calgary	1,214.8	Edmonton	124.9	Strathmore AB	19.7		
143. Hawkesbury ON	12.1	Kawartha L. ON	-1.3	Prince Rupert BC	-2.5		
144. Lacombe AB	11.7	Shawinigan PQ	-1.3 -1.4	Baie-Comeau PQ	-3.0		
145. Dawson Creek BC	11.6	Windsor ON	-4.1	Cape Breton NS	-4.1		
146. Elliot Lake ON	11.3	Cape Breton NS	-4.3	Chatham-Kent ON	-4.2		
147. Bay Roberts NL	10.9	Chatham-Kent ON	-4.5	Thompson MB	-4.5		

Figure 3: Population Growth Rate, 2006-2011

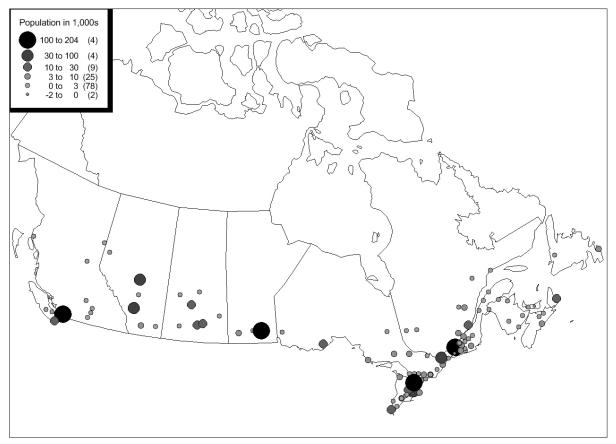


1.1.2 The Comparison with 1911

Figure 4 and Table 3 present the growth patterns for the decade 1901 to 1911. Although there were only 41 cities in Canada with over 10,000 population in 1911, compared to 147 in the

recent Census, the spatial distribution of growth is quite similar during that period. Canada as a whole grew by 1,835,000, and the four largest cities at that time—Montreal, Toronto, Vancouver, and Winnipeg—contributed one third of the total. The main difference from the present urban system is the relative importance of Winnipeg over Calgary and Edmonton in 1911, although the latter two cities ranked fifth and seventh in growth as long as a century ago. Of course, the general level of urbanization was much lower at that time, contributing only 36 per cent of the country's total population, compared to 82 per cent in 2011.





The staples economy produced rapid population growth in those frontier regions where there was growth in the export commodities that drove the Canadian economy at that time. In the first decade of the last century it was the expansion of the Western grain trade, especially in wheat, that generated growth as exports tripled in volume within ten years. And because Canada restricted imports at this time, the increased exports stimulated a parallel expansion in the larger urban centres of Eastern Canada that produced the manufactured goods and provided the consumer services, such as the banks and wholesalers. This widespread population growth was made possible by an extraordinary surge in immigration that averaged 217,000 per year, not far short of current levels which range from 225,000 to 275,000 annually. In short, the current distribution of urban growth is largely driven by processes of demographic change and economic expansion that are surprisingly similar to those observed—albeit in a very different structural and political context—over a century ago.

Table 3: The Urban System in 1911

Region / City Size	ВС	Prairies	Ontario	Quebec	Atlantic	Total Canada	Share of Total	
Number of Cities								
300k to 1 Million	0	0	1	1	0	2	4.9	
100k to 300k	1	1	2	1	0	5	12.2	
30k to 100k	1	3	3	0	4	11	26.8	
10k to 30k	0	3	15	4	1	23	56.1	
Total	2	7	21	6	5	41	100.0	
Urban Population, 19	911 (1000's)							
300k to 1 Million	0	0	445.4	596.4	0	1,041.9	14.5	
100k to 300k	158.1	157.0	232.7	100.5	0	648.3	9.0	
30k to 100k	43.6	132.6	139.6	0	217.7	533.5	7.4	
10k to 30k	0	40.0	234.6	57.3	11.3	343.2	4.8	
Total	201.7	337.7	1,052.3	754.2	229.0	2,655.8	36.9	
Share of Canada	2.8%	4.6	15.1	111.0	3.3	36.9		
Change in Urban Pop	ulation, 1900	-1911 (1000's)					Share	
							of Growth	
300k to 1 Million	0	0	174.5	203.5	0	378.0	20.6	
100k to 300k	114.7	108.5	64.1	11.9	0	299.2	16.3	
30k to 100k	20.1	108.0	29.6	0	39.8	197.5	10.8	
10k to 30k	0	32.7	63.3	13.4	2.3	111.7	6.1	
Total	134.8	249.2	331.5	228.8	42.1	986.4	53.7	
Share of Canada	7.3%	13.6	18.1	12.5	2.3	53.7		

Source: Estimates by the authors, based on earlier Census of Canada.

There are several significant differences in the two periods, however, and they will be explored in sections to follow. First, the economy has grown and evolved in several ways. While resource activities (i.e. staple products) are still a major component of Canada's export economy, their share of the national GDP has substantially declined over the last century. Like most advanced economies, Canada has become a service economy, and it has also become a more open economy, especially for manufactured imports. The expansion of resource sectors also stimulates growth in a variety of professional and business services in the biggest cities, but often with relatively little direct impact on manufacturing. Second, as noted above, revenues from resource development accrue largely to the provincial governments, and they are then recycled—in varying degrees—to residents through provincial services such as education and health.

Third, over the last sixty years Canada's demography has shifted from high levels of fertility to high levels of immigration, thus reordering the components of urban growth away from a youthful age structure towards an ability to attract immigrants from abroad. Finally, the contemporary urban system, linked together by an extensive highway network, airlines and communication systems, operates at a very different set of spatial scales than in the past. Cities within fifty to seventy kilometres of each other typically share jobs and commuters; and cities less than one hundred and fifty kilometres apart are able to share production and supply

networks, and service systems, as well as cultural and recreation facilities, as part of larger mega-metropolitan areas.

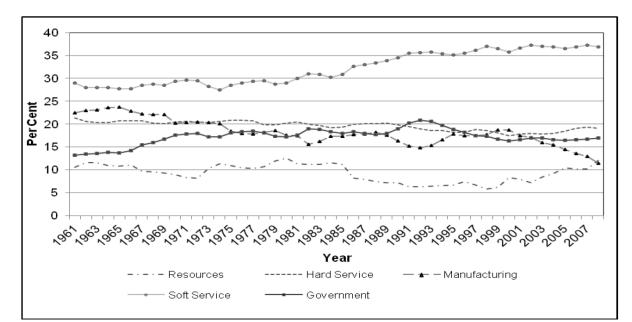


Figure 5: Share of GDP by Economic Sectors, 1961-2010

1.1.3 The Economic Arguments

While the geography of urban growth revealed in the Census suggests the existence of parallels with the situation a century ago, is there supporting evidence based on economic or demographic processes to suggest that similar urban growth processes are occurring? Figure 5 plots the shifts among economic sectors within the country's Gross Domestic Product (GDP) since 1961. The most dramatic shift over the fifty year period is the steadily growing share of the soft services: such as retail, finance, professional and administrative services, health and education and government. These activities have increased in importance from 45 per cent of the economy in the 1960s to 57 per cent at present. They are also predominantly urban-based activities, thus favouring increased levels of urbanization at all spatial scales. Meanwhile, the share of goods production—including resources, manufacturing and hard services such as construction, utilities and transportation—has declined within the country's GDP and in terms of employment. During the last decade, however, the resource sectors have rapidly increased their share, in line with rising commodity prices, and have now overtaken manufacturing.

This latter shift has several critical implications for the country's space economy: first, resource exploitation usually favours a small number of dispersed locations far away from the core manufacturing region in central Canada. It is essentially a non-urban activity, although it is common that managerial, legal and marketing functions associated with the resource industry may be, and typically are, located in the larger urban places. At the same time, resource-based regions experience growth that is highly volatile over time, as commodity prices, global markets and technology change quickly, and as the resource base itself is developed and then depleted with time, often through a relatively short life cycle of the product or facility (e.g. mines). Third,

the indirect impetus for growth in the largest urban centres in the core region is now mostly based on the need for services such as administration and finance, since the tariff protection for Canadian manufacturing has been largely removed by the Free Trade Agreement. This may shift urban growth from the old core communities (Toronto, Montreal), and their immediate regions, that were traditionally based on manufacturing, to newer and rapidly growing urban centres such as Calgary, Edmonton, Regina and Saskatoon, that are closer to the sites of resource exploitation.

Finally, much of the revenue from resource activity in Canada, given the constitutional assignment of tax and revenue sources, goes directly to the provincial governments through the sale of exploration permits, development licenses, royalties and other revenue streams. This revenue is then largely recycled throughout the province in the form of expenditures on public infrastructure and services, affecting all urban centres within that jurisdiction. Thus, the geographical variation in urban growth rates across the country also tends to reflect the location of provincial boundaries because of this intra-provincial redistribution process.

Of course, a significant proportion of resource revenues (and profits) flow out of the individual producing provinces to the rest of the country through established supply chains and service networks, as well as through the tax system, and through returns to shareholders and other levels of governments. At the same time, these flows are often obstructed by continuing barriers to inter-provincial trade and service provision, although there is little or no agreement on how significant these flows are or on the economic impacts of the barriers for economic growth and global competition.

1.1.4 The Political System

The implications of the operation of the Canadian political system for cities and city regions are discussed in Simmons et al., (2011), and in numerous other publications (Conference Board of Canada 2006; Sancton 2009; FCM 2013), but here we only need to highlight some of the direct effects. Canada is a federal state, and government activities and the responsibility for public policy formulation are usually assigned to one of three levels: federal, provincial, or local (including regional). While relationships among the federal government and the provinces are defined (more or less) by the country's constitution and arbitrated by the Supreme Court, local governments are entirely controlled by the province in which they are located, with designated obligations and policy tools but without any inherent rights and limited financial means. The federal government deals with foreign affairs, trade and commerce; and over the years has managed to take over most of the management of financial affairs, taxes, social benefits, and the like. It also sets the parameters for financial equalization among the provinces, a complex process designed to assist provinces with weaker economies in providing public goods and services.

The provincial governments deliver more local and regional services: including health and education, culture and physical infrastructure investment, as well as providing the regulation framework for municipal government activities. In the case of the latter, the provinces determine the responsibilities and powers of cities and may provide much of their financial base. The entire governmental system involves substantial financial transfers, of one form or another, among individuals obviously, but also among levels of government: principally from federal to provincial

and from provincial to local governments. For Canada as a whole, based on the latest available figures, the federal government supplies just over nineteen percent of provincial revenues while local governments receive about twenty-one percent of their revenues from the provincial governments.

As background, it is useful to recall that total government spending (and budget deficits) peaked in 1992-1993 during a severe recession, just before the federal government of the time enforced drastic cuts to reduce the size and rate of growth of the deficit. These cuts have affected all levels of government through changes in the transfer systems—including housing and social assistance. Not surprising, this same period coincided with a substantial increase in levels of income inequality generated by the operation of the labour market. These are most evident within larger cities such as Toronto (United Way 2012), but also in most other metropolitan areas in the country (Walks 2011).

Table 4: Provincial and Local Economies, 2007

Province	Population	GPP/	GPP Growth Rate/	Local Expenditure/
		Capita	2001-2008	Capita
NL	506	\$61.8	89.1%	\$2.44
PE	139	33.1	15.5	2.00
NS	937	36.5	13.1	2.71
NB	747	36.6	13.4	1.25
PQ	7,753	39.0	11.8	3.50
ON	12,936	45.4	11.1	4.14
MB	1,206	42.1	23.9	3.17
SK	1,014	62.7	64.3	3.65
AB	3,596	81.0	65.0	4.34
ВС	4,384	45.2	27.1	3.13
Canada	33,218	48.0	23.8	3.69
All values in 1	,000s			
GPP = Gross P	Provincial Product			

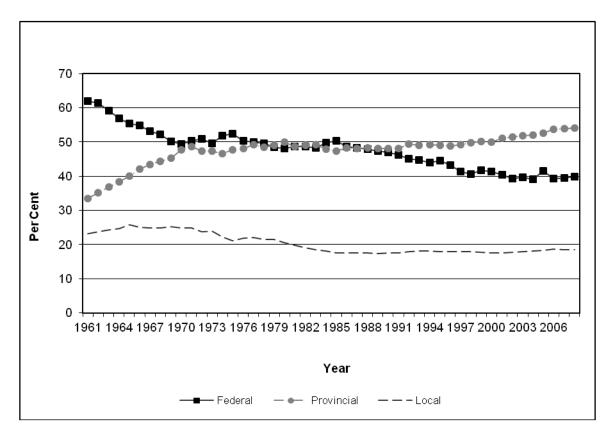
Source: CANSIM

Throughout the period from 1961 to the present the dominant trend has been toward decentralization, of both functions and responsibilities. The share of national spending by the federal government has declined, as part of a gradual retreat from a variety of social programs such as social welfare, housing and medicare; to be replaced (in part) after 1970 by the increased spending by provincial governments on education and, especially, health care. The federal government spent almost twice as much as the provinces combined in 1961, but half a century later it spends considerably less. Meanwhile the share of spending by local governments levelled out at about 20 percent after the surge of expenditures associated with the rapid suburban expansion in the 1970s and the need for infrastructure (see Figure 6).

The expanded financial role of the provincial governments, and their absolute control over the actions of local governments means that cities are also highly dependent on the economies of the provinces in which they are located. Table 4 shows the variation in the financial resources

that are made available to cities by the provinces. The first point to make is the extraordinary range in the size (and implicitly, the administrative and fiscal capacity) of the provincial governments. Prince Edward Island is small and largely rural. Five other provinces range in size from half a million to two million population, but the other four are very large indeed, varying from 3.5 million to almost 13 million residents. This creates an interesting political conundrum (which some would call dysfunction) in which the prosperity of the major city is an increasingly significant factor within the provincial economy, yet the city's needs and priorities can be offset by political pressure from extensive rural and resource-based economies that may have disproportionate political influence because of differences in the size of urban and rural constituencies and because of longstanding constitutional limits on the scope for redistribution of seats between growing and declining regions.

Figure 6: Spending Share by Level of Government, 1961-2008



Cities, and urban regions, as a result, are often seriously under-represented in the national political arena, as well as in most provincial legislatures. This, in turn, has made it very difficult to develop strategic urban policies at the national level, and has led to frequent calls for more enhanced political powers, and more sustainable revenue sources, for cities (and where applicable, city regions). This apparent mismatch between the scale of urban development, and especially metropolitan expansion, and the scale of operation and resources of local governments continues to be the source of endless political conflicts in most regions of the country (Miller 2007; Sancton 2010; Bourne et al 2011). The contrast in effect is between elastic cities and relatively inelastic forms of urban government.

Second, consider the wide variation in income among the provincial economies. In 2008 Alberta (hence Calgary and Edmonton) generated more than twice the output per person of the province of Quebec (Montreal) and substantially more than the other provinces. This implies that more resources are available to certain provincial governments for schools, hospitals, transportation, and more money for economic development projects of all kinds. Without this kind of economic base and/or the institutional support for municipal initiatives such as airports, transit, housing or regional government, the most aggressive innovative and forward thinking local governments are almost powerless. Cities, then, are hostage to provincial governments, both their politics and their economies, and in Canada many of these regional economies are resource-based and highly volatile. No matter how much the city tries to build its own technological base it requires provincial government support, a degree of institutional and administrative flexibility, and often direct funding (Wolfe 2009). The result of this inter-regional variability in revenue raising capacity is evident in the differing growth rates of the provincial economies over the last eight years: from 11 per cent in Ontario and Quebec, to sixty to eighty per cent in energy-rich Saskatchewan, Alberta and Newfoundland (see Table 4).

Table 5: Provincial Sources of Revenue, 2007 (Share Of Total Revenue, %)

Provinces	Ec	onomic Taxes		Federal	Resource	
	Personal %	Corporate	Production	Transfers	Revenue	
NL	12.9%	2.3	21.8	53.2	9.8	
PE	17.0	3.2	33.2	43.3	3.3	
NS	22.4	4.4	27.0	41.9	4.3	
NB	17.7	3.0	30.3	38.6	10.3	
PQ	32.0	5.3	37.4	19.1	10.3	
ON	32.3	9.4	37.4	17.2	3.7	
MB	21.5	3.3	30.9	33.4	10.9	
SK	16.4	5.4	32.5	21.8	23.8	
AB	19.5	9.9	18.7	9.4	42.5	
ВС	22.1	4.5	39.2	17.5	16.7	
Canada	27.06.9	32.5	20.4	13.2		

Source: Statistics Canada, Bulletin 13-016, "Provincial and Territorial Economic Accounts."

Table 5 further explores the variation in the sources of provincial revenue. It shows the five main revenue sources: three of them are based on aspects of the provincial economy—e.g. taxes on personal and corporate income, and taxes on the level of production (including agriculture), while the federal transfers are dependent on the level of provincial income—hence the ability to provide provincial services—relative to the rest of the country. Poorer provinces receive more in federal government transfers through the principle of equalization. Resource revenues include royalties and licences relating to oil and gas, hydroelectricity, mining, and forest industries. The largest provinces (Ontario and Quebec) depend largely on their own economic taxes, but the smaller and poorer Atlantic provinces receive substantial federal transfers, and the wealthier Western provinces rely more heavily on the resource base. These latter revenues, driven by

commodity prices, as noted earlier, tend to be more variable over time so that other revenue sources must sometimes compensate should prices weaken and resource revenues decline.

These provincial revenue flows, however, need not benefit local governments. The level of transfers to municipalities varies widely among the provinces, reflecting established provincial traditions (such as the allocation of governmental activity between the provinces and the cities in the Atlantic provinces) and the inertia of long-standing budget patterns (e.g. Ontario and Quebec), as well as the recent prosperity of Alberta and Saskatchewan. The overall message is clear: Canadian cities do not have carte blanche to initiate new policies or undertake initiatives—even the almost costless ones. Even those with their own separate city charters operate within a complex network of legislation, budgeting rules and bargaining practices that have been created by their political masters, the provinces. The provinces, in turn, depend on the strength and characteristics of the economy that they are given. For the most part, cities have little or no control over their own economic growth, although local initiatives and strategic investments can make a modest but significant contribution to growth possibilities (Conference Board 2006). And, as will be seen, they have almost no control over their demographic growth.

1.1.5 The Demography

Population growth by means of natural increase is inherently spatially conservative: that is, most young people tend to live near their parents and friends in the place in which they grew up. Intercity migration occurs only in moderate amounts, and, in Canada, is largely directed to nearby places within their respective regions or provinces. On balance it is also reciprocal, in the sense that out-migration flows often do not differ significantly from in-migration flows. As populations age they also tend to migrate less frequently and over shorter distances. The combined result is that immigration is now more important than inter-provincial migration in determining population growth.

At present, Canada's level of natural increase is very low—about 0.4 per cent per year, insufficient to generate the level of population growth observed in Table 1 (see also Table 6). The common demographic feature for both 1911 and 2011 is the high level of immigration, as newcomers with few or any a priori location ties within Canada, are generally more willing to relocate to follow economic opportunities or cultural ties in whatever sector and at whatever location. The Table also explores the growth process at the provincial scale, using numbers from the latest Statistics Canada reports (Statistics Canada, 2012).

Within the overall trends reported at the top of the table there are significant provincial variations. Natural Increase varies from less than 0.1 per cent in the Atlantic region to more than one per cent in the Territories, while immigration contributes 0.23 per cent growth in Alberta and Newfoundland but more than one per cent in Manitoba and PEI. Net internal (domestic) migration is positive for the three Western provinces, meaning that they accept more in-migrants from other provinces than they send out, but negative everywhere else. The provincial results underline the national pattern: five of six provinces with annual growth rates above 1.00 also depend on high levels of immigration. The only exception is Alberta whose growth is based on relatively higher levels of natural increase as well as net internal migration, and to a somewhat lesser extent on immigration (although the contribution of the latter is increasing).

Table 6: The Demographics of Provincial Growth, 2010-2011

				Nu	mber	Per Cent of Population			
Canada	Births, annually			379	9,000	1.13%			
		annually		247	7,000	0.73			
	Natural	Increase , a	nnually	132	2,000	0.40			
	Immigra	ation , annu	ally	268	3,000	0.80			
	Emigrat	tion		42	2,000	0.13			
	Net Imr	migration		226	5,000	0.67			
	Total G	rowth, anni	ually	358	3,000	1.07			
	Interpre	ovincial Mig	grants, an	nually 260	0,000	0.79			
	Net Inte	erprovincial	Migrant	s 13	3,000	0.04			
	Populat	tion		Na	tural		Net	(%)	Net
(%)	Total				(%)				
Provinces	(1000's)	Increase	(%)	Immig'n	Migrants	Growth			
NL	512	0.3	0.06%	1.2	0.23	0.0	0.00	1.5	0.29
PE	143	0.1	0.07	2.7	1.89	-0.2	-0.13	2.6	1.82
NS	945	0.4	0.04	3.0	0.32	0.0	0.00	3.4	0.36
NB	753	0.8	0.11	1.8	0.24	-0.2	03	2.4	0.32
PQ	7,095	28.6	0.40	49.0	0.69	-4.8	-0.00	72.8	1.03
ON	13,224	47.1	0.36	98.4	0.74	-4.0	-0.00	142.5	1.08
MB	1,236	5.7	0.46	13.8	1.12	-3.5	-0.03	16.0	1.29
SK	1,044	5.3	0.51	7.6	0.73	+0.5	0.01	13.4	1.28
AB	3,724	29.2	0.78	8.4	0.23	16.7	0.45	54.3	1.45
ВС	4,530	12.3	0.27	31.3	0.69	3.4	0.75	47.0	1.04
Territories	112	1.4	1.25	0.3	0.27	-1.5	-1.33	0.2	0.18

The chart In Figure 7 provides an overview of Canada's varied demographic history over the last century. It is apparent that immigration is the component of population growth that varies most widely over time. If there were better estimates of emigration available, it would also be evident that there were many years during the 1920s, 1930s and 1950s when net immigration for the country as a whole was negative—as Canadians headed south of the border in search of a better life, jobs or a different bundle of amenities. In recent years, however, emigration has largely been confined to that small proportion of immigrants returning home and is roughly stable at about twenty per cent of immigration.

The issue of concern in this paper, however, is the substantial variation in rates of natural increase since World War II. While the number of deaths changes very gradually from year to year, roughly proportional to the size and rate of population growth, the number of births surged from just over 240,000 per year during the depression to nearly 500,000 annually in the early 1960s, and then dropped abruptly to about 370,000, where it now fluctuates from year to year. Despite the increase in the annual growth in population, in numerical terms now three times as high as it was in 1940, the level of natural increase is currently about the same level as it was then. In compensation the level of immigration now approaches the number of births.

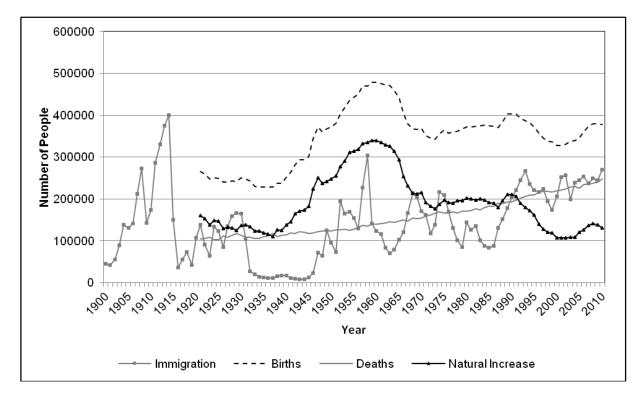


Figure 7: Comparing Natural Increase and Immigration, 1900-2010

Net immigration, in fact, now contributes almost twice as much growth as natural increase, and dominates both provincial and urban population growth processes. And at the provincial level, immigration is also far more significant than internal migration flows among provinces. Moreover, the rate of inter-provincial migration is also declining, partly due to the effects of an aging population (Hodge 2008). Thus, the destinations of immigrants largely determine urban growth patterns in Canada. At the same time, there appears to be a continued preference among immigrants for the biggest cities because they usually generate the greatest number and variety of new job opportunities, in industry and now predominantly in services, as well as providing networks of linkages to earlier immigrant communities.

Figure 8 maps the distribution of recent immigrants to Canada for 2006-2011, the latest available figures. The Toronto CMA is by far the dominant immigration destination in the country, attracting more than twice as many new residents as either Vancouver or Montreal. The latter in turn, draws more than twice as many as Calgary, in fourth place; and more than Edmonton and Winnipeg. Ottawa-Gatineau ranks eighth. The top ten urban destinations account for 87 per cent of the total immigration for all cities during this period. While the sheer size of these cities and the potential for job creation is a significant attraction, the networks of connections (and information) provided by earlier immigrants are also important. For example, Winnipeg and Edmonton attract far more immigrants than Quebec City, and most places east of Montreal are essentially off the map as immigrant destinations. Thus, as argued above, not only is immigration the major source of urban population growth, but previous immigrants provide a self-sustaining process, by reinforcing the attraction of the largest urban centres (increasingly often their suburban areas) for later immigrants. Unlike the situation a century ago, however, the

current urban system has not produced any significant new urban nodes. Although the resource sectors are growing they typically do not generate many new jobs, and the continuing growth of the service sectors acts to maintain the roles and relative dominance of older urban centres.

Immigrants

100,000 to 300,000 (2)

100,000 to 300,000 (5)

100,000 to 300,000 (7)

100 to 1,000 (10)

100 to 1,000 (10)

Figure 8: Immigrant Destinations, 2006-2011

1.1.6 An Aging Population

Another major point of difference in the country's metropolitan areas over one hundred years is the reversal of the age structure, as shown in Figure 9. In 2011 the largest age cohort was seniors, age 70 and above, but in 1911, the youngest cohort, aged 0 to 4 was the largest. At present the number of people in each age cohort increases beginning with the youngest, until the earliest cohort of the baby boom—now fifty to fifty-five——and declines thereafter; but one hundred years ago, the decline was continuous, from the youngest to the oldest, once the ultimate cohort is decomposed into five year age groups. This significantly revised population pyramid has taken two generations to develop, and the continuing demographic processes behind this transition suggest that future patterns of change may be even more dramatic.

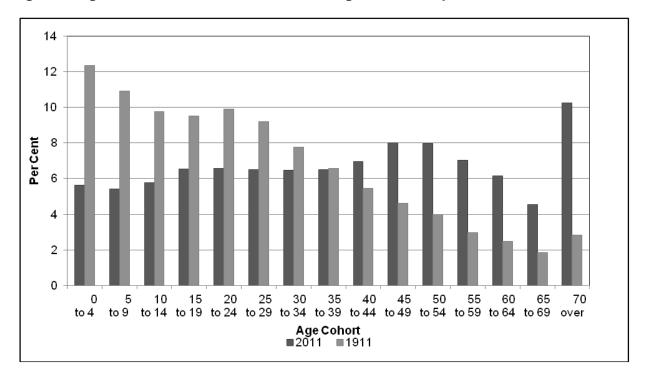


Figure 9: Age Cohorts, 2011 and 1911: Percentage of Total Population

As most readers are aware, the end of World War II initiated a period of unprecedented prosperity and high birth rates. There were jobs, and cars; and huge amounts of low-density housing were built around the peripheries of the core cities. These suburbs were primarily oriented to families: with large houses, one or more automobiles, and a family-centred lifestyle. At the same time, improvements in medical care—new hospitals and notably antibiotics—as well as the generally increasing level of affluence, extended the life expectancy for all. An explosion in population growth followed, especially within the larger cities and their suburbs, an explosion that produced incredibly high (and often unrealistic) population forecasts for urban areas in the mid-60s. But more or less suddenly, in the late 1960s, the birth rates hit a wall, and began to decline. The contraceptive pill had become widely available, and it turned out that suburban life was not as perfect as it initially appeared. Each year fewer babies are born, with the results shown in Figure 9: a continuing decline in the number of young adults, and a continuing increase in the numbers of older Canadians. This caused (or was widely interpreted as) a serious policy crisis as fewer and fewer working adults in the labour force age cohorts were available to support pensions and health care for an increasing numbers of seniors.

The major policy response to the fertility reversal has been the increased level of immigration (as well as increased numbers of temporary foreign workers), as governments attempted to attract from abroad the new labour force that has not been, for a variety of reasons, forthcoming within Canada. Immigration—typically consisting of young adults, many about to enter the childraising period, and perhaps less affected by Canadian attitudes to family life—can partially overcome the decline in fertility by contributing both births and economic growth to support the expanding population of seniors, but it does so only for a limited period.

In this way, the fertility decline of the 1960s has brought about the immigration surge of the last three decades, with the result that Canada's population growth, which was so widely dispersed fifty years ago, is now highly concentrated within a dozen large cities and city regions. As suggested earlier, the only period with comparable levels of immigration and concentrated urban growth occurred just before the First World War during the settlement of Western Canada. The implications of this reversal in population growth patterns are profound, for the country's economic structure, social and cultural make-up, and ultimately for its political economy. These effects are most pronounced for individual cities within Canada, which currently display a much wider variety of age structures and ethnic backgrounds from place to place than was the case before (Murdie 2008; FCM 2011).

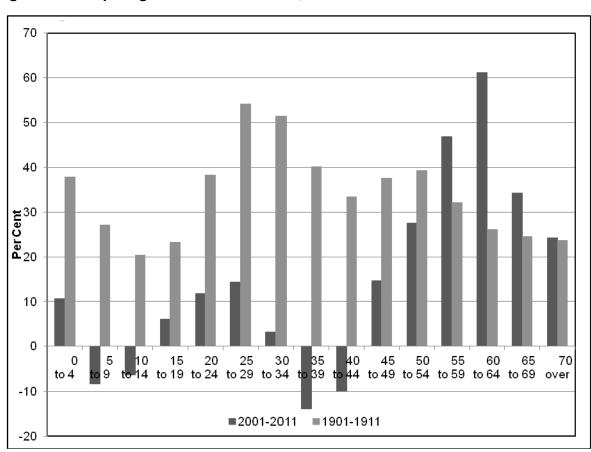


Figure 10: Comparing Cohort Growth Rates, 1901-1911 and 2001-2011

In order to visualize the implications of this reversal, Figure 10 compares the growth rate for cohort numbers for different time periods: 1901 to 1911 and 2001 to 2011. The differences between the two periods are clear: one hundred years ago, most of the growth took place in the younger cohorts, with a high rate of natural increase (the youngest cohorts) and high rates of immigration (ages 20 to 40). Currently, the growth process has been reversed; as most growth occurs in the cohorts aged 45 and older. Canadian cities, almost all of them, are going to become progressively older in the near future and beyond; and some cities will become exceptionally so. Again, the policy challenges and potential financial implications for health care, pensions, and other forms of senior support for these age cohorts, are massive. One hundred

years ago, in contrast, most of the growth occurred in the working age groups, below the age of 40; and these people were beginning long and productive working lives that required relatively little support from public sources.

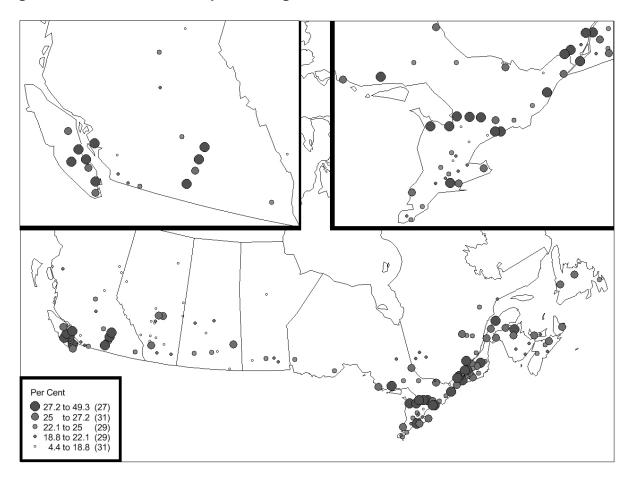
Figure 11 shows the variation in the proportion of seniors across the urban system. Note that about one-fifth of the cities have more than 27 per cent of residents over 60, and in one place (Parksville, BC) almost half the population is over 60. Despite these wide variations from place to place, analysis of the geographical distribution of population by age suggests that each major metropolitan area is also surrounded by a belt of retirement communities about one hundred and fifty kilometres away: in the Muskoka region, north of Toronto; the Laurentians north of Montreal, and on Vancouver Island or in the Okanagan Valley for Vancouver (see Table 7). The proportion of seniors is also increasing in slow growth communities, especially in Quebec and New Brunswick, but in these cases largely because of the out-migration of the young, including families, rather than the in-migration of seniors. If and when the large cohort of seniors relocate, they tend to favour high amenity places with lower housing costs, but to locations not too far away. In similar fashion, each megaregion also includes rapidly growing outer suburban centres filled with young families—in places like Okotoks AB, Barrie, ON, or Abbotsford BC—as well as the inner city apartments and condos for the young and mostly single.

Table 7: Retirement Cities

Rank	City	Pct. Seniors	City	Change in Pct. (+)
		(60+), 2011		2006-2011
1.	Parksville BC	49.27	Parksville BC	15.48
2.	Elliot Lake ON	45.02	Elliot Lake ON	13.33
3.	Cobourg ON	34.29	Bathurst NB	12.44
4.	Thetford Mines PQ	33.54	Matane PQ	12.27
5.	Penticton BC	33.46	Sorel-Tracy PQ	12.15
6.	Powell River BC	31.76	Courtenay BC	11.84
7.	Tillsonburg ON	31.73	Campbell River B	C 11.76
8.	Salmon Arm BC	31.55	Powell River BC	11.52
9.	Shawinigan PQ	31.49	Thetford Mines F	PQ 11.50
10.	Courtenay BC	30.84	Edmundston NB	11.43

Source: Census of Canada, 2006, 2011.

Figure 11: The Per Cent of Population Aged 60 and Above in 2011



2.0 The Megaurban Regions

2.1 Defining the Megaregions

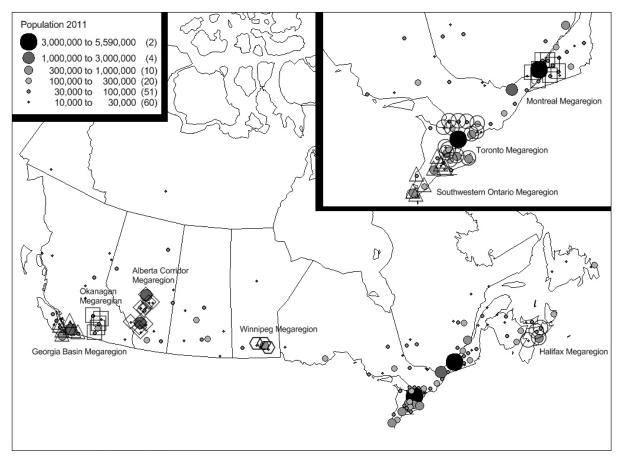
Figure 1 above showed the geographical distribution of Canadian urban areas in 2011. What is striking in the map is the degree of clustering of cities, as rings of new urban areas have emerged around the metropolitan cores provided by the older cities, such as Toronto, Montreal, and Vancouver. At the same time, not all of the largest cities have attracted development in peripheral megaurban regions, with Ottawa-Gatineau and Quebec City as notable exceptions; while other urban clusters have emerged without the benefit of a large and dominant urban core: for instance, within Southwestern Ontario or in the Okanagan region of British Columbia. As a potential road map to the future, this section explores eight megaurban regions across the country, to measure their significance and to identify their similarities and differences. Table 8 lists the megaregions and their characteristics, as described in the 2011 Census, and the regions are mapped in Figure 12.

Table 8: The Megaregions, 2011

Megaregion	Population* 2011	Population* 2006	Change*	Growth Rate	Number of CMAs/CAs	Per cent of Region in Largest City
Toronto	8,342.3	7,758.6	583.7	7.52%	16	66.9%
Montreal	4,197.8	3990.6	207.2	5.19	8	91.1
Georgia Basin	3,107.0	2,763.7	243.3	8.50	8	74.5
Alberta Corridor	2,581.6	2,296.4	285.2	12.42	11	47.1
Southwestern Ontario	1,133.5	1,121.1	12.4	1.11	9	41.9
Winnipeg	765.7	719.2	46.5	6.46	3	95.3
Halifax	498.4	480.2	18.2	3.79	4	78.3
Okanagan	397.2	368.0	29.2	7.94	5	45.3
Total	21,014.4	19,596.8	1,417.6	7.23	64	70.0
Other Cities *Population in	6,417.4 n 1,000s	6,072.7	344.7	5.67	83	

The Table suggests that the eight megaregions include all of the largest and most rapidly growing cities in Canada, totalling 21 million people in 64 individual urban areas, equivalent to 62.8 per cent of the national population. The growth rate of the megaregions of 7.23 per cent compares to Canada's overall growth of 5.35 per cent. In contrast, the 83 cities that have not been assigned to megaregions contribute only 18 per cent of the population and have grown at a rate of 5.67 per cent. At the same time, however, it is evident that not all megaregions are growth regions. Their size variation is considerable, ranging from 400,000 to over 8,000,000, and the growth rates during the 2006-11 period vary from 12.4 per cent (the Alberta Corridor) to only 1.1 per cent in Southwestern Ontario. The internal geography and character of these clusters also varies widely, ranging from Winnipeg and Montreal which are heavily dominated by the central city, to the more spatially dispersed megaregions emerging in Alberta and the Okanagan.

Figure 12: The Megaregions, 2011



The contemporary concept of the megaregion did not exist in 1911, at least not at the expansive spatial scale discussed here. There were, of course, suburbs emerging within the city regions of Montreal and Toronto, and their rapid growth at that time would eventually envelop surrounding communities, much as it does today, but at a different scale: extending perhaps ten kilometres instead of one hundred to one hundred and fifty. Gradually, better transportation links supported expanded urban development in more distant locations, and, eventually, the city's extended infrastructure led to mergers and amalgamations. Nowadays, amalgamation is less likely to

occur at the larger megaregion scale, but the component communities do share regional facilities and services: e.g. airports and transportation systems knit them together, water supplies tend to be shared, suburban industrial and office parks and older downtowns provide common employment nodes, regional hospitals offer specialized services, power nodes attract shoppers from immense tributary areas, and parks, theatres and stadiums are there for entertainment.

These variations are further explored below as the spatial form and organization, and the economic basis of the individual megaregions are discussed briefly:

1. The 'Greater Golden Horseshoe', centred on Toronto, now stretches from Peterborough on the East, Orillia to the North, Kitchener-Waterloo and Brantford to the West, and even to St. Catharines-Niagara to the South. It was first identified more than sixty years ago in early policy documents and in concrete terms when one of the early expressways in Canada, the Queen Elizabeth Way, linked Toronto and Niagara Falls along the base of the Niagara Escarpment. Although bounded to the South by Lake Ontario and the U.S. border, the Horseshoe region continues to expand and to incorporate smaller urban centres to the North, West and East. In fact it is now formally recognized as a comprehensive planning unit for urban development, conservation and transportation planning by the Province of Ontario in its Places to Grow Act (Ontario Ministry of Infrastructure 2012) and in associated greenbelt and transportation legislation.

Toronto's size and rate of growth influence development trends (and land and housing prices) throughout Southern Ontario, but these impacts are especially evident in those places within 200 kilometres of the city's downtown core. The Horseshoe includes four other major cities (CMAs): Hamilton, Kitchener, St. Catharines and Oshawa. These are primarily industrial nodes that are linked to the broader North American market by road and rail. Pearson Airport, the largest in Canada, is located at the very centre of the region. Barrie, Kawartha Lakes, and Peterborough are the points of entry to 'cottage country', which is increasingly attractive to part-time workers and retirees. The most likely direction of future growth for the region is to the West and Northwest. As Canada's main port of entry for immigration, Toronto also plays a major role in cultural assimilation, or at least cultural accommodation, with many immigrants eventually moving on to other urban centres within the larger region. Although international comparisons of metropolitan areas are complicated by definitional differences, Toronto is now alleged to be the fourth largest city region north of the Rio Grande—hence the largest urban centre between New York and Chicago.

2. Montreal is the second largest megaregion, but unlike Toronto its population is highly concentrated (91 per cent) in the central city and urbanized core (Shearmur and Rantisi 2011). Montreal has grown more slowly than Toronto and with less spillover into surrounding urban areas. To the Northwest the St. Jerome and Lachute agglomerations have already been integrated into Montreal, leading to the Laurentian recreation area. Older industrial areas such as Joliette, Sorel, St. Hyacinthe, St. Jean and Salaberry de Valleyfield have grown rather slowly, but are gradually being drawn into the metropolitan sphere of influence through improved transportation facilities. Although the connections from Montreal to Quebec City in the Northeast are well-developed, there has been very little extension into Ontario (toward Ottawa) to the West. Future expansion will likely take place around St. Jean and

towards Sherbrooke to the East. Montreal's economic role continues to be based relatively strongly in manufacturing but it has also become the leading service centre for francophone firms and service agencies, and remains the cultural hub for Quebec as well as the headquarters for some national organizations and firms.

3. The name 'Georgia Basin' suggests the unique setting and topography of the Vancouver region. The expansion of the city of Vancouver has been tightly constrained, initially by the surrounding waterways—Burrard Inlet and False Creek—and later by the mountains of the North Shore, the Pacific Ocean to the West, as well as by agricultural zoning, and the U.S. border to the South. Continued rapid growth in the region has been accommodated in part through intensification and higher densities and in part it has been channeled eastward into outlying communities such as Abbotsford and Chilliwack. Both of these places have absorbed substantial numbers of out-migrants from the central city seeking lower-cost housing, and to lesser extent in-migrants from outside the region or province who cannot afford the high house prices in Vancouver.

The other growth frontier for the Georgia Basin megaregion lies across the Georgia Strait on the southern part of Vancouver Island. The largest urban centre is Victoria, the oldest city on the west coast, and growth has spread into more recent additions to the urbanized area, such as Duncan, Nanaimo and Parksville. While these places are two or three hours from Vancouver by ferry, there are frequent air connections to connect spillover businesses and retirees from the big city. Vancouver's airport, shopping, and cultural activities serve the entire region. The projected growth rate for the region is one of the highest in Canada, but the locations for development continue to be limited, costly and often highly controversial. Future growth may be mostly vertical, in the form of higher density, as well as eastward along the Fraser Valley, and on Vancouver Island, as growth is diverted away from the central city by physical limitations on serviced land and by tight subdivision controls. Vancouver remains the major service centre and port for natural resource developments in the province, although the mines and sawmills have largely moved out of the metropolitan area.

4. The Alberta Corridor is defined quite differently from the other metropolitan regions: it is bipolar in structure, linear in form, and more than 300 kilometres in length. The current population is over 2.5 million. The region, at least at present, is more concept than reality; it is not physically bounded, but linked together by a transportation corridor (road, rail, air) that connects the two main cities, and by their competitive, but to a degree complimentary, economies. The corridor concept recognizes the dual growth nodes of Edmonton and Calgary, the carefully balanced growth in the two cities as orchestrated by the province, and the transportation axis that connects them. At the same time, most locations along the corridor are undoubtedly rural, and most future urban growth will still occur in the two nodes at either end. The leading intermediate settlement, Red Deer has only 90,000 people. While Edmonton centres a large farming region that extends east and west, Calgary's urbanization contrasts strongly with the low density ranching country that surrounds it. Similarly, the rapid growth in both nodes has produced a dispersion of growth to nearby smaller urban centres within their respective regions.

Service firms and government agencies will likely require two outlets to serve the expanding Alberta corridor, located in both major cities. These two metropolitan areas account for 92

per cent of the regional population, and will accommodate almost all the future growth. With the only urban competition in western Canada more than 1000 km. away in Vancouver, the corridor will absorb most of the growth in the Prairies, and especially in the widely distributed energy sectors. In 2011 the population of the Corridor was notably younger, more affluent, as well as more rapidly growing than the population in other megaregions, and this gap may intensify, at least in the immediate future, as the provincial government continues to redistribute Alberta's resource revenues into new public services and physical infrastructure.

5. The Southwestern Ontario Region is another dispersed market, but the spatial pattern and distribution of population are very different from the Alberta Corridor. Distances between urban places are on average shorter, the settlement system operates at a somewhat higher density, and most places are linked to a larger centre by commuting flows since the labour markets and service areas of the individual CMAs and CAs cover much of the region. People in Sarnia, for example, can work or shop in London (or the US for that matter). People in Chatham may work in the auto plants of London or Windsor or Woodstock. Universities and specialized hospitals serve the entire region. The region is bounded by the Great Lakes and the U.S. border to the West, and by the metropolitan megaregion dominated by Toronto to the East. The regional economy still depends heavily on manufacturing that now largely serves the U.S. market—through Windsor and Sarnia, via Highways 401 and 402 and the rail lines—but the quality of the service sector will depend on the ability of the region to compete with Toronto. In the past London has provided a full set of high order services for the region, but that role has been eroding as the influence of the Toronto region expands.

While London is the centre of the region's distribution system, and thus shows a more stable economic performance, the other cities in the region are primarily industrial, often with high-value jobs but with a volatile growth sequence. The region was badly hurt by the recent recession; and now it continues to boom and bust in response to decisions about branch plants made by multinational manufacturing firms located outside the region, or more likely outside the country. Recent growth has been minimal and future growth is unpredictable. Toronto (for services) and Windsor (for exports) provide the two external poles of attraction, yet growth could bubble up at any intermediate point given a substantial new investment of foreign capital. Clearly, as this example shows, not all megaregions are guaranteed success in the competition for economic growth simply because of their size.

The country's three remaining megaregions: Winnipeg, Halifax and the Okanagan are the smallest and most peripheral, and (Okanagan aside) the slowest growing. Winnipeg and Halifax are aging regional service centres that do relatively well within the context of their respective regions but in general find it difficult to compete with the larger metropolitan regions, especially with respect to attracting immigrants. Although Winnipeg (and Manitoba) have been moderately successful in recent years in attracting more immigrants through well-established provincial nomination programs, the numbers remain relatively small and retention continues to be an issue. Nova Scotia and some other Atlantic provinces have also taken the initiative in encouraging higher levels of immigration, but again the local economy and the base of established institutions and receptive immigrant communities, are all relatively limited.

The Okanagan megaregion, in contrast, provides a unique complex of recreation and retirement centres embedded in an attractive agricultural and tourist region. While superficially similar to

Southwestern Ontario with respect to the number of urban centres and its spatially dispersed settlement geography, the Okanagan is the very opposite in terms of economic base and rate of growth. It will likely continue to grow as a service centre and retirement community for the foreseeable future.

2.2 The Growth of the Megaregions

In recent years the growth of Canada's metropolitan regions has depended on a combination of several factors. The first of these, and the simplest to comprehend, has been the ability to attract immigrants. Immigrants tend to have little a priori knowledge of the Canadian labour market, and are increasingly dependent on the assistance of various settlement agencies and compatriots for help in adjusting to the Canadian situation. Thus, they are attracted to places that have a relatively diverse and 'thick' job market, and a previous immigration history, and Toronto, Vancouver, and Montreal have by far the largest concentration of earlier immigrants, as we have seen. On the other hand, it has proven to be very difficult to attract substantial numbers of newcomers to the Atlantic region or to Quebec outside of Montreal. Thus, the cities with large immigrant communities will most likely continue to attract newcomers, maintain their rates of population growth, generate new investment and create job opportunities.

The second growth factor is the size and rate of expansion of the regional economy—i.e. the market—in which the metropolitan region is embedded: Consider the limits on the rate of growth imposed by the position of Halifax within the slow growth Atlantic region, and of Montreal within Quebec. Toronto, on the other hand, looks to Ontario but also to Canada as a whole, while the Alberta Corridor and Vancouver serve the Prairies and British Columbia, respectively. The support of the regional market for urban growth has two dimensions of interest here: economic and demographic. Almost all employment growth, even in resource-based economies, now occurs in the services sector. These services increasingly prefer to locate in the larger regional centre, in proportion to the overall growth of the regional market. A large percentage of each dollar earned in British Columbia, to illustrate, trickles into Vancouver and creates jobs and encourages capital investment. Similarly, exploiting the oil sands generates industrial and service jobs, and new office buildings, mostly located in Edmonton and Calgary. Taxes, transfers, and resource revenues in turn support the provincial public sector. But the regional context also places limits on metropolitan growth. The size of the regional centre is proportional to the regional economy, and it cannot grow much faster than the region, as demonstrated by the relatively slow growth of London and Winnipeg.

On the demographic side, regional centres have traditionally attracted the in-migration of young people from smaller places and rural areas throughout their respective region. If the rate of natural increase for the entire region declines, the potential pool of rural-to-urban migrants shrinks and the population growth rate declines accordingly; unless the metropolitan region can attract migrants from other regions or from abroad. The Montreal and Quebec City experiences illustrate this point. Montreal lost anglophone population during the 1970s and early 1980s, while Quebec as a whole suffered a sharp decline in the fertility rate. Francophone population growth, despite a recent but moderate upsurge in fertility levels, is still relatively low. Calgary, in contrast, has been able to attract young people both from Western Canada, and other regions in eastern Canada, and thus the potential for future growth is embedded in the city's youthful demographic structure even without sustained immigration.

The other element that determines the growth rate of each megamarket is the ability to compete within the region. In order to take advantage of regional growth-either economic or demographic—a city must dominate the market, or at least protect its share of that market. The period 1971 to 2011 witnessed a number of changes in these regional relationships that have affected the growth rates of individual cities, as shown in Table 3. In 1971 the Montreal CMA was larger than Toronto, but the metropolitan regions were more or less equal in terms of market (i.e. total income) size, although Montreal was the historic service centre for the whole country. Forty years later there can be no doubt about the changed regional roles. Toronto serves the whole country; Montreal, primarily the francophone portion. The Toronto region has grown more rapidly than Canada; while Montreal's growth rate has typically been below the national average. A similar eclipse occurred in the Prairies where Calgary has overtaken both Winnipeg and Edmonton to become the leading service centre for this part of Western Canada. In the Atlantic region, Halifax has steadily expanded its role as the dominant regional centre, growing more rapidly than potential competitors such as Saint John or St. John's. In Ontario, the Toronto Region has grown so rapidly that it tends to capture service jobs and investments from all parts of the province. At the same time, regional sub-centres such as London or Kingston have lagged behind.

One successful weapon in these competitive struggles is the city's political role. As the national capital, the Ottawa-Gatineau region will grow as Canada expands, sharing the spoils with Toronto, but restraints on the expansion of the federal government will would ensure that future urban growth is moderate. Similarly, Quebec City has benefitted as the public sector of Quebec province has expanded steadily over the last thirty years. In the West, Edmonton has slowly given way to Calgary's central role in the service economy, while retaining its important political function as the province's capital region; and Winnipeg has enjoyed the benefits of being the provincial capital as well as the overwhelmingly largest regional service centre in Manitoba.

Immigration, regional growth, and regional share: these are the key elements in determining rates of metropolitan growth. What are the prospects for these metropolitan markets in the future? Table 9 generates some simple projections for the eight megaregions, using the latest Statistics Canada population projections to 2036 (Statistics Canada 2010a and 2010b). It aggregates the populations of the megaregions in 1986 and 2011, and calculates their share of their respective provincial populations in the same years. If the share in 2011 is compared with the share in 1986 (25 years ago) the probability of increasing regional share within the province by 2036 (25 years from the last census) is introduced. This generates the 'Projected Share' for the 'Projected Population' of the province in 2036. Finally the projected growth rates for the megaregions are calculated, and they can be compared with the projected growth rate for Canada as a whole—just over 30 per cent—approximately the same as Montreal, the Alberta Corridor, Southwestern Ontario, Winnipeg and Halifax. Toronto, Vancouver and the Okanagan are projected to grow more rapidly.

The largest metropolitan regions attract nearly all the country's growth; in fact, the Toronto and Vancouver regions alone will account for 85 per cent of the growth of all of the megaregions, with Alberta contributing most of the rest. Incidentally, other national projections by Statistics Canada suggest that by 2050, ninety per cent of Canada's population growth will be attributable to immigration, with only ten per cent coming from natural increase. This demographic

transformation will continue to define the future components of growth for Canada's cities and thus the country as a whole.

Table 9: Projecting Megaregion Population, 2036

Popu	lation*		Pro	Provincial Population* Projections in 2036					
Megaregion	1986	2011	Province	1986	2011	2036	Share	Population*	Growth Rate
Toronto	5,285	8,342	ON	9,438	13,248	17,293	0.708	12,246	46.8
Montreal	3,266	4,198	PQ	6,708	7,895	9,323	0.581	5,413	29.0
Georgia Basin	1,786	3,107	ВС	3,004	6,058	6,058	0.792	4,798	54.4
Alberta Corridor	1,540	2,582	AB	2,435	5,644	5,644	0.599	3,381	31.0
Southwestern Ontario	833	1,134	ON	9,438	13,248	17,293	0.083	1,434	26.5
Winnipeg	644	757	MB	1,092	1,235	1,508	0.637	960	26.9
Halifax	399	498	NS	889	943	980	0.623	610	22.4
Okanagan	238	397	ВС	3,004	4,528	6,058	0.097	588	48.0
*Population in	1,000s								

Based on Statistics Canada. 2010. "Population Projections for Canada, Provinces and Territories," (Catalog 91-520), using the medium assumption and the internal migration patterns for 2001-2006.

For analysts looking towards the future, projecting the Canadian population and the country's market size may at the same time become both simpler and more complicated than it initially appears. First, over sixty per cent of the market is now concentrated in eight metropolitan clusters or megaregions that are scattered across the country. This will likely continue. Given the high degree of mobility within these regions this market can readily be accessed from a dozen locations.

Second, also looking to the future, the growth of the Canadian market will be even more concentrated within half a dozen of these regions. Toronto, Montreal, Vancouver, and the Alberta Corridor will absorb almost ninety per cent of the projected growth in the Canadian market. The greater Toronto region alone is projected to provide more than half of the growth in the national market. The real complexities in Canada's future in terms of economy, demography, social structure and life styles will be found within these growing metropolitan regions. Currently, over forty per cent of the residents of Toronto and Vancouver were born abroad with a mother tongue that is neither English nor French. Calgary has attracted large numbers of native-born Canadians who are on average both younger and more affluent than residents of other parts of Canada. Each of these emerging regional markets will require a distinctive administrative and political approach, and each will respond differently to initiatives in public policies and institutional practices.

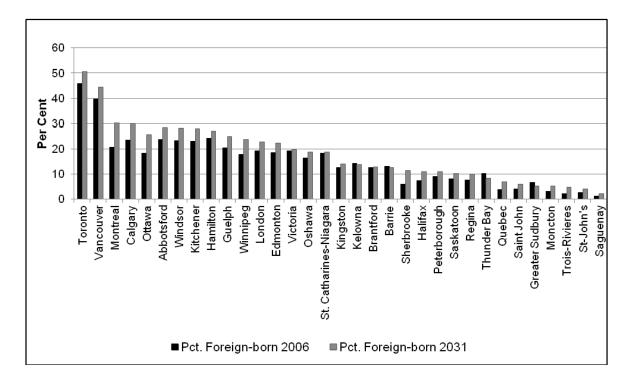


Figure 13: Proportion of Foreign-Born by Census Metropolitan Area: 2006 and 2031

Figure 13 provides an overview of the Statistic Canada projections of foreign-born populations for census metropolitan areas in 2031. Toronto and Vancouver will absorb most of the changes, increasing their population share to 50 and 45 per cent born abroad, with Montreal and Calgary at thirty per cent. Much of the remaining population by that time will be second and third generation immigrant. In contrast, most of the smaller cities will have less than twenty per cent foreign-born—which means very little potential growth. Cities in Quebec outside Montreal and cities in the Atlantic provinces will grow much more slowly, if at all. On the other hand, a number of medium sized cities that belong to—in the sense of being relatively close to and integrated with the megaregions—may do better than projected if they can attract spillovers of firms, jobs and residents from the central cities. Of course, continued global economic and financial uncertainty, and even the political uncertainty over the size of future flows of immigrants, will further complicate any forecasts for the country.

As well, each of the largest metropolitan regions has a distinctive internal structure and pattern of growth that will require a much more complex network of infrastructure facilities and services, and different regulatory tools. Montreal's structure remains uni-polar, but Toronto's Horseshoe region now sprawls more than 200 kilometres from East to West and from North to South, and is emphatically multi-nodal. The Alberta Corridor is even more spatially dispersed along a single transportation corridor but with two strong urban nodes. Most such urbanizing regions are also politically fragmented, in varying degrees.

Each region, as a result, will require a distinctive spatial strategy for business, for planning purposes and for the provision of infrastructure and services. No single model or vision of the future urban form can be imposed on such large and diverse urban regions. One obvious

challenge is that the emergence of these megaregions has not, in most instances, been matched by regional political thinking or even a strong sense of regional identity. Nor is there evidence of coordinated regional economic development initiatives, nor regional social policies and revenue sharing, and generally not effective structures of governance for the megaurban regions. Despite numerous examples of innovative public policies at the local municipal level, these have seldom been transferred upward to the entire region.

3.0 Conclusions

This paper has focused on recent trends and the drivers of change observed at the scale of the national urban system in the 2011 Census of Canada, and especially the changes in the country's demography. The dual purpose has been first to explore trends in the recent 2001-2011 Census period, and where appropriate to compare the patterns and components of urban growth with those of a century ago—1901-1911. The second purpose is to offer a national or macro-scale context for subsequent and more detailed studies of the changing internal structure and dynamics of Canadian cities, and for case studies of particular city regions.

Broadly speaking, the contribution of natural increase to Canada's population growth will continue to decline, while the role of immigration will continue to grow—even if the overall numbers stabilize—and to become more diversified In terms of composition and source countries. In combination this means that the country's population will continue to age rapidly as those baby boom cohorts age and the post baby-boom (echo-boom) cohorts decline in size over the next few decades. Those large cities that can generate service jobs and act as innovation hubs, while attracting skilled workers and immigrants, will likely grow relatively rapidly. Small and peripheral cities without a recent history of immigration, in contrast, must depend on the rate of natural increase for their future growth, and that is a shrinking source.

These changes also have significant implications for the location of growth within the city region—a subject to be studied in a forthcoming paper. Past Census results have delivered more-or-less predictable patterns of urban growth in which the inner cities lost population (as fertility rates declined and average household size shrank) while new suburbs proliferated at the outer edge of the city. During the last few decades, however, a number of new patterns of urban development and social change have emerged. Immigration contributes two thirds of Canada's population growth and more than that in the largest cities. These new urban realities also raise new research questions: where will new immigrants locate? What kinds of housing can they afford, and what are they looking for? The changing age structure leads to other questions: where do the new kinds of households—one and two-person households, retired couples—that are emerging within the city locate? See, for instance, Murdie (2008), Simmons, Kamikihara and Hernandez (2010), TD Economics (2012). What is the future of aging peripheral settlements?

3.1 Summary

At this point we can usefully pull together some of our impressions from the analysis of the initial data released from the 2011 Census for the country's urban system.

- 1. The recent Census results emphasize the continuing attractions of Canada's largest cities and their tributary metropolitan regions (the megaregions). The six largest urban areas, with population over one million generate two thirds of Canada's population growth. Although most of the country's cities have continued to grow at least modestly over the last census period, the very largest places dominate the map of population growth. As noted earlier, only 28 places (out of 147), or roughly 20 percent, mostly smaller cities, actually declined during the last census period—although this number is almost certain to increase as the full effect of an aging population is felt after 2011.
- 2. This does not mean, however, that large cities will inevitably be the sole beneficiaries of future growth. The rising cost-of-living differential between the larger cities and most medium size cities (especially for land and housing) could still swing the migration balance moderately toward the latter. But the most likely recipients of any shifts in migration flows will be medium size cities within growing regions (e.g. in Alberta and BC) or smaller places adjacent or near to the larger metropolitan areas.
- 3. Surprisingly, the concentration of growth in the very largest cities resembles in broad outline the pattern revealed in the period 1901 to 1911, a century ago. This was a period when Canada encouraged railroad construction to open up Western Canada and opened the door to immigrants who were willing to work in the frontier in resource industries, especially agriculture. This growth led to the emergence of the great cities of Western Canada: Winnipeg, Vancouver, Calgary and Edmonton. At the same time Canada's closed economy with its relatively high tariffs encouraged parallel growth in the manufacturing centres of Central Canada, especially in Toronto and Montreal and their adjacent regions.
- 4. Well-established regional variations in urban growth rates are also maintained in 2011, with the growth rates in BC and the Prairies at twice the level of Quebec and the Atlantic region. This is due largely to the inability of the latter regions to attract the immigration that has become the major source of Canada's population growth. Immigration is thus adding to the traditional degree of uneven economic development and demographic growth and change in Canada. At the same time, since jobs tend to relocate from one city, region (or province) to another at a faster rate than people move, the result is a growing gap or spatial mismatch between the distribution of employment opportunities by skill levels and the geography of the resident labour force. This is one argument for increasing the flow of temporary foreign-workers, and the source of continuing debate in the policy literature.
- 5. Recent trends in the sectoral composition of the Canadian economy also support the spatial patterns outlined earlier. Over the last thirty years there has been a continuing growth in the share of services within the country's GDP, thus favouring the growth of the largest cities at the expense of rural areas and smaller places. And, during the last fifteen years the manufacturing sector has slowly given way to the growth of the primary (resource-based) and service sectors, often due to foreign competition and technical change. This latter change further supports the regional growth patterns noted above.

- 6. At the same time, the economic role of the provinces has expanded relative to that of the federal government, such that resource—rich provinces are now better able to support expanded expenditures on infrastructure, education and health. In this way resource revenues are largely retained within the province to stimulate the growth of all urban areas within that jurisdiction. The impact of this redistribution has been especially evident in Alberta, where virtually all urban places have been growing, and more recently but on a much smaller scale in southern Saskatchewan.
- 7. The Census also records the culmination of a long period of fertility decline in Canada, as the number of births dropped to about one third of the peak value in 1960, while the overall population is aging rapidly. This decline essentially reduces the size of the workforce, both at present and more importantly in the future, hence reducing the level of national and provincial incomes, while increasing the number of senior dependents. There is no evidence of a reversal of this longstanding decline in the currently low levels of fertility.
- 8. In response the federal government has opened the borders to immigration (and temporary workers), the former overwhelmingly affects the growth of the largest cities. As noted, Toronto, Montreal and Vancouver together attracted two thirds of Canada's immigration between 2001 and 2006 and a similar although slightly lower proportion from 2006 to 2011. The big cities also generate more job opportunities, especially for professionals in the high-order services sector, but also in low-wage service positions, while the established immigrant communities and settlement agencies provide contacts and offer support for job searches, housing opportunities and access to local social services. Cities without established immigrant communities are thus disadvantaged; so the entire process of population growth has tended to become focused on a few gateway cities.
- 9. The spatial distribution of urban population suggests that Canada's growing cities are increasing clustered in megaregions that are often, although not always, found around the largest cities, but all are within their sphere of influence. Eight of these clusters, found in all parts of the country, now accommodate about 21 million people—62.8 per cent of Canada's total population and more than three quarters of the urban population. In total, 64 individual urban centres (CMAs and CAs) now belong to these geographically expansive regional clusters, which have grown more rapidly on average than other urban areas in the country. One obvious challenge will be to find some way of managing these complex urban regions to achieve a balance of economic efficiency, political cohesion and social equity.

3.2 Looking Forward

The changing demography revealed in the 2011 Census will modify many aspects of Canadian life over the next few decades. This paper has focused primarily on urban population growth within the Canadian urban system writ large, given available data, during the last census period (and in comparison to 1911). But subsequent analyses in this series will emphasize the extraordinary increase in the diversity of Canadians, their backgrounds and lifestyles. The newcomers also bring different expectations of urban life, with experiences ranging from rural villages to the high-rise apartments of Hong Kong, Mumbai or Shanghai. They may also bring different attitudes and priorities as these are applied to education, or health care or business or to the role of government itself.

Canada's largest cities and emerging city regions, the main beneficiaries of this rapid population growth and immigration, will experience continued social disruption and associated policy challenges in the decades ahead (Hiebert 2012). Unlike the rapid natural increase of the earlier post-war era that focused on suburban lifestyles and left downtowns more or less unchanged, with declining populations, the current growth is interjecting new populations into older parts of the city, through redevelopment and intensification, as well as gentrification and upgrading. These are areas where newcomers jostle against the previous residents, while in the process transforming entire neighbourhoods, local shopping districts and social institutions. The schools and churches, the coffee shops and beauty shops now serve rather different customers. Sometimes, through successive waves of in-migration, neighbourhoods go through a sequence of transformations as different immigrant communities replace one another over time—as they did in the early years of the twentieth century.

In contrast, at the other end of the settlement continuum, are those locations in danger of decline and benign neglect. Looking to the future, those places most at risk of economic and demographic decline and social marginalization are isolated rural areas (not to mention isolated First Nations communities) and smaller urban centres that lie outside the megaregions. These areas are typically located well beyond the metropolitan sphere of influence as measured by commuting to work data, and thus have limited access to employment opportunities and services (e.g. health care). This is especially the case for those whose economies are specialized in declining industries or depleting resources. Their current moderate rates of population growth may soon be replaced by widespread population and economic decline with all its challenges for local as well as senior levels of government. We are really not well prepared to address managing decline any more than we are of the emergence of city regions.

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