Trends in Population Growth Inequality across Subnational Jurisdictions in Canada[1]

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L'apparence globale de la croissance démographique au Canada masque d'importantes inégalités de la distribution de cette croissance entre les régions du pays. Dans cet article, nous montrons que ces disparités existent à la fois entre les provinces et à l'intérieur des provinces. Dans les provinces où l'augmentation de la population est élevée, les régions métropolitaines croissent plus rapidement que les régions non métropolitaines. Dans les provinces où l'augmentation est plus faible, les régions métropolitaines croissent moins rapidement, et les régions non métropolitaines qui décroissent sont plus nombreuses que dans les provinces où l'augmentation de la population est élevée. Quand on compare les données de croissance désagrégées, on note une importante inégalité dans l'augmentation ou la diminution de la population autant entre les provinces qu'entre les divisions de recensement. En évaluant l'ampleur de ce problème, nous espérons favoriser de nouveaux débats sur la question.

Mots clés : croissance démographique, inégalités, volatilité, régions métropolitaines, régions non métropolitaines, divisions de recensement

The overall appearance of population growth in Canada masks a serious underlying disparity in the distribution of population growth across subnational jurisdictions. This study shows there are both interprovincial and intra-provincial variations in population growth. In high-growth provinces, metropolitan areas are growing faster than non-metropolitan areas. In low-growth provinces, metropolitan areas are growing more slowly, and relatively more non-metropolitan areas are declining than in high-growth provinces. When comparing disaggregated growth rates, the study found significant inequality in the growth and decline of population across subnational jurisdictions at the provincial level, as well at the level of census divisions. The intent of the study is to expose the magnitude of the problem and stimulate further discussion.

Keywords: population growth, inequality, volatility, metropolitan areas, non-metropolitan areas, census division

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Introduction

The demographic composition of most industrialized countries is changing rapidly. The proportion of seniors (age 65 and above) is expected to double, on average, over the next 40 years due to low birth rates and increased life expectancy. The potentially significant economic consequences of these demographic changes pose important public policy challenges for the countries involved (Fougère and Mérette 1999). In Canada, these changes will result in serious labour shortages in the coming years (Verbik and Lasanowski 2007). For example, it is estimated that sometime towards the middle of this decade in Canada, there will be more skilled jobs than people willing and available to work (McNiven 2008).[1]

Not all regions in Canada, however, will be affected by these changes in the same way. Not only do age structures vary by region, but Canadians are a mobile people. Between 1996 and 2001, approximately 4.5 million Canadians, or 15 percent of the population aged five and over who had been living in Canada for at least five years, changed their municipality of residence at least once (Malenfant et al. 2007). Canadians switch homes, neighbourhoods, towns and cities, provinces, and countries. As people move, human capital is redistributed from its place of origin to its destination. Although individual reasons vary, studies have found that interprovincial migration generally redistributes population from relatively rural to relatively urban provinces and from poorer to richer provinces (Coulombe 2006). It is the magnitude of these flows from one time period to another that is of particular interest from an economic, social, and public policy perspective and therefore deserves to be carefully analyzed.

Intra-provincial migration mostly follows the same patterns. One would expect the populations of poorer, more rural regions to change more dramatically than those of wealthier, more urban areas. This may not always be the case, however, nor does the movement from rural to urban regions tell the full story. Disparities also exist between different metropolitan areas and between different non-metropolitan areas, and these jurisdictional disparities can be obscured by discussions of the growth of a region as a cumulative whole. For example, the national media has discussed the implications of Canadian demographic trends related to low fertility, increased longevity, and the importance of increased rates of net immigration for the *entire* country. Accordingly, much talk has centered around rising health care costs and the need for positive inflows of immigrants. As important as these discussions are, they are based on patterns observed and projected at the national level, where overall population growth between 1986 and 2010 was 31 percent.

Discrepancies arise when analyzing the growth and trends at the subnational level because a Canadian population growth of 31 percent over a quarter of a century does not translate into homogeneous jurisdictional growth across the country. Rather, the 31 percent represents the cumulation of demographic stories of singular jurisdictions across Canada. Subnational trends can vary greatly by province and census division. In fact, magnitudes of population growth varied between negative 45 percent as experienced in Stikine, British Columbia between 1986 and 2010, and growth of 186 percent as experienced in York, Ontario over the same time period.[2]

Both ends of the spectrum have their own set of problems. Unexpected spurts in population can place pressure on public services, resulting in bottlenecks for all residents of a jurisdiction. Residents of areas experiencing significant population contractions (like Stikine), however, are more vulnerable, since physical infrastructure, markets, local government, and the provision of certain public services may become unsustainable due to the sharp decline in population (Mathur 2005). Communities experiencing contractions in population may also witness sharp declines in real estate prices and an overall slowdown of local businesses. Newfoundland has already witnessed mergers of governance and

municipal services between towns. For example, in October 2010, the town of Little Catalina was annexed to Trinity Bay North to improve the financial positions and services for residents of both towns (Newfoundland and Labrador Department of Municipal Affairs 2010). Other jurisdictions in the province are currently undergoing feasibility studies to determine whether additional communities should be annexed.

The overall appearance of population growth in Canada, therefore, masks a serious underlying disparity in the distribution of population growth across subnational jurisdictions. On the one hand, jurisdictions like Mirabel, York, and Calgary are flourishing; on the other hand, Channel-Port aux Basques in Newfoundland, Guysborough in Nova Scotia, and (as noted above) Stikine in British Columbia are contracting sharply. The magnitude of these extremes and the uneven subnational distribution of population growth across Canada warrant investigation. Regional, provincial, and federal planners and economists need to understand the underlying dynamics of the issue in order to project the trend in population at the subnational level in the coming decades. Once these are understood, appropriate measures for action can be considered.

To fuel the discussion, this study focuses on inequality in the distribution of population growth in Canada by comparing high- and low-growth census divisions, and metropolitan and non-metropolitan areas. It looks at the heterogeneity of disaggregated growth rates, both vertically and horizontally. Vertical heterogeneity is examined by comparing national with regional growth rates, regional with provincial growth rates, and provincial growth rates with those in metropolitan and non-metropolitan areas. Horizontal heterogeneity is analyzed by comparing the growth rates of similarly defined areas across regions, provinces, metropolitan areas, and non-metropolitan areas. This emphasis on trends in population growth inequality across various jurisdictions in Canada is particularly important because ultimately, in a mature industrialized economy, the number of people is the principal driver of change and economic development. People are the ultimate building block, the drivers of sustainability. The number of people is also the crux of the challenge when changes are extreme, such as when there is a population explosion or a significant hollowing out of population from an area. The intent of the study is to draw attention to the magnitude of the problem and stimulate further discussion by identifying key areas of research. The study expands upon the literature by providing growth rates for nearly every census division in Canada in the period 1986–2010. This presents researchers with a comprehensive picture of demographic trends and supplies an additional tool for future analysis.

Following this introduction, the second section provides definitions for a number of key concepts and a brief literature review. The third section describes data sources and the methodology. The fourth provides an empirical assessment of trends in population growth across Canada for regions, provinces, and subprovincial jurisdictions, as well as an analysis of vertical and horizontal heterogeniety in population growth rates. An important focus will be on inequality in the growth and decline of population across census divisions. This is an area that has previously not been explored. As described in detail below, each of the provinces is broken down into census divisions. Census divisions do not cross provincial boundaries. As well, the study will break the population change in the high- and low-growth census divisons in each of the provinces into the following five components of population growth: net natural increase, net immigration, net interprovincial migration, net intra-provincial migration, and an adjustment to account for statistical discrepancies. The discussion will also include a link to the urban continuum to explore which census divisions overlap with metropolitan areas. Are the high-growth census divisions primarily metropolitan and the low-growth primarily non-metropolitan or is there no such connection? This will be an important area of investigation. The fifth section presents a summary and conclusion for the demographic

changes occurring in subnational jurisdictions in Canada since 1986. A more detailed picture of every metropolitan and non-metropolitan census division in Canada—as defined, for the purposes of this study, province by province—is presented in the online Appendix, followed by the mean absolute deviation of growth rates for census divisions by province. The online Appendix is available in the *CPP* online archive at http://economics.ca/cpp/en/archive.php.

Definitions, Context, and Literature Review

This study employs multiple spatial units of analysis: the sovereign nation of Canada; the four regions of Atlantic Canada, Central Canada, the West, and the North; the provinces; census divisions; metropolitan areas; and non-metropolitan areas. According to the definitions used by Statistics Canada in the 2001 census, the basic building block is the census subdivision (CSD). Census subdivisions are municipal units that are deemed to be the equivalent of municipalities by Statistics Canada. The complicating factor is that CSDs do not always follow political and administrative county boundaries. For example, the CSDs in Nova Scotia identified in the 2001 census included incorporated towns, regional municipalities, subdivisions of county municipalities, Indian Reserves, and municipal districts. Of interest to this study is that Statistics Canada aggregates and classifies these CSD building blocks in two different ways: by Standard Geographical Classification and by Statistical Area Classification.

For Standard Geographical Classification purposes, CSDs are aggregated into census divisions. Census divisions generally follow boundaries for provincially legislated jurisdictions. In Nova Scotia, for example, census divisions refer to counties. The next level of aggregation is the province or territory. Information about provinces and territories is formed by aggregating the respective census divisions according to political boundaries as dictated by the Canadian constitution. For the purposes of this study, the region of Atlantic Canada is comprised of the provinces of Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick; Central Canada consists of Ontario and Quebec; and the West consists of the provinces of Manitoba, Saskatchewan, Alberta, and British Columbia. Finally, the North comprises the territories of Yukon, Nunavut, and the Northwest Territories.

Statistical Area Classification, on the other hand, aggregates CSDs according to a separate set of criteria to study the urban continuum in Canada. These criteria create distinct geographic units called "census metropolitan areas" (CMA), "census agglomerations" (CA), and "CMA/CA influenced zones and territories" (or, more generally, "metropolitan influenced zones" (MIZ)). To form a CMA, CSDs are aggregated such that the urban core has a minimum of 50,000 residents and the total area has a population of at least 100,000. Each CMA has one or more CSDs that lie completely or partly within the urbanized core; or where at least 50 percent of the employed labour force living in the CSD works in the urbanized core; or where at least 25 percent of the employed labour force working in the CSD lives in the urbanized core. A CA must have an urban core population of at least 10,000, below which it is retired. As in the case of CMAs, CAs are formed by one or more adjacent CSDs centred on an urban area known as the "urban core." Whereas a CMA must have a total population of at least 100,000, of which at least 50,000 must live in the urban core, a CA must have an urban core population of at least 10,000. To be included in a CA, other adjacent CSDs must have a high degree of integration with the central urban area, as measured by commuting flows derived from the census place-of-work data (Statistics Canada 2002). An MIZ is a census subdivision that lies outside CMAs and CAs, but is influenced by them. It is a category assigned to a municipality not included in either a CMA or a CA.

Spatial units were selected for this study based on the availability of annual data from 1986 through to 2010. Accordingly, a horizontal comparison of census agglomerations and MIZs is somewhat tenuous because the component data required for analysis is only available for census years. To create a link between census divisions and the urban continuum, if the majority of the population of a census division falls within a CMA, that census division is classified as "metropolitan." Census divisions are classified as "non-metropolitan" if most of their population live outside CMAs or in jurisdictions that are either CAs or MIZs.

The Uneven Distribution of Population Growth

The population of Canada is unevenly distributed across the country. In 2009, three metropolitan areas, Montreal, Toronto, and Vancouver, accounted for 35 percent of the estimated population of the country. In the 1990s, five urban regions accrued the greatest contribution to national population growth: the Greater Toronto Area; Greater Montreal; Ottawa-Gatineau; Vancouver-Victoria and the Lower Mainland, BC; and the Central Alberta corridor (Bourne and Rose 2001; Bourne and Simmons 2003).

Certain studies have found that population growth in Canada is concentrated in metropolitan areas and their surrounding jurisdictions, with growth decreasing as the jurisdictions' degree of rurality increases (Malenfant et al. 2007). In addition, cities with populations greater than 500,000 are found to be engines of growth, with larger cities having a greater spillover effect than smaller urban centres (Partridge, Olfert, and Alasia 2007). Most of Ontario outside of the major metropolitan regions and their adjacent hinterlands is declining. The sharpest contrast is between communities in the north and communities in the south of the province; and this north-south divide is growing. The more remote and isolated a community, the worse its economic performance (Slack, Bourne, and Gertler 2003). Internal migration is largely age-dependent and appears more significant among young adults than among other age groups (Audas and McDonald 2004; Bernard, Finnie, and St-Jean 2008; Coulombe 2006; Malenfant et al. 2007; Rothwell et al. 2002). Furthermore, migration redistributes people from poorer to richer provinces and increases interprovincial human capital/skill inequalities (Bernard, Finnie, and St-Jean 2008; Coulombe 2006). Outmigration from one province to another within the country accentuates their eventual population decreases (Edmonston 2009). This is because of the lower fertility rates of those who remain, since proportionately fewer people of labour-force-participation age remain, adding to the population woes (Bunting and Filion 2001).

The growth experienced in these large urban areas, however, was not due to natural growth. Many researchers have documented the new fertility paradigm, whereby the average fertility rate is below the natural replacement rate (Hall 2009). Natural growth rates (births minus deaths) have been consistently low across the country for many years, with the exception of aboriginal communities. Accordingly migration—international, interprovincial, and intra-provincial—has become the dominant force behind the heterogeneity of population growth across Canada (Anderson and Papageorgiou 1992). New immigrants, however, have a higher tendency to migrate into, and a lower tendency to migrate out of, the metropolitan areas of Toronto and Vancouver, compared with the Canadian-born population (Hou and Bourne 2006). This phenomenon is expected to continue unless further government policies are enacted that will encourage new immigrants to settle in secondary and tertiary regions (Wulff et al. 2008).

Overall, however, the heterogeneity of population growth across Canada is such that evidence based on population trends alone is not sufficient to forecast changing patterns of intra-metropolitan population distribution (Bunting 2004). Each component of change has its own dynamic, geography,

and consequences. According to one study, "the demographic transition, population aging, and high levels of immigration, have transformed the nation's population dynamics, and altered the trajectory and character of growth for all cities and regions" (Bourne and Simmons 2003, 42). It is this continuing inequality of population growth across jurisdictions that this study seeks to capture.

That said, many of the trends discussed in this paper (such as the westward drift of Canada's population, the growth of urban agglomerations coupled with rural decline, the aging of the population, and so forth) are not new. What stands out, however, is the rapidity of change that goes beyond the aging population and changing fertility, important as they are. Canada is not alone in this regard. Since June 2012, there have been several prominent municipal bankruptcies in the United States, including San Bernardino, Mammoth Lakes, and Stockton, all in California. These bankruptcies followed on the heels of the high-profile $4.23 billion bankcruptcy of Jefferson County in Alabama in November 2011 (Connor 2012). Events like these have contributed to an increasing sense of urgency in the behaviour of people and governments. It is therefore not inconceivable that local governments in Canada in certain non-metropolitan areas will start failing if the movement of people from those areas continues unabated. It is important to note that the concept of a local government failing in Canada is different from that of a local government failing in the United States, because in Canada, municipalities are the constitutional responsibility of the provinces. Accordingly, municipal powers, including the ability to declare bankruptcy under the *Bankruptcy and Insolvency Act* (Canada), depend on the authorization of the provinces (Tindal and Tindal 2004). In Canada, therefore, municipal failure can be understood as the inability to provide adequate and affordable services.

Globalization and the rising share of world GDP of countries like China, India, and Brazil are giving these countries more influence in international affairs and shifting the balance of economic power from west to east. In addition, continuing economic challenges in the United States and the economic turmoil facing the European Union (notably the crippling indebtedness of a number of countries within the Eurozone) have contributed to the ongoing economic malaise in those countries. These issues are clearly beyond the scope of this paper, but they are worth noting as people flee to the perceived security of large urban areas across the globe in search of better economic opportunities.

Data Sources and Methodology

The data used for the empirical investigation relied primarily on secondary sources, namely population estimates published by Statistics Canada (2002–2012). The study examined the populations of all the relevant jurisdictions for comparative purposes—Canada as a whole, the regions, the provinces, and census divisions. Relevant component data for each of the jurisdictions was compiled for the period 1986–2010, and for some, comparisons going as far back as 1971. The population estimates for census divisions for the period 1986–2000 were based on the 2001 Statistics Canada census divisions and used final intercensal data for that period. Information for these jurisdictions for the years 2001–2010 were based on the 2006 census divisions, due to the discontinuation of component information based on the 2001 census divisions. The two censuses were combined so that 24 years of data at the census-division level could be analyzed. Using two data series was not ideal because the census boundaries were not perfectly aligned. Some measures were taken to mitigate this weakness. In Newfoundland, for example, the 2001 Census Division 10 was split into Census Division 10 and Census Division 11 in the 2006 census. To ensure continuity of data, the population of Division 11 was amalgamated with the population of Division 10 in the post-split period.

Additionally, as already noted, a census division was determined to be "metropolitan" if greater than

50 percent of its population was situated within a CMA. In this study, the population of CSDs according to the 2006 census were used, since CSDs are the building blocks for both CMAs and census divisions. This determination was important because part of the intent of the study is to link inequality in interprovincial and intra-provincial population growth rates with the urban continuum. Weighted population growth within provinces by census division was chosen to visibly represent this volatility due to its simplicity and visual impact. Tables are provided in the online Appendix to characterize a more detailed representation of this inequality and to stimulate further discussion on its pan-Canadian nature. The study also analyzed provinces by examining the variation between census divisions with the highest and lowest growth rates over the 24-year period to demonstrate the range of this variation.

The following provides a breakdown of the summary components, which formed the basis for part of the empirical analysis:

- Net natural Increase: births – deaths
- Net immigration: immigrants + returning emigrants + net non-permanent residents – net temporary emigrants – emigrants.
- Net interprovincial migration: in-migration – out-migration
- Net intra-provincial migration: in-migration – out-migration
- Adjustment: net census undercoverage as identified by Statistics Canada

To ensure consistency with the Statistics Canada data used for this study, each year is deemed to begin on 1 July and end on 30 June of the folowing year. To calculate total population at the end of each year (i.e., on 30 June of the given year), the components of net natural increase, net immigration, net interprovincial migration, net intra-provincial migration, and an adjustment for net census undercoverage were added to the population at the beginning of the year (i.e., 1 July of the previous calendar year).

The total population for each census division was calculated using the following formula, where Population_1 is the population at the start of the year on 1 July and Population_2 is the population at the end of the year on 30 June of the following calendar year:

$$\begin{aligned}\text{Population}_2 &= \text{Net Natural Increase} \\ &+ \text{Net Immigration} + \text{Net Interprovincial} \\ &\text{Migration} + \text{Net Intra-provincial} \\ &\text{Migration} + \text{Adjustment} + \text{Population}_1.\end{aligned} \quad (1)$$

The next section provides an analysis of the dominant force behind the heterogeniety of the population growth across Canada, namely migration—international, interprovincial, and intra-provincial—and a somewhat lesser force, that being natural increase. Refer to the study by Anderson and Papageorgiou (1992) for an earlier discussion on the impact of migration in influencing the growth of population. It should be noted that while much has been written on international migration, less literature exists on intra-provincial migration and demographic trends caused by such migration. Examining population trends for subprovincial jurisdictions, namely census divisions, and identifying each census division as either "metropolitan" or "non-metropolitan" creates a useful link between the Standard Geographical Classification and the Statistical Area Classification by reconciling the two, albeit approximately.

Population Trends in Canada: An Empirical Assessment

As already noted, this study focuses on the unevenness in the distribution of population growth in Canada and the masking effect perpetuated by the aggregation of growth rates. This section is therefore dedicated to population growth and decline, examining the growth rates for Canada, the regions,

provinces, and census divisions. Heterogeneity is examined by highlighting and comparing certain areas of high growth and low growth and demonstrating that while certain provinces and census divisions are enjoying rapid growth, others are not. As well, while metropolitan areas in general are growing more rapidly than non-metropolitan areas, this growth across metropolitan areas is also uneven. The same is true for non-metropolitan areas with some growing, some stagnating, and certain others declining. This is the reality of Canadian demographics, which over time will inevitably have major economic and political implications, shifting irreversibly the balance of economic and political power across provinces and regions.

Consider first the overall trend in population growth in Canada since 1986. Table 1 shows that although annual natural increase declined by 30 percent (from 190,423 in 1986–87 to 133,826 in 2009–10), this decline was fully offset by the increase in net immigration of 61 percent (from 158,565 in 1986–87 to 254,742 in 2009–10). Due to this growth in net immigration, the Canadian population grew by 31 percent (from 26,100,278 on 1 July 1986 to 34,108,752 on 30 June 2010). Statistics Canada (2008) projects that this trend of a declining natural increase will continue, with immigration being the only growth factor for the Canadian population from 2030 onwards.

Part of the motivation for this study is to look at the heterogeneity of disaggregated growth rates vertically and horizontally. Vertical heterogeneity is examined by comparing national with regional growth rates, regional with provincial growth rates, and provincial growth rates with those in metropolitan and non-metropolitan areas. Horizontal heterogeneity is explored by comparing the growth rates between regions, between provinces, and between census divisions. The comparsion will focus more specifically on metropolitan census divisons across the country, on the one hand, and between non-metropolitan census divisions, on the other. It is at the level of census divisions that the inequality in growth rates is most pronounced for the spatial units analyzed.

Vertical Heterogeniety

A comparison of population trends between Canada as a whole and the regions shows remarkably different patterns. While Canada's population is growing—mostly due to net positive immigration, but also to some natural increase—Atlantic Canada's population is flat, showing no tendency towards an increase. Additionally, while net immigration is positive for Atlantic Canada, it is largely offset by steady and negative net interprovincial migration out of the region. Central Canada and the West show very different patterns of population growth, with the former closer to the national average and the latter well above it, offsetting the sluggish growth in Atlantic Canada (see Table 2.1).

Table 3.2 shows that Nova Scotia's population has grown by 6 percent between 1986 and 2010, which on the surface is better than Atlantic Canada's record. This record, however, has to be judged in light of the population of Halifax rising by 29 percent during this period. The population of Nova Scotia, excluding Halifax, has therefore fallen sharply during the period in question. Although Guysborough (with a 34 percent decline) is an extreme case, the fact that 14 of the 17 non-metropolitan census divisions recorded negative growth deserves to be mentioned.[3] This brief vertical comparison shows that the positive population growth at the national level is a far cry from the reality in non-metropolitan Nova Scotia, which is failing to keep its population, let alone increase it. The situation in New Brunswick and Prince Edward Island is similar, but the case of Newfoundland—with every non-metropolitan census division recording negative growth—is more extreme.

At the other end of the growth continuum, Alberta's growth of 53 percent for the period 1986–2010 far surpasses the national average. It

TABLE 1
Canada: Components of Population Growth 1986–2010

Period[a]	*Natural Increase*[b]	*Net Immigration*[c]	*Adjustment*[d]	*Net Changes*	*Population*[e]
1986–1987	190,423	158,565	(2,665)	346,323	26,446,601
1987–1988	180,116	167,703	(2,673)	345,146	26,791,747
1988–1989	195,627	292,072	(2,665)	485,034	27,276,781
1989–1990	210,672	206,352	(2,667)	414,357	27,691,138
1990–1991	210,490	140,045	(4,253)	346,282	28,037,420
1991–1992	206,140	151,887	(24,183)	333,844	28,371,264
1992–1993	190,373	147,247	(24,120)	313,500	28,684,764
1993–1994	179,695	160,320	(24,116)	315,899	29,000,663
1994–1995	172,609	153,160	(24,121)	301,648	29,302,311
1995–1996	162,687	167,546	(22,326)	307,907	29,610,218
1996–1997	140,092	165,616	(9,978)	295,730	29,905,948
1997–1998	127,435	131,768	(9,978)	249,225	30,155,173
1998–1999	120,663	135,427	(9,977)	246,113	30,401,286
1999–2000	119,683	174,769	(10,008)	284,444	30,685,730
2000–2001	107,993	236,700	(11,403)	333,290	31,019,020
2001–2002	107,661	248,024	(21,049)	334,636	31,353,656
2002–2003	106,618	200,443	(21,047)	286,014	31,639,670
2003–2004	108,933	213,178	(21,105)	301,006	31,940,676
2004–2005	109,364	216,216	(21,047)	304,533	32,245,209
2005–2006	120,593	228,666	(18,394)	330,865	32,576,074
2006–2007	127,744	228,138	-	355,882	32,931,956
2007–2008	132,529	262,852	-	395,381	33,327,337
2008–2009	134,840	277,682	-	412,522	33,739,859
2009–2010	133,826	254,742	(19,675)	368,893	34,108,752

Notes:

[a] Period from 1 July to June 30.

[b] Net natural increase = Births – Deaths.

[c] Net immigration = Immigrants – Emigrants + Returning Emigrants – Net Temporary Emigrants + Net Non-Permanent Residents.

[d] Post-censal estimates are based on the latest census counts adjusted for census net undercoverage, incompletely enumerated Indian reserves, and for the estimated population growth that occurred since that census. Intercensal estimates are based on post-censal estimates and census counts adjusted with the censuses preceding and following the considered year.
Estimates are final intercensal from 1971 to 2005, final post-censal for 2006, updated post-censal for 2007 and 2008, and preliminary post-censal for 2009.

[e] Population2 = Net Natural Increase + Net Immigration + Adjustment + Population1

Source**:** Authors' compilation using Statistics Canada Table 051-0001 and Table 051-0004 (accessed 2011).

TABLE 2.1
Trends in Population Growth Rates (%) by Region 1986–2010

Region	*1971–1976*	*1976–1981*	*1981–1986*	*1986–1991*	*1996–1991*	*1996–2001*	*2001–2006*	*2006–2010*
Canada	6.8	5.8	5.2	7.4	5.6	4.8	5.0	4.7
Atlantic Canada	5.9	2.5	2.6	2.2	0.4	(1.6)	(0.4)	0.6
Central Canada	5.9	3.7	5.1	8.4	4.7	5.3	5.2	4.0
Western Canada	9.1	12.0	6.0	6.9	9.0	5.5	6.0	7.0
The North	20.5	6.8	10.9	13.5	10.1	0.3	7.2	4.9

Source: Authors' compilation using Statistics Canada Table 051-0001 (accessed 2011).

TABLE 2.2
Trends in Population Growth Rates (%) by Province 1971–2010

Province	*1971–1976*	*1976–1981*	*1981–1986*	*1986–1991*	*1991–1996*	*1996–2001*	*2001–2006*	*2006–2010*
Canada	6.6	5.7	5.1	7.2	5.5	4.7	4.9	4.6
Newfoundland and Labrador	5.9	2.2	0.2	0.6	(3.5)	(6.9)	(2.3)	(0.1)
Prince Edward Island	5.3	4.1	3.9	1.5	4.1	0.7	0.9	3.1
Nova Scotia	4.7	2.3	3.9	2.9	1.8	0.1	0.6	0.5
New Brunswick	7.1	2.4	2.6	2.8	0.9	(0.3)	(0.6)	0.8
Quebec	4.2	2.3	2.4	5.2	2.5	2.0	3.1	3.6
Ontario	7.0	4.6	6.9	10.1	6.1	7.1	6.3	4.2
Manitoba	3.3	0.4	5.3	1.6	2.2	1.5	2.8	4.3
Saskatchewan	(0.0)	4.7	5.3	(2.5)	1.6	(1.8)	(0.8)	5.3
Alberta	11.7	20.8	6.1	6.4	6.9	9.8	11.4	8.5
British Columbia	12.5	11.1	6.1	11.8	14.0	5.1	4.0	6.6
The North	19.1	6.6	10.5	12.8	9.7	0.3	7.0	4.8

Note: The North consists of Nunavut, Northwest Territories, and Yukon.

Source: Authors' compilation using Statistics Canada Table 051-0001 (accessed 2011).

TABLE 3.1
Summary of High and Low Growth of Population by Census Division by Province, 1971–2010

Regions	*Growth (%) 1986–2007*			*Growth (%) 1986–2010*		*Growth (%) 2007–2010a*		*Growth (%) 1971–2010*
	Table 51-0001	*Table 51-0034 (2006)*	*Table 51-0052 (2001)*	*Table 51-0001*	*Table 51-0034/52*	*Table 51-0001*	*Table 51-0034 (2006)*	*Table 51-0001*
Canada	26.17			30.68		3.58	3.58	55.31
Provinces								
Newfoundland	–12.13	–12.16	–12.18	–11.55	–11.58	0.66	0.66	–3.98
Alberta	44.38	44.50	42.91	52.94	53.07	5.93	5.93	123.38
British Columbia	43.48	43.46	45.81	50.85	50.83	5.14	5.14	102.23
Census divisions								
Stikine, BC		–48.76	–43.18		–45.38		6.59	
York, ON		164.05	168.23		185.99		8.31	

Notes: From the information available in Table 051-0052, British Columbia exhibited the greatest rate of growth between 1986 and 2007. From the more up-to-date information available, however, for the period 2001–2007 found in Table 51-0034, Alberta exhibited the greatest rate of growth between 1986 and 2007.

[a] The census divisions in the column 2007–2010 are not the highest and lowest.

Source: Authors' compilation using Statistics Canada Table 051-0001, Table 051-0034, and Table 051-0052 (accessed 2011).

TABLE 3.2
High and Low Growth of Population by Census Division by Province, 1971–2010

Regions	Growth 1986–2007			Growth 1986–2010		Growth 2007–2010[a]		Growth 1971–2010
	Table 51-0001	Table 51-0034 (2006)	Table 51-0052 (2001)	Table 51-0001	Table 51-0034/52	Table 51-0001	Table 51-0034 (2006)	Table 51-0001
Canada	26.17			30.68		3.58	3.58	55.31
Newfoundland	–12.13	–12.16	–12.18	–11.55	–11.58	0.66	0.66	–3.98
Port aux Basques (Div 3)		–33.53	–33.20		–36.33		–4.21	
St. John's (Div 1)		0.65	0.50		3.40		2.74	
Prince Edward Island	7.57	7.59	7.95	10.77	10.79	2.97	2.97	26.36
Kings		–6.27	–6.35		–7.88		–1.72	
Queens		16.00	16.28		24.20		7.06	
Nova Scotia	5.25	5.23	5.04	6.01	5.98	0.72	0.72	18.21
Guysborough		–30.52	–30.35		–34.42		–5.61	
Halifax		23.89	23.01		28.75		3.93	
New Brunswick	2.83	2.81	3.40	3.69	3.67	0.84	0.84	17.01
Restigouche		–18.05	–17.17		–21.82		–4.60	
Westmorland		21.37	21.62		26.79		4.47	
Quebec	14.60	14.59	14.79	17.88	17.87	2.86	2.86	28.84
Le Rocher-Percé		–24.63			–25.72		–1.45	
La Côte-de-Gaspé			–23.70				–0.50	
Mirabel		158.36	160.76		183.61		9.77	
Ontario	35.56	35.55	35.66	39.98	39.97	3.27	3.27	68.31
Timiskaming		–17.18	–18.75		–19.52		–2.83	
York		164.05	168.23		185.99		8.31	
Manitoba	9.35	9.33	8.70	13.18	13.17	3.51	3.51	23.68
Killarney (Div 5)		–19.71	–20.84				0.20	
Dauphin (Div 17)					–19.71		–2.31	
Hanover (Div 2)		44.66	48.41		56.36		8.09	
Saskatchewan	–2.77	–2.82	–3.15	1.64	1.59	4.54	4.54	12.19
Assiniboia (Div 3)		–33.19	–31.99		–36.27		–4.61	
La Ronge (Div 18)		36.25	36.44		42.54		4.62	
Alberta	44.38	44.50	42.91	52.94	53.07	5.93	5.93	123.38
Claresholm (Div 4)		–12.50	–14.09		–13.46		–1.09	
Calgary (Div 6)		69.11	67.30		82.01		7.63	
British Columbia	43.48	43.46	45.81	50.85	50.83	5.14	5.14	102.23
Stikine		–48.76	–43.18		–45.38		6.59	
Central Okanagan		84.40	88.74				4.60	
Squamish-Lillooet					99.26		8.43	
The North[b]	35.79	35.63	32.29	41.00	40.83	3.83	3.83	101.31
Yukon	33.32	33.05	26.59	41.32	41.04	6.01	6.01	81.80
Inuvik		4.59	5.65		3.75		–0.80	
Keewatin		71.44	71.44		82.82		6.64	

Notes:
[a] The growth 2007–2010 column shows the growth only between these years, not the most extreme growth rates for census divisions during this period.
[b] Separate population data is not available for Nunavut and the Northwest Territories prior to 1991.

Source: Authors' compilation using Statistics Canada Table 051-0001, Table 051-0034, and Table 051-0052 (accessed 2011).

is also higher than Edmonton (47 percent), but less than Calgary (82 percent). Even three of the non-metropolitan census divisions—Canmore (56 percent), Red Deer (62 percent), and Wood Buffalo (75 percent)—recorded growth rates above the provincial average. Eight of the 17 were above the national average. While various other interesting comparisons between other jurisdictions can be made, the evidence suggests that for every province, the provincial average growth rate surpasses that of the average for non-metropolitan census divisions, which in turn would suggest that it falls short of the average rate for metropolitan census divisons. The only exceptions are Prince Edward Island and the North, neither of which has metropolitan census divisions, thereby preventing any such comparison.

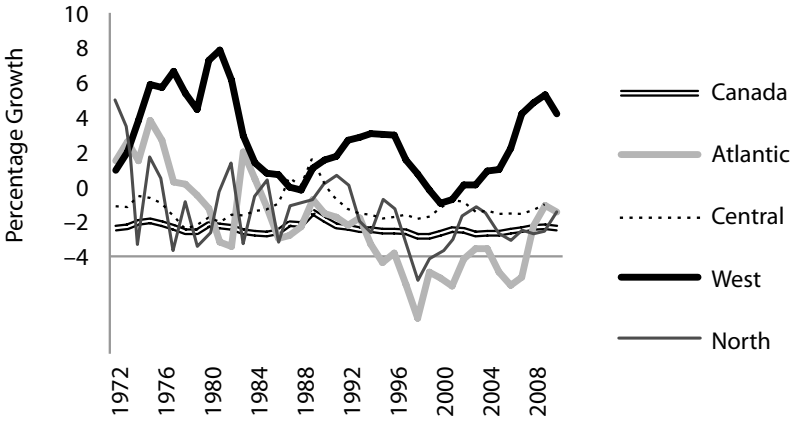
Horizontal Heterogeniety

Horizontal heterogeneity is explored by comparing similarly defined areas. In other words, as in the paragraphs below, it compares population growth rates across regions, across provinces, and across census divisions.

Regional Differences

The first subnational level for the purposes of this study is the region. Regions are not political divisions, but rather a collection of provinces determined loosely by geography. Figure 1 is a consolidated line graph, showing the growth of population by region for the period 1971–2010. The growth of population for Atlantic Canada has lagged behind the rest of the country for the entire period. While the populations of the West and Central Canada have consistently shown positive growth—with the West, in turn, surpassing Central Canada—the experience of Atlantic Canada, as already noted, is mixed with several years of negative population growth. These regional differences are neither insignificant nor isolated. For every year, the West has grown at a faster rate than Atlantic Canada. When the population in the West has risen, Atlantic Canada's population has also grown (as in the early to mid-1980s), but by a much lower proportion. When the growth rate in the West has dipped, so has the rate in Atlantic Canada, often falling below zero (as in the late 1990s).

FIGURE 1
Trends in Population Growth by Region, 1971–2010



Source: Authors' design and creation using data from Statistics Canada Table 051-0001 (accessed 2011).

Table 2.1 shows the growth (or decline) of population at five-year intervals corresponding to Figure 1. It shows that the growth of population for both the central and western provinces for each five-year period has rarely dropped below 5 percent, whereas the population of the Atlantic provinces has never grown by more than 3 percent, other than for the period 1971–76, when it grew by 5.9 percent. These trends over time have created a huge gulf in the population levels of the regions.

Provincial Differences

Table 2.2 is similar in design to Table 2.1, except that it provides the growth rates for provinces, rather than regions, at five-year intervals. The inequality in growth rates is evident. While the growth rate for Canada as a whole has never fallen below 4 percent for any five-year period, Newfoundland registered negative growth successively for the periods 1991–96, 1996–2001, and 2001–06. The population remained more or less stagnant for the periods 1981–86 and 2006–10. Negative growth rates also occurred in New Brunswick for 1996–2001 and 2001–06; and in Saskatchewan for the periods 1986–91, 1996–2001, and 2001–06. At the other end of the growth spectrum, double-digit growth rates were recorded in Ontario for 1986–91; in Alberta for 1971–76, 1976–81, 1996–2001, and 2001–06; and in British Columbia for 1971–76, 1976–81, 1986–91, and 1991–96. The North also recorded double-digit growth rates for 1971–76, 1981–86, and 1986–91. For the most recent period, 2006–10, all four provinces in Atlantic Canada are growing very slowly, if at all; Quebec and Ontario are growing at rates of 4 percent; while the Western provinces and the North are continuing to grow at rates of close to 5 percent or higher, the sole exception being Manitoba, which grew at 4 percent.

Subprovincial Differences

Figure 2 provides scattergrams of the weighted growth of population within provinces and the territories by census division for the period 1986–2010. It shows unambiguously the high variability in the size of census divisions, as well as the growth of population across all jurisdictions.[4] This variability can be examined at two subnational levels.

First, while the population of Canada grew by 31 percent over this period, the population of Newfoundland actually dropped. At the same time, the populations of Alberta and British Columbia grew by greater than 50 percent, while those of Nova Scotia and New Brunswick rose by less than 10 percent. These findings tell a compelling story of a country with a high degree of inequality in provincial population growth rates. While not entirely uniform, the trend seems to be that the growth rate increases as one travels from east to west. Also, this trend is showing no signs of slowing, let alone reversing, especially with immigrants continuing to favour the high-growth provinces as their overwhelming destination of choice.

Second, going beyond the comparison of provinces to that of census divisions within the provinces reveals an even greater degree of growth inequality. In Newfoundland, for example, every census division save one—the metropolitan census division of St. John's (Division 1)—registered negative population growth. The other three provinces of Atlantic Canada, all of which displayed sluggish growth of less than 1 percent per annum, saw a majority of their census divisions contracting. At the other extreme, the largest metropolitan census division, Halifax (29 percent), recorded the highest growth in the region, surpassing the other relatively smaller ones: St. John's (3 percent), Albert (14 percent), King's (21 percent), and Westmorland (27 percent). The metropolitan census division of Saint John recorded a population decline of 8 percent.

By comparison, only three of the 24 metropolitan census divisons in Quebec and only one of the 20 in Ontario recorded negative growth rates for the period 1986–2010. For non-metropolitan census divisions, the corresponding figures were 37 out of 74 for Quebec, and six out of 29 for Ontario. Metropolitan areas as a whole grew by 24 percent in Quebec and by 47 percent in Ontario, while non-metropolitan

FIGURE 2
Weighted Population Growth within Provinces by Census Division, 1986–2010

FIGURE 2.0
Canada by Province

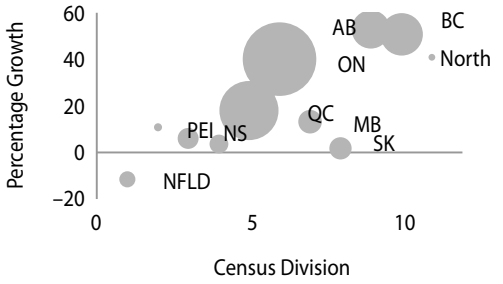


FIGURE 2.1
Newfoundland and Labrador

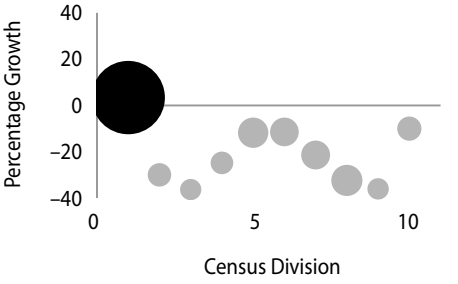


FIGURE 2.2
Prince Edward Island

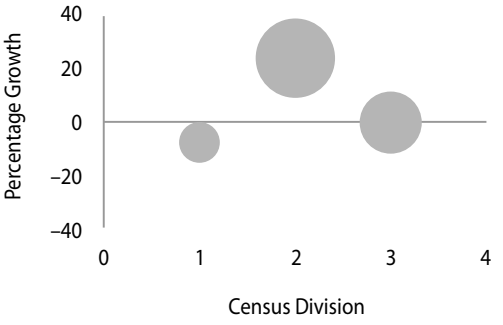


FIGURE 2.3
Nova Scotia

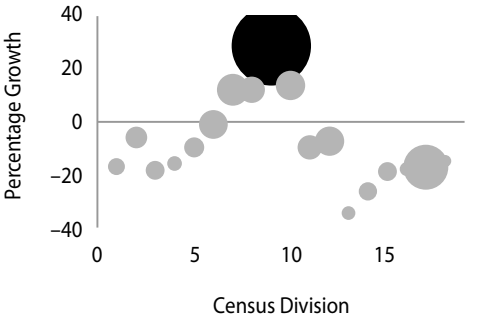


FIGURE 2.4
New Brunswick

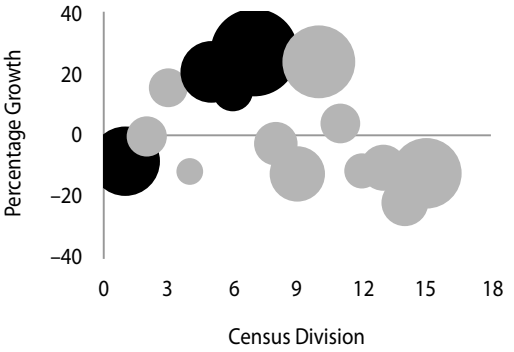


FIGURE 2.5
Quebec

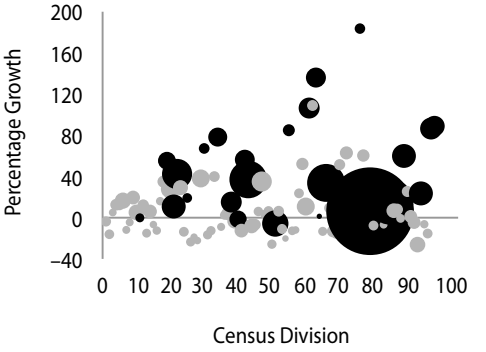


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FIGURE 2
(Continued)

FIGURE 2.6
Ontario

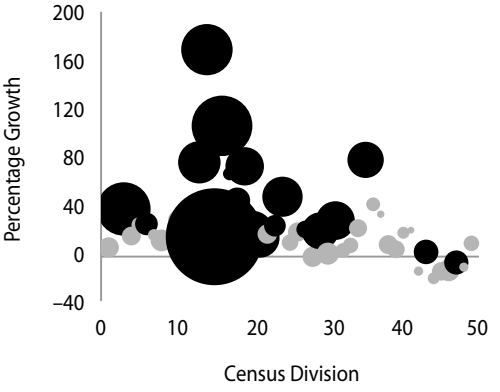


FIGURE 2.7
Manitoba

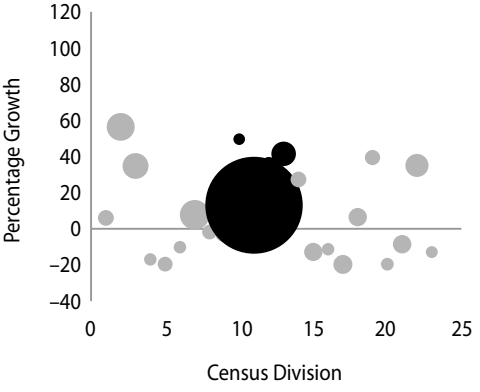


FIGURE 2.8
Saskatchewan

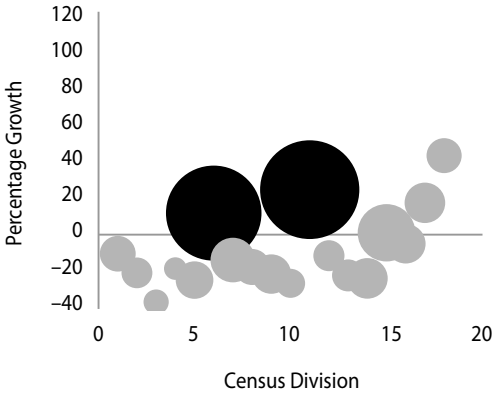
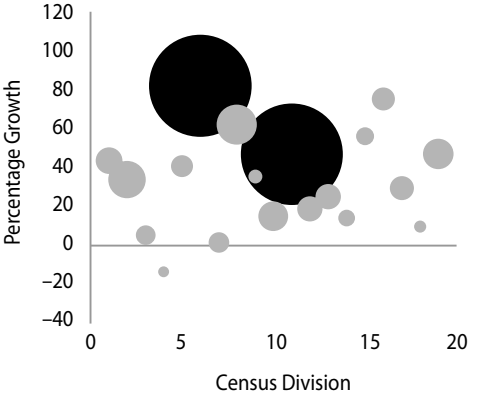


FIGURE 2.9
Alberta



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areas in the two provinces grew at rates of 9 and 12 percent respectively. This is more evidence of the growth rates in metropolitan areas surpassing the growth rates in non-metropolitan areas.

Three of the four provinces in the West other than Saskatchewan, especially Alberta and British Columbia, experienced healthy growth, with the metropolitan areas of Calgary (82 percent), Edmonton (47 percent), Central Okanagan (93 percent), the Fraser Valley (86 percent), and Greater Vancouver (65 percent) standing out. Growth rates for Winnipeg (13 percent), Regina (12 percent), and Saskatoon (24 percent)—the other major metropolitan areas in the

FIGURE 2
(Continued)

FIGURE 2.10
British Columbia

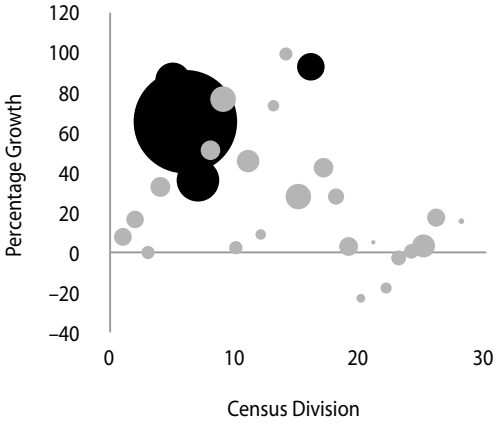
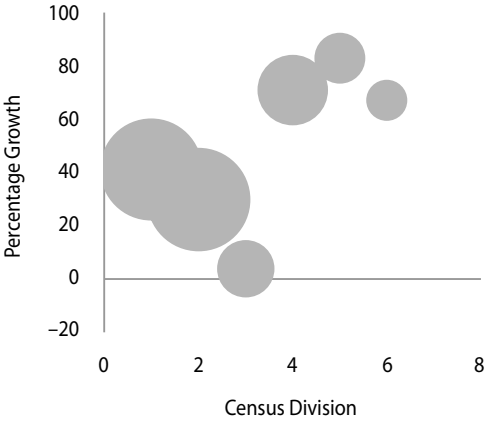


FIGURE 2.11
The North



Notes: Weight is relative to province's and census division's average population between 1986 and 2010. Black denotes census divisions with greater than 50 percent of population falling within Census Metropolitan Areas as defined by Statistics Canada.

Source: Authors' design and creation using data from Statistics Canada Table 051-0034 and Table 051-0052 (accessed 2011).

West—were relatively more modest. However, even the three smaller metropolitan census divisions in Manitoba: Springfield (35 percent), St. Andrews (41 percent), and Macdonald (50 percent), grew at rates above the national average.

Census divisions in Newfoundland are declining faster than the other Atlantic provinces. New Brunswick has relatively more growing census divisions compared to the other provinces in Atlantic Canada. Nova Scotia has the greatest volatility between extreme growth (+/–) census divisions, with Halifax displaying the highest growth of any census division and Guysborough, the greatest contraction. As for Central Canada, Quebec has twice as many census divisions as Ontario, but while many of the census divisions in Quebec are either contracting or displaying sluggish growth, the vast majority of those in Ontario are growing. In Western Canada, Saskatchewan has the highest proportion of declining census divisions, whereas Alberta has the highest proportion that are growing. British Columbia has the greatest volatility between extreme census divisions, with Stikine rapidly contracting and Central Okanagan and Squamish-Lillooet registering very high growth. For Canada as a whole, Newfoundland is declining, while Alberta has registered the highest growth between 1986 and 2010.

What is notable is that the relatively smaller non-metropolitan census divisions either contracted or grew much more slowly than the larger ones. This pattern is evident right across the country, including Atlantic Canada, Quebec, and Ontario. All the evidence seems to indicate that on balance the larger metropolitan census divisions are growing faster than the smaller ones. Similarly, even though the

non-metropolitan census divisions as a group are faring relatively worse, the smaller ones within this group are lagging farther behind.

Table 3 is in two parts. Table 3.1 highlights the provinces with extreme growth. Newfoundland registered negative growth for the period 1971–2010. At the other extreme are Alberta and British Columbia, with growth in excess of 100 percent for the same period. High-growth (York, Ontario) and low-growth (Stikine, British Columbia) census divisions for Canada as a whole are also noted. Table 3.2 provides the provincial growth rates together with the highest- and lowest-growth census divisions for each of the provinces and the North. Although only extremes for each province are provided in this table, a recurring theme is that the highest growth rates are associated with metropolitan census divisions, such as Halifax in Nova Scotia and Calgary in Alberta, while the lowest growth rates are associated with census divisions that are predominatly non-metropolitan, such as Restigouche in New Brunswick and Assiniboia in Saskatchewan.[5]

Table 4 provides the summary statistics with actual population figures for each province and the highest- and lowest-growth census divisions within each province for the years 1986 and 2010, broken down by: net natural increase, net immigration, net interprovincial migration, net intra-provincial migration, and an adjustment component. While all provinces and territories were the beneficiaries of net immigration, four provinces—Quebec, Ontario, Alberta, and British Columbia—accounted for 94 percent of net immigration. Even though these provinces are the four largest (accounting for 86 percent of the population in 2010, up from 83 percent in 1986), the magnitude of the net inflow of immigrants to these provinces goes to show that the other provinces (with the sole exception of Manitoba) have simply not been able to attract immigrants in large numbers. It is also important to note that Ontario, Alberta, and British Columbia gained population through interprovincial migration at the expense of every other province and territory in the country. Even the highest-growth census divisions in Newfoundland, Nova Scotia, Quebec, Manitoba, Saskatchewan, and the North lost population due to interprovincial migration.

The mean absolute deviations for census divisions by province were calculated to study the variability of population by province for the 1986–2010 period.[6] Ontario displays the highest variation, followed by Quebec, British Columbia, and Alberta in that order. Not surprisingly, the high-growth provinces generally seem to display a higher degree of population-growth variation within their provinces than do the low-growth provinces. This bears further evidence of volatility in growth due to positive internal migration as well as immigration.

Overall Comparison

The comparisons above have shown not simply variations in the overall growth of population—with metropolitan areas growing much more quickly than non-metropolitan areas—but variations even within the group of metropolitan areas. Some, like the Fraser Valley and Vancouver, for example, are growing much more quickly than others, like Winnipeg or Regina. The same is true for non-metropolitan areas, with the vast majority of non-metropolitan census divisions in Ontario, for example, growing, but the vast majority in Nova Scotia declining steeply and unambiguously. This phenomenon of some jurisdictions growing and others declining is more evident in the four Atlantic provinces and Saskatchewan, especially the non-metropolitan census divisions in those five provinces, which are lagging behind the rest of the country.[7]

In fact, the growth of population across Canada is uneven at a number of levels.[8] The extremes within each province are summarized in Table 3.2. On the one hand, the population of three of the most economically successful provinces grew considerably above the national average between 1986 and 2010, with Ontario, Alberta, and British Columbia growing at rates of 40, 53, and 51 percent respectively; while Nova Scotia, New Brunswick, Prince Edward

TABLE 4
Population Change of High- and Low-Growth Census Divisions by Category for Canadian Provinces, 1986–2010

	Population 1986	*Population 2010*	*Growth 1986–2010*	*Net Natural Increase*	*Net Immigration*	*Net Inter-provincial Migration*	*Net Intra-provincial Migration*	*Adjustment*
Canada	26,100,278	34,108,752	8,008,474	3,596,806	4,719,118	–	–	(307,450)
Newfoundland	576,495	509,739	(66,756)	37,415	7,396	(85,269)	–	(26,298)
Port aux Basques (Div 3)	26,035	16,577	(9,458)	729	44	(4,718)	(3,702)	(1,811)
St. John's (Div 1) (M)	250,255	258,768	8,513	18,507	5,785	(32,544)	20,529	(3,835)
Prince Edward Island	128,413	142,266	13,853	10,786	8,729	(913)	–	(4,749)
Kings	19,764	18,206	(1,558)	1,043	288	175	(2,374)	(690)
Queens	64,381	79,959	15,578	5,686	7,838	(768)	4,653	(1,831)
Nova Scotia	889,326	942,506	53,180	55,661	41,120	(26,862)	–	(16,739)
Guysborough	12,900	8,460	(4,440)	(861)	104	(592)	(2,804)	(287)
Halifax (M)	313,345	403,437	90,092	46,370	33,649	(4,270)	11,022	3,321
New Brunswick	725,019	751,755	26,736	51,611	13,949	(26,881)	–	(11,943)
Restigouche	41,190	32,203	(8,987)	1,103	(6)	(3,190)	(5,260)	(1,634)
Westmorland (M)	113,399	143,784	30,385	8,063	2,864	2,824	18,510	(1,876)
Quebec	6,708,468	7,907,375	1,198,907	741,744	796,197	(218,370)	–	(120,664)
Le Rocher-Percé	24242	18006	(6,236)	(110)	15	(191)	(4,469)	(1,481)
La Côte-de-Gaspé	23284	17803	(5,481)	529	(13)	(494)	(4,683)	(820)
Mirabel (M)	14113	40026	25,913	6,916	145	(117)	17,770	1,199
Ontario	9,438,132	13,210,667	3,772,535	1,410,823	2,461,397	5,195	–	(104,880)
Timiskaming	41,285	33,227	(8,058)	327	(148)	(1,193)	(5,991)	(1,053)
York (M)	363,835	1,040,539	676,704	135,436	173,885	1,057	418,463	(52,137)
Manitoba	1,091,682	1,235,412	143,730	142,890	124,495	(120,866)	–	(2,789)
Killarney (Div 5)	16,714	13,447	(3,267)	(412)	41	(979)	(1,811)	(106)
Dauphin (Div 17)	27,445	22,036	(5,409)	(1,178)	139	(1,021)	(1,679)	(1,670)
Hanover (Div 2)	41,463	64,832	23,369	11,986	9,754	(2,501)	6,070	(1,940)
Saskatchewan	1,029,270	1,045,622	16,352	124,363	50,308	(140,859)	–	(17,460)
Assiniboia (Div 3)	19,663	12,531	(7,132)	(360)	229	(1,286)	(4,603)	(1,112)
La Ronge (Div 18)	25,774	36,737	10,963	17,839	168	(692)	(4,755)	(1,597)
Alberta	2,430,935	3,720,946	1,290,011	598,732	346,760	299,356	–	45,163
Claresholm (Div 4)	12,558	10,868	(1,690)	1,311	223	579	(2,794)	(1,009)
Calgary (Div 6) (M)	735,244	1,338,241	602,997	214,550	178,122	136,749	43,345	30,231
British Columbia	3,004,104	4,530,961	1,526,857	387,617	845,410	328,677	–	(34,847)
Stikine	2,221	1,213	(1,008)	388	(56)	(248)	(1,060)	(32)
Central Okanagan (M)	92,725	178,843	86,118	5,547	7,955	35,473	39,469	(2,326)
Squamish-Lillooet	20,382	40,614	20,232	7,653	3,653	7,067	(1,891)	3,750
North	79,176	111,504	32,328	36,063	2,783	(13,208)	–	6,690
Inuvik	9,148	9,491	343	3,662	–	(1,959)	(2,030)	670
Keewatin	5,185	9,479	4,294	6,405	25	(241)	(418)	(1,477)
Yukon	24,479	34,525	10,046	6,738	1,692	(943)	–	2,559

Notes: Metropolitan census divisions are indicated with an "M" within parentheses. These are census divisions in which 50 percent or more of the population falls within a census metropolitan area (CMA).

... continued

TABLE 4
Heading Definitions

Summary Components	*Cumulative Components*
Growth	Population in 2010–Population in 1986
Net natural increase	$\sum$ *Net natural increase (1986–2010)*
Net immigration	$\sum$ *Net immigration (1986–2010)*
Net interprovincial migration	$\sum$ *Net interprovincial migration (1986–2010)*
Net intra-provincial migration	$\sum$ *Net intra-provincial migration (1986–2010)*
Adjustment	$\sum$ *Adjustment (1986–2010)*

Source: Authors' compilation using Statistics Canada Table 051-0034, Table 051-0035, Table 051-0052, Table 051-0053, and Table 051-0054 (accessed 2011).

Island, Quebec, Manitoba, and Saskatchewan grew at rates of 6, 4, 11, 18, 13, and 2 percent respectively—considerably below the national average. The population of Newfoundland and Labrador dropped over 12 percent between 1986 and 2007 before rising fractionally between 2007 and 2010.

In high-growth provinces, metropolitan areas are growing quickly while non-metropolitan areas are generally growing, but perhaps not as quickly as metropolitan areas. Few areas display negative growth in high-growth provinces. In low-growth provinces, metropolitan areas (with few exceptions, perhaps) are still growing, but at a lower rate than metropolitan areas in high-growth provinces, and so forth. Relatively more non-metropolitan areas in low-growth provinces are either showing signs of stagnation or actually declining, while such is not the case in provinces of high growth.

Such variability in the growth of population across provinces is bound to have huge economic and political implications, shifting the balance of economic and political power towards the high-growth provinces and away from provinces that are either growing slowly or declining. The picture at the subprovincial/provincial level is even more dramatic, with very few of the census divisions in British Columbia (five of 29), Alberta (one of 19), and Ontario (seven of 49) losing population, while significantly more census divisions in Saskatchewan (13 of 18) and Newfoundland (nine of ten) saw their populations decline. Notable among other interesting detail is the 186 percent growth in the York census division of Ontario.[9] At the other extreme, four of ten census divisions in Newfoundland contracted by 30 percent or more.

SUMMARY AND CONCLUSION

While all metropolitan areas such as the provincial capitals are growing, western capitals are growing at a much faster rate than those of Newfoundland, Nova Scotia, and New Brunswick. The point is that jurisdictions in Atlantic Canada are falling behind jurisdictions in most of the rest of Canada, in that areas of growth in Atlantic Canada are not growing

as fast as areas of growth elsewhere in the country. The median census division in the growth continuum in Nova Scotia, for example, is contracting, whereas the median census division in Ontario has grown over 20 percent. A high proportion of census divisions in Atlantic Canada and Saskatchewan declined between 1986 and 2010, while nearly all corresponding areas in the provinces of Ontario, Alberta, and British Columbia grew, some by over 50 percent.[10] The experience in the other provinces is mixed, with some census divisions registering growth and others, decline. The evidence shows that inequality in the growth and decline of population across subnational jurisdictions in Canada is unambiguously high when comparing disaggregated growth rates both vertically and horizontally.

These challenges may have little bearing on public policy at the federal level, since the population of Canada as a whole is growing—due mostly to reasonable levels of net immigration, which augments the sluggish rate of natural increase. For individual provinces, however, the situation can be challenging, in that high-growth metropolitan areas such as Toronto, Calgary, and Vancouver must provide schooling, health care, and other public services to an increasing number of people. Declining non-metropolitan areas, such as Gloucester in New Brunswick or Assiniboia and Wynward in Saskatchewan, face a very different challenge: an ever-declining tax base and an increasing reliance on provincial transfer payments, which too are often shrinking. For the latter group, the situation is becoming increasingly alarming, in that certain non-metropolitan areas, in Newfoundland and Labrador in particular, are facing the prospect of amalgamation or worse—the inevitable collapse of real estate prices, followed by the dissolution and eventual relocation of entire communities.

Canada is currently facing a demographic challenge on another dimension, due to low fertility rates and an aging population. This problem, too, is not uniformly distributed across the country. The metropolitan areas of Ontario, Alberta, and British Columbia, typically the destinations of most immigrants and both interprovincial and intra-provincial migrants, do not face this problem to the same extent as the non-metropolitan areas, especially in the low-growth provinces. As Table 4 shows, both net natural increase and migration have a far greater positive impact on the high-growth provinces and their census divisions relative to the low-growth provinces and their census divisions respectively. Since immigrants and internal migrants, on average, are younger than the general population and therefore have a higher rate of natural increase, the problems of low fertility and aging affect non-metropolitan areas to a greater extent than metropolitan areas. The severity of these problems in non-metropolitan areas is such that provincial averages mask these serious demographic issues. As a result, poorer communities with rapidly aging populations bear the brunt of having to provide services for the elderly. Moore and Pacey (2003) and Boyd (2005) provide a detailed discussion on this subject.

The federal government appears to be aware of this issue and has introduced policy initiatives to encourage new immigrants to Canada to settle in non-metropolitan areas. Additional research is required, however, to determine the success of these policies in reversing the trends of aging and declining rates of natural increase in places like Digby, Timiskaming, and Dauphin, to name just a few. Wulff et al. (2008) provide further details on this important topic.

Finally, it is worth pointing out that rapid population growth in the Greater Toronto Area, Ottawa-Gatineau, the Central Alberta corridor, Greater Vancouver, and the Fraser Valley pose a much smaller problem than the declining population in large parts of Atlantic Canada, especially in non-metropolitan areas across the Atlantic region. With the exception of a few metropolitan areas, most notably Halifax, the region is facing a serious population problem. While sudden and unexpected increases in population can be challenging for provinces and municipalities in their ability to provide public services,

the accompanying expansion of the tax base means that this challenge is essentially short-run in nature. A sustained decline in population, however, is much more serious. Declining areas are facing a growing structural problem, ranging from the prospect of municipal amalgamation and the collapse of small businesses and real estate prices to the dissolution and eventual relocation of entire communities. The policy response to this challenge will have to come through a sustained and coordinated effort by all levels of government and the willingness of local governments to implement measures for the long-run benefit of their communities.

Notes

[1] It is quite likely that demographic shifts will have important economic implications, such as growing areas displaying higher levels of income and employment with declining areas lagging behind. While these are important areas of investigation, issues of income and employment are beyond the scope of this study, which focuses primarily on demographic trends in subnational jurisdictions.

[2] Immigration is a key driver in the rapid increase of population in the mega-urban agglomerations of: the Greater Toronto Area; Greater Montreal; Ottawa-Gatineau; Vancouver-Victoria and the Lower Mainland, BC; and the Central Alberta corridor. An important question that arises is why immigrants choose one jurisdiction over another. It could be that popular immigrant destinations offer better employment/business opportunities and are already home to large numbers of immigrants with similar cultural backgrounds, factors which serve as magnets for prospective immigrants. These issues, however, are beyond the scope of this study, which will present only the magnitudes of the four components—net natural increase, net immigration, net interprovincial migration, and net intra-provincial migration—that are responsible for the uneven growth and decline of subnational population, without delving into the underlying causes for these demographic changes.

[3] Refer to online Appendix Table A.1.3.

[4] The actual percentage changes are available in online Appendix 1 , which should be viewed alongside Figure 2.

[5] Indeed, as the online Appendix tables confirm, most provinces have both a metropolitan census division at the high end and a non-metropolitan census division at the low end of the growth spectrum.

[6] These results are available in online Appendix Table A.2.

[7] Details of these results are available in the online Appendix tables.

[8] This notion is reinforced by examining the online Appendix tables.

[9] These and other interesting details are available in the online Appendix tables.

[10] These findings are available in the online Appendix tables.

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