

# WESTERN POLICY Analyst

Quarterly Edition

VOL I, ISSUE 1

JOHNSON  
SHOWS  
GRADUATE SCHOOL OF  
PUBLIC POLICY

2 Population and Public Policy  
Migration to western Canada increases after  
slowing at turn of decade

5 Crime Rates  
Western Canada rates fall, still lead country

10 GDP by Industry  
Provinces show diversity

## Population and Public Policy

*Migration to western Canada increases after slowing at turn of decade*



By Doug Elliott, Editor

Demographers make a convincing argument that the size and makeup of a population is more important than the social

or economic characteristics. They have a point. The age distribution, geographic dispersion, and diversity of a provincial population all affect and are affected by public policy decisions. Even the sheer size of the population, the subject of this article, affects public policy because larger populations can usually support a wider range of public services than smaller ones. There are no MRIs or public transit in towns and villages.

This article is about demography – the mechanics of population change – and the factors that determine if the population in the four western provinces is increasing or decreasing. Future issues will look within the provinces at rural/urban trends and the age distributions for these populations.

The number of provincial residents changes because of three inter-related factors:



- the natural growth rate, that is, the number of births less the number of deaths;
- net international migration, the number of immigrants less the number of emigrants; and
- net interprovincial migration, which is the net flow to/from the province from/to other parts of Canada.

### Natural Growth

The number of deaths in Canada is increasing in Canada and western Canada in spite of the fact that life expectancy is increasing. This is a simple consequence of the fact that the number of people in older age groups is increasing more quickly than the mortality rate is decreasing. In

*continued on page 2...*

<sup>1</sup> The flows are shown using “census years” which go from July 1st to June 30th of the following year.

<sup>2</sup> Canadians who move abroad and then return are considered as “temporary emigrants” and subtracted from the number of emigrants. Temporary foreign workers and students are not considered as immigrants. (The temporary relocation of what seems like half of Saskatchewan to Arizona in January is also not considered as emigration.)

The Western Policy Analyst is published weekly and quarterly by the Johnson-Shoyama Graduate School of Public Policy. No reproduction of any material is allowed without express consent of the publishers.

**EDITOR**

Doug Elliott

**MANAGING EDITOR**

Joanne Paulson

**EDITORIAL BOARD**

Peter Phillips

Lihui Zhang

Jim Marshall

COPYRIGHT JSGS 2010

**Johnson-Shoyama Graduate  
School of Public Policy**

University of Saskatchewan campus

Diefenbaker Building

101 Diefenbaker Place

Saskatoon, SK, Canada

S7N 5B8

Tel: 306 966-8625

Fax: 306 966-1967

Email: public.policy@usask.ca

University of Regina campus

3737 Wascana Parkway

Regina, SK, Canada

S4S 0A2

Tel: 306 585-5460

Fax: 306 585-5461

Email: gspp@uregina.ca

**Outreach and Training**

University of Regina

College Avenue Campus, Gallery Building,

Second Floor

Regina, SK, Canada

S4S 0A2

Tel: 306 585-5777

Fax: 306 585-5780

Email: js\_outreach@uregina.ca

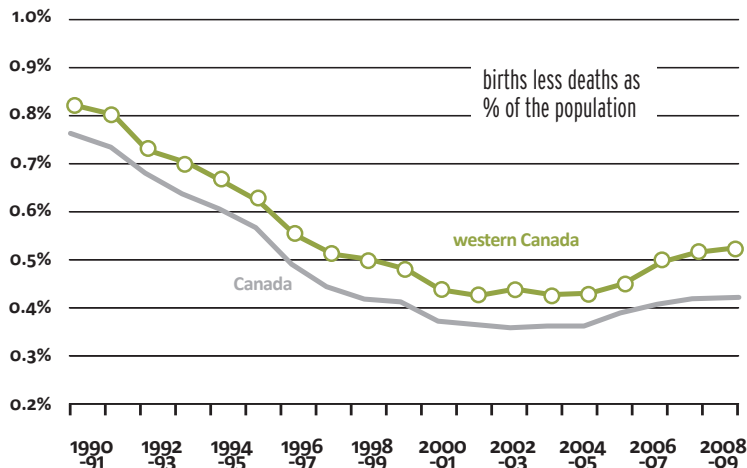
University  
of Regina



[www.schoolofpublicpolicy.sk.ca](http://www.schoolofpublicpolicy.sk.ca)

continued from page 1...

Figure 1: Natural Growth Rates



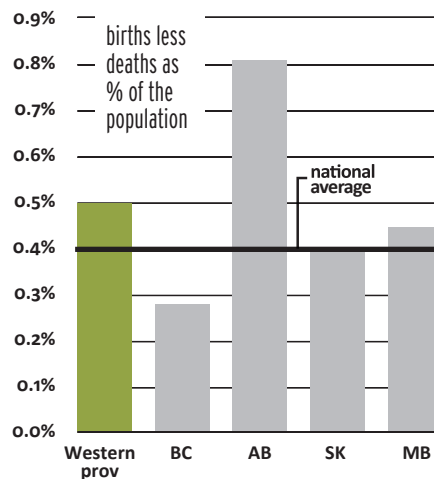
2008-09, for example, there were 72,420 deaths in western Canada compared with 63,400 ten years earlier.

The number of births in Western Canada has been declining for decades, again because of two factors. Firstly, the fertility rate (the number of births over the course of a woman's life) has been declining and secondly, the number of women in the child-bearing age group has, until recently, been dropping. This means more activity in western maternity wards; the number of births in 2008-09 was 125,150 compared with 107,890 ten years earlier.

The natural growth rates shown in Figure 1 clearly show two facts. The first is that the natural growth rate has been consistently higher in Western Canada than in Canada as a whole. The second is that the rate was falling until about five years ago when a slight upward trend began. The upward trend is the result of an increase in the number of women in the child-bearing age group and a slight increase in the fertility rate. Fertility rates are still, however, below the so-called "replacement rate" of 2.1 births per woman.

Among the four western provinces, the natural growth rate is highest in Alberta with an average of 0.82% over the past three years

Figure 2: Natural Growth Rate, Three Year Average, 2006-07 to 2008-09 Census Years



<sup>3</sup> These flows measure people according to their original destination. Immigrants who settle in another province and move later are classified as interprovincial migrants, not immigrants.

and lowest in British Columbia with an average of 0.29% over the same period (see Figure 2). Manitoba and Saskatchewan are between these two extremes with natural growth rates near the national average.

## International Immigration

The number of people who were born outside Canada (Statistics Canada's definition of an "immigrant") and moving to western Canada is increasing both in absolute terms and as a percentage of the population. In 2008-09, immigration into western Canada was 85,560 compared with 50,560 ten years earlier. Emigration is typically lower, 10,000 to 15,000 persons per year.

Figure 3 shows that the immigration rate in western Canada is broadly similar to the rate in Canada as a whole and generally follows the same ups and downs over time. The rate fell in the late 1990s, dropping below 0.5% in 1998/99 but has been increasing since then and is now above the national average for the first time in over a decade.

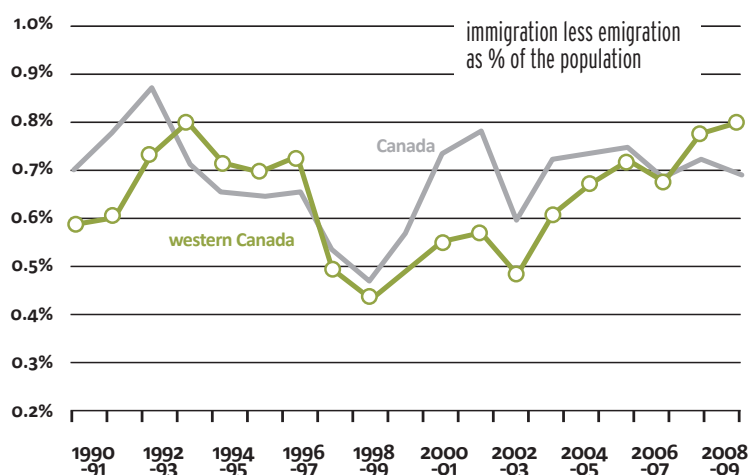
Figure 4 shows the different immigration rates over the most recent three years for each of the four western provinces. There has been a recent surge in immigration to Saskatchewan because of the introduction of the Saskatchewan Immigrant Nominee Program but the migration rate to Saskatchewan is still well below the national average. Immigration is a much more important factor affecting population growth in B.C. and Manitoba than it is in Alberta or Saskatchewan.

## Interprovincial Migration

Interprovincial migration is also an important factor affecting provincial populations. Figure 5 shows that if one factors out the substantial migration between the western provinces, there is a steady flow of people from eastern Canada to western Canada. The rate was near zero around the turn of the decade, peaked

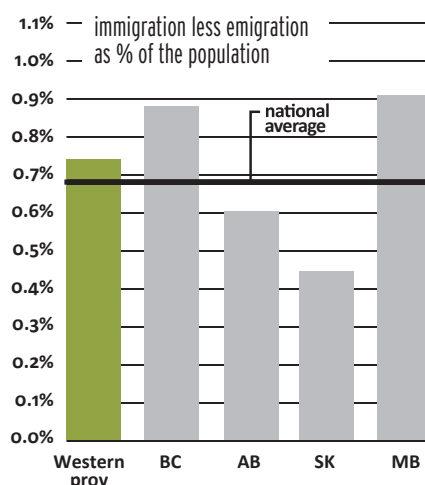
*continued on page 4...*

Figure 3: Immigration Rates (net of emigration)



The natural growth rate has been consistently higher in western Canada than in Canada as a whole.

Figure 4: Net Immigration Rate, Three Year Average, 2008-09 Census Years



<sup>4</sup> For the purposes of this calculation, the northern territories were included in "eastern Canada".

*continued from page 3...*

above 0.4% in 2007/08 (the equivalent of about 50,000 persons) before falling back to 0.3% in recent years.

Whereas international immigrants are disproportionately attracted to Manitoba and B.C., Alberta is the destination of choice for those moving within Canada. In 2006-07, during the peak of the boom, the equivalent of a small city (157,500 persons) moved to or from Alberta. One half of these were moving within western Canada:

- 10,600 to/from Manitoba;
- 20,700 to/from Saskatchewan; and
- 47,600 to/from B.C.; leaving
- 78,600 moving to/from other parts of Canada.

Even with the slower migration flows in recent years, the net flow from eastern Canada to Alberta was 0.8% per year. This compares with 0.2% in Saskatchewan, 0.1% in British Columbia and a small net outflow from Manitoba.

## Total Population

The net effect of all these population flows

is the total population. Statistics Canada estimated that the population in the four western provinces was 10.2 million as of July 2009. British Columbia and Alberta account for 78% of the population in the West. One of the implications of this is that any western “average” calculated for The Western Policy Analyst will be dominated by what is happening in the two westernmost provinces.

Of the factors that affect the overall size of the population, international migration is now the most significant, adding the equivalent of 0.8% of the population per year. This compares with 0.3% for interprovincial migration and 0.5% for natural growth.

The population in the West represents just under one third (31%) of the Canadian population and the proportion is increasing because the population in the four western provinces has grown by an average of 1.2% per year over the past ten years compared with 0.9% for the rest of Canada. Ten-year growth rates for the individual provinces were:

- 2.2% per year for Alberta;
- 1.1% for B.C.;
- 0.7% for Manitoba; and
- 0.2% for Saskatchewan.

Figure 8 shows that, over the long term, the population shift from East to West is because the number of people in Alberta and British Columbia is growing more quickly than elsewhere in Canada. Manitoba and Saskatchewan have been growing as quickly as Alberta and B.C. in more recent years.

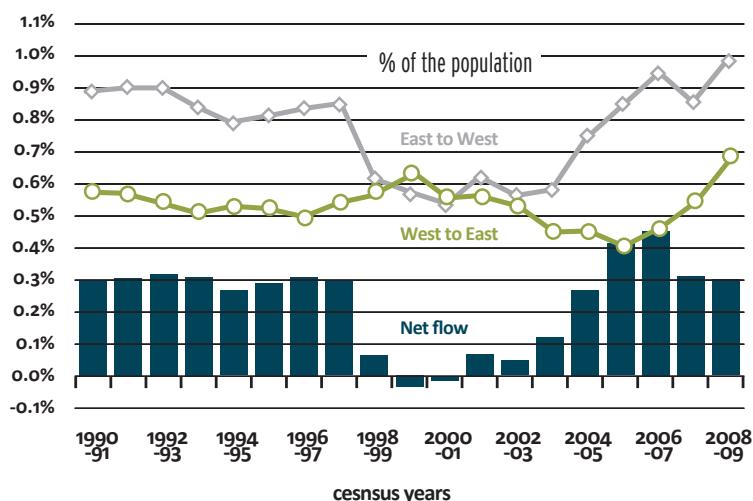
The factors that determine the overall size of the population are related in complex ways. A disproportionately large number of international and interprovincial migrants are young adults, usually the most mobile people in a population. From a demographic point of view, this is also the family formation age group so the number of births tends to increase when there is an increase in net migration. International immigrants, on the other hand, have been more likely than the native-born to move within Canada and settle in the larger urban centres such as Vancouver and Winnipeg. So an increase in the number of immigrants usually triggers an increase in interprovincial migration.

## Summary and Implications

British Columbia and Alberta clearly dominate the western provinces in terms of their overall population and the two provinces are growing the fastest of the four. Alberta's growth has

British Columbia and Alberta clearly dominate the western provinces in terms of their overall population and the two provinces are growing the fastest of the four.

Figure 5: Interprovincial Migration Rates to/from western Canada



traditionally come from interprovincial migration but natural growth (one of the consequences of that migration) is becoming increasingly important. The growth in British Columbia has traditionally come from international migration although there is a steady flow of seniors looking for warmer climates moving to the province from other parts of western Canada.

Saskatchewan has, until recently, had to rely on natural growth and this has not been enough to counteract interprovincial outflows, mostly to Alberta. The recent surge in immigration may change that and lead to the kind of steady population growth that has always been evident in Manitoba. In all four western provinces, population growth has come from interprovincial and international migration rather than natural growth. This means any future growth in the population in general and the labour market age group in particular, will have to come from migration.

Should population growth be pursued as part of public policy? The answer may depend on where the growth occurs and how fast it is. Those stuck in traffic on the Deerfoot Trail in Calgary or trying to buy a house in downtown Vancouver probably wish for a decline rather than an increase in the city population. Those who live in rural communities or smaller cities, on the other hand, look at population growth as the way to save their schools and hospitals. Population growth often results in economic growth – more people usually means more restaurant meals, more houses, and more auto sales, to cite just a few examples.

Almost every aspect of population affects or is affected by public policy. Future issue of The Western Policy Analyst will look at other demographic issues such as the concentration of population in major urban centres, the aging of the population, and several measures of diversity.

Source: adapted from Statistics Canada CANSIM Tables 051-0001, 051-0004, 051-0012 and 051-0019. Figures are subject to revision.

Figure 6: Net Interprovincial Migration Rate from the Rest of Canada to Western Provinces, Three Year Average, 2006-07 to 2008-09 Census Years

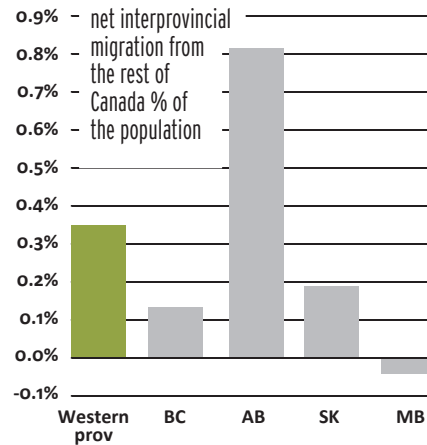


Figure 7: Population (000) as of July 1, 2009

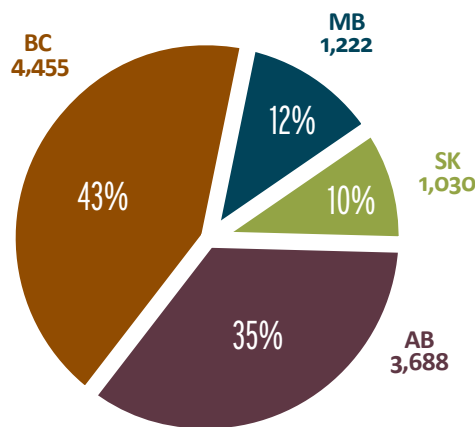
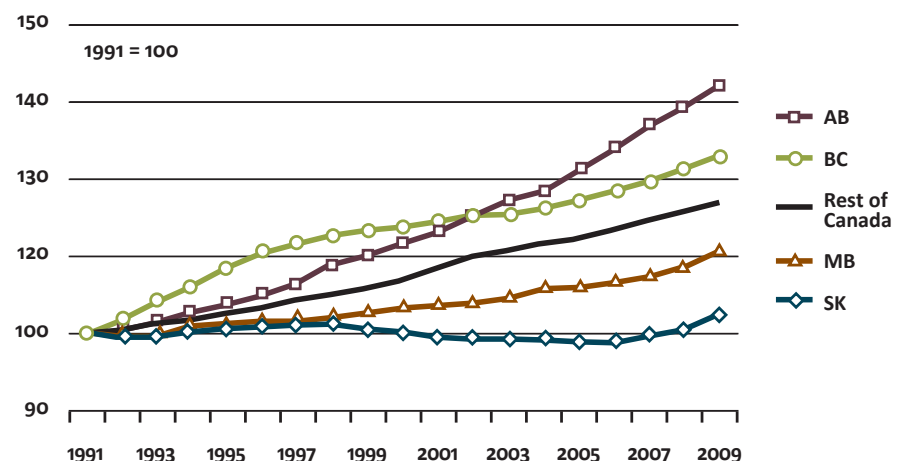


Figure 8: Population Trends, 1991 to 2009





# Western crime rates fall, still lead country



**By Lihui Zhang,**  
Assistant professor  
Johnson-Shoyama  
Graduate School

Crime is costly to society.  
A conservative estimate by

the Department of Justice is that crime cost Canadians \$70 billion in 2003, of which 67% was borne by the victims, 19% was Criminal Justice System expenditures, and 14% was on security devices and protective services. Recent discussions around the federal government's "get tough on crime" agenda have once again brought this issue into the spotlight.

In this article, we will use the statistics provided by the Uniform Crime Reporting Survey (UCR) to depict crime trends for the period 1998-2009 in four western Canadian provinces – Alberta, British Columbia, Manitoba, and Saskatchewan – in comparison with the national average. The UCR collects information on crime incidents that have been substantiated by police. Though UCR inevitably suffers from the problem of "the dark figure of crime", i.e., not all crime comes to police attention, it is Canada's most comprehensive and continuous official data source and its usefulness for informing the public and policy makers cannot be understated.

Traditionally Canada's crime rate has been expressed as a rate per 100,000 population to be comparable across time and between jurisdictions. A drawback of this measure is that it fails to account for the seriousness of crime. In other words, in the aggregate crime rate a serious violent crime such as murder receives the same weight as a minor infraction such as petty theft. To address this limitation, Statistics Canada designed a new measure called the crime severity index to complement the conventional crime rate. The crime severity index takes into consideration not only the frequency but also the seriousness of crime incidents by assigning more serious crime a heavier weight. For example, a sexual assault receives a much higher weight than a vehicle theft. The crime severity index is standardized



to 100 for Canada for 2006. In the analysis that follows, both the conventional crime rate and the crime severity index are considered.

## Total Crime

Both the total crime rate and total crime severity index show that overall crime in Canada and the western provinces has been declining since 1998 with the only obvious reversal happening following the millennium. For example, the total crime rate per 100,000 population declined by 20% from 8,561 in 1998 to 6,840 in 2009. Western provinces led by Saskatchewan generally had higher crime rates than the national average. In 2009, the total crime rate in Saskatchewan was 13,683 per 100,000 population, which was twice as high as the national average. Manitoba, British Columbia, and Alberta ranked second, third,

---

The crime severity index takes into consideration not only the frequency but also the seriousness of crime incidents by assigning more serious crime a heavier weight.

---

<sup>1</sup> Li, Kuan (2005) "Costs of Crime in Canada an Update", *JustResearch* No.12

and fourth, respectively. However, in most recent years there appeared to be a tendency for the inter-provincial gap between Alberta and British Columbia to close, primarily because crime declined faster in British Columbia than in Alberta.

## Violent Crime

### Total violent crime

Overall, the violent crime rate and severity index in Canada have not changed markedly since a decade ago. The only exception is British Columbia, where both the volume and the severity of violent crime have been consistently falling over the years. Western provinces generally had a higher violent crime rate and severity index than Canada as a whole, particularly so for Manitoba and Saskatchewan. In terms of the violent crime rate, Saskatchewan ranked highest among western provinces throughout 1998-2009. This lead is tamed somewhat when the violent crime severity index is considered, where Manitoba overtook Saskatchewan in some years, suggesting that more severe cases made up a larger proportion of all violent crime in Manitoba than in Saskatchewan. Alberta had the lowest violent crime rate and severity index among western provinces. Its violent crime rate and severity index tracked closely the national average in the late 1990s but diverged slowly upwards in recent years.

### Homicide

In 2009, there were 610 homicide incidents in Canada. The western provinces accounted for about half of these incidents, with 95 in Alberta, 118 in British Columbia, 57 in Manitoba, and 36 in Saskatchewan. The homicide rate in Canada as a whole has stayed almost constant at around two per 100,000 over the past ten years. In contrast, there were considerable year-to-year fluctuations within each province likely due to the smaller population bases. It is easy to see that homicide rate in western provinces was higher than in Canada as a whole in almost all years. Manitoba and Saskatchewan saw noticeable increases in

*continued on page 8...*

Figure 1: Total crime rate

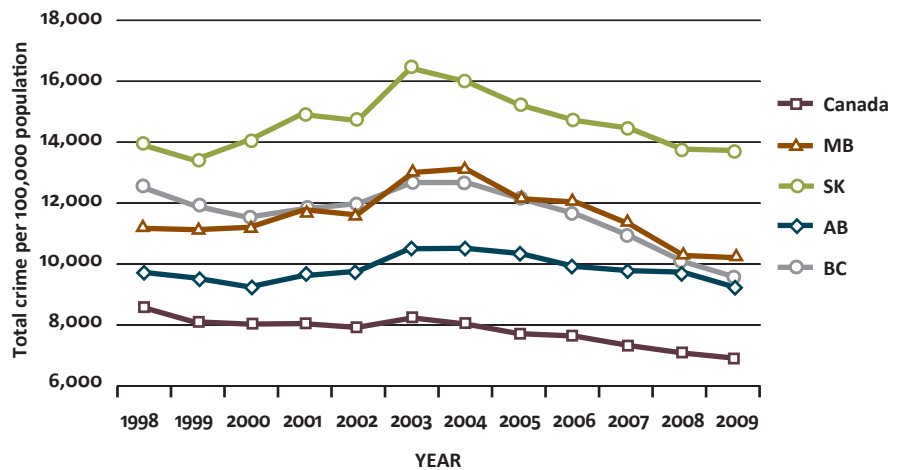


Figure 2: Total crime severity index

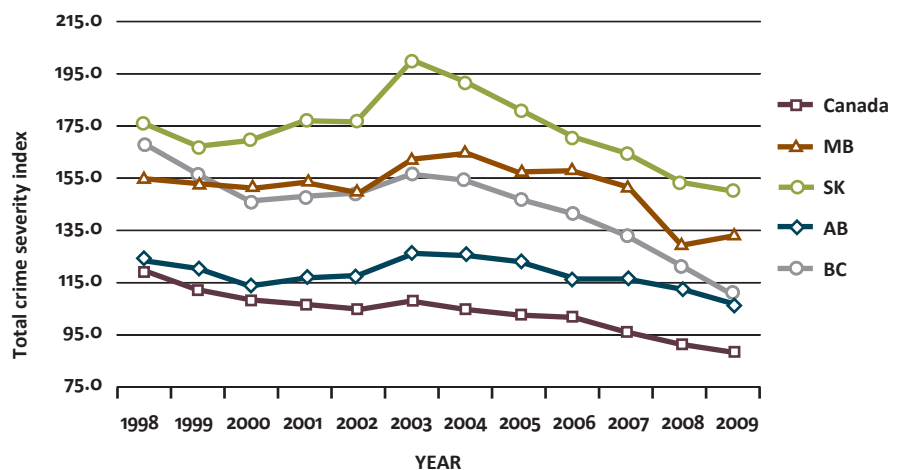


Figure 3: Violent crime rate

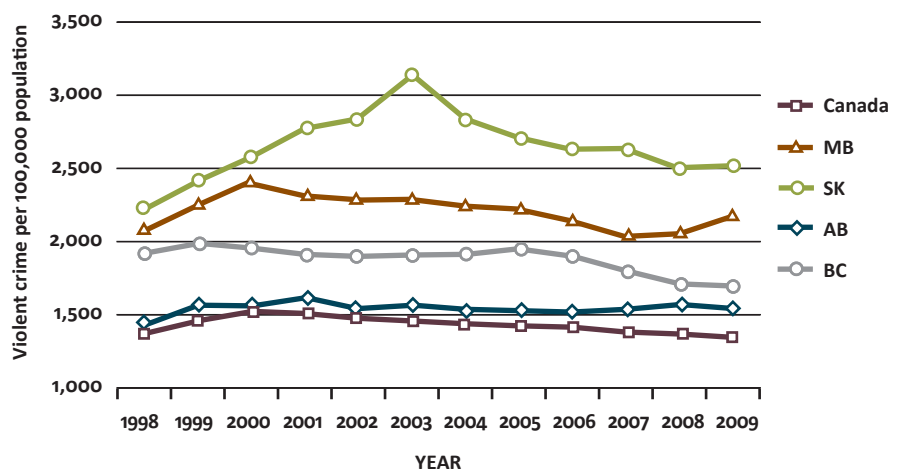


Figure 4: Violent crime severity index

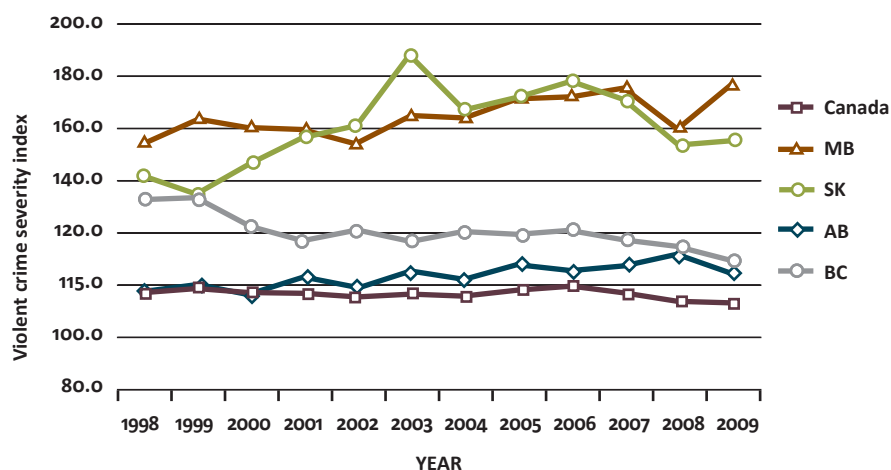


Figure 5: Homicide rate

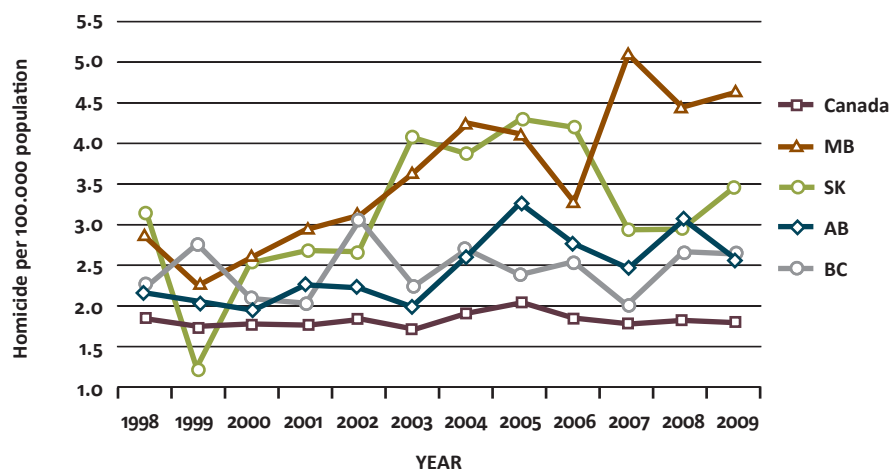
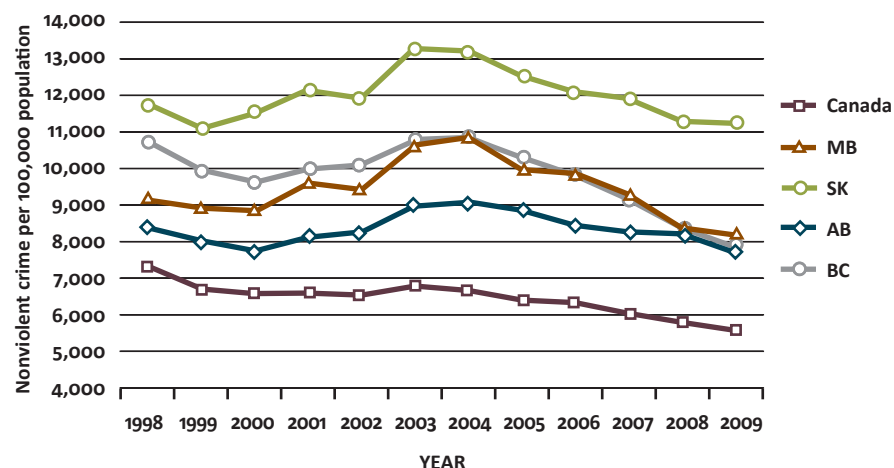


Figure 6: Nonviolent crime rate



continued from page 7...

homicide rates in 2003. However, since 2007 Saskatchewan's homicide rate has reverted closer to the lower rates in Alberta and British Columbia leaving Manitoba the outlier.

### Non-violent crime

The nonviolent crime rate and severity index figures paint broadly similar pictures. Nonviolent crime in Canada and in the four western provinces declined in the late 1990s, then increased somewhat in early 2000s, but has been on the decline since then. Saskatchewan had the highest and Alberta had the lowest nonviolent crime. British Columbia and Manitoba were placed in the middle sitting very close to each other.

### Crime in seven major western urban centres

For violent crime, Regina, Saskatoon, and Winnipeg intertwine with each other at the top, followed by Edmonton and Vancouver in the middle, and then by Calgary and Victoria at the bottom. Violent crime in Vancouver and Victoria fell considerably since 1998, but not in the other five cities.

For nonviolent crime, all seven cities saw declines in the severity index over the past ten years. Regina has been the upper bound and Calgary the lower bound of the nonviolent crime severity index. In most recent years, the five cities in the middle seemed to have converged to comparable levels of nonviolent crime severity index, leaving Calgary and Regina the only two exceptions.

Violent crime in Canada has remained relatively stable since 1998, whereas nonviolent crime has declined significantly. The majority, 80% in 2009, of total crime incidents were nonviolent. As a result, total crime has also declined.

Western Canada generally had higher violent and nonviolent crime than the rest of Canada. Saskatchewan had the highest while Alberta had the lowest violent and nonviolent crime among four western provinces. Manitoba



did not have as high violent crime rate as Saskatchewan. However, it was on par with Saskatchewan when the severity of violent crime was taken into consideration. British Columbia saw sharper declines in both violent and nonviolent crime than other western provinces.

The simple expositions in this article show that there are considerable geographical variations in violent and nonviolent crime between western and non-western Canada as well as among western provinces and urban centres. This coupled with the fact that crime has, to say the least, not been on the rise over the past decade suggests that the federal government's focus on harsher sanctions across the board may be misguided. A more fruitful approach might be to draw some lessons from the spatial differences in the reality and dynamics of crime.

Data source: adapted from Statistics Canada CANSIM Tables 252-0051 and 252-0052

Figure 7: Nonviolent crime severity index

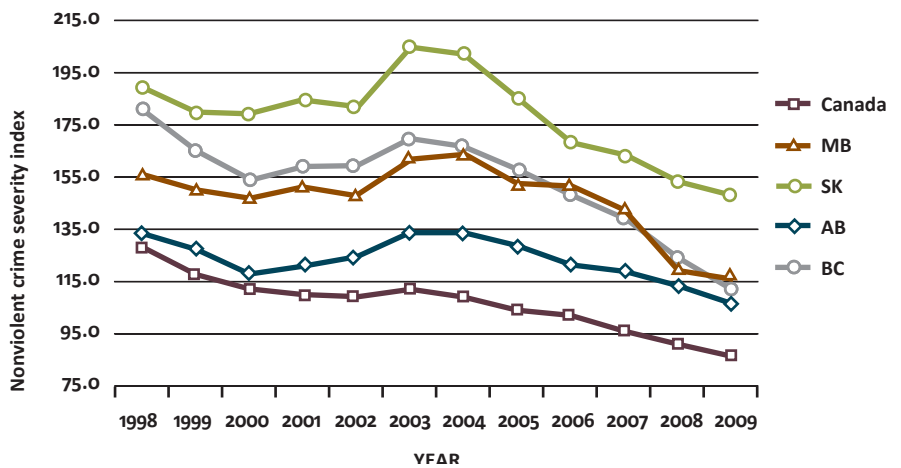


Figure 8: Violent crime severity index in seven major urban centres

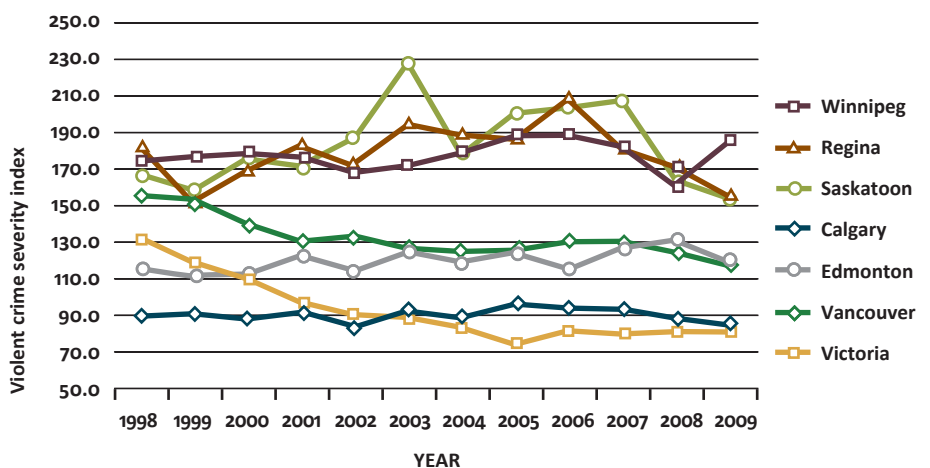
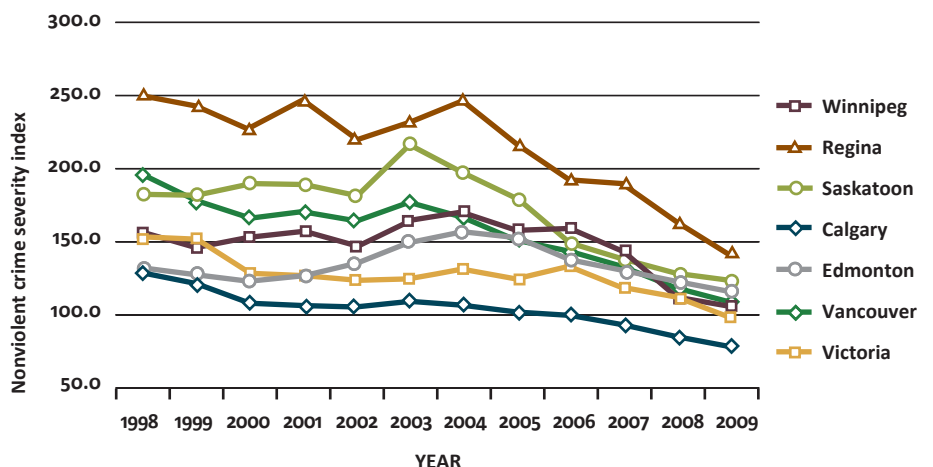


Figure 9: Non-violent crime severity index in seven major urban centres



# Gross Domestic Product by Industry Reveals Diversity in Western Provinces



**By Jim Marshall**  
Executive in residence  
Johnson-Shoyama  
Graduate School

In April, Statistics Canada released estimates of the gross domestic product (GDP) by industry for the provincial economies in 2009. A close examination of these data reveals substantial diversity in the economic bases of the four western provinces.

Since these data are available for all provinces on a consistent basis, they allow us to examine the make-up of each province's economy (in terms of which sectors are important) and to compare the provinces' economies to each other.

The data examine GDP at basic prices using chained 2002 dollars to distinguish real value of output in each sector while eliminating

the effects of inflation on prices. This allows comparisons between jurisdictions and between years in terms of volume of production without the distortions that inflation might cause.

For our purposes, we have compared the provinces not in terms of their growth rates or their absolute or per capita levels of output, but in terms of the make-up of each economy – that is, the relative importance of each industry group or sector in each province.

## Manitoba – Manufacturing Centre

The Manitoba economy, with a total 2009 output of \$39.0 billion, led the region in manufacturing which comprised 11.1 per cent of the province's output for the year, as compared to manufacturing sectors which are between 7.3 per cent and 8.2 per cent of the economies of the other western

provinces. Manitoba is the closest of the four western provinces to approaching the national economy's share from manufacturing of 12.6 per cent.

Of Manitoba's almost \$32,000 in per capita output for 2009, other major contributions were made by the wholesale and retail trade sectors (at 13.7 per cent of the total) and by the utilities, transportation and warehousing sector (at 10.6 per cent of the total) which also contributed a larger share of the Manitoba output than was the case for other western provinces.

While agriculture, forestry, fishing and hunting was a much smaller share of the province's economy than many might think (at 4.9 per cent of output) the province remains the second most dependent on this sector of the four western provinces, after only Saskatchewan.

Figure 1: Manitoba 2009 GDP by Industrial Sector in Billions of Chained 2002 dollars

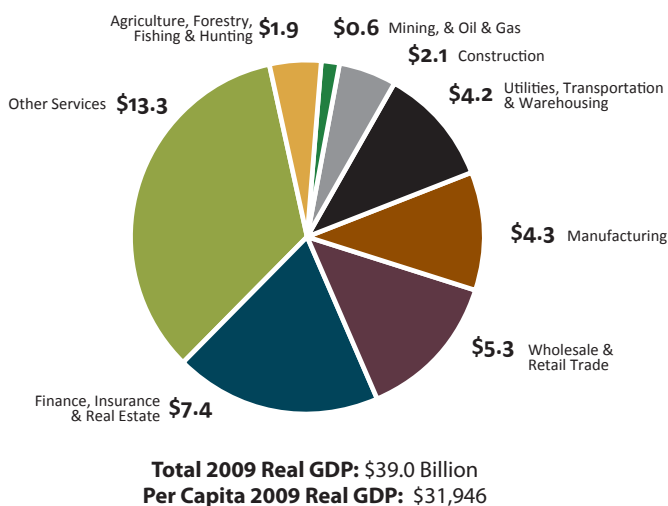
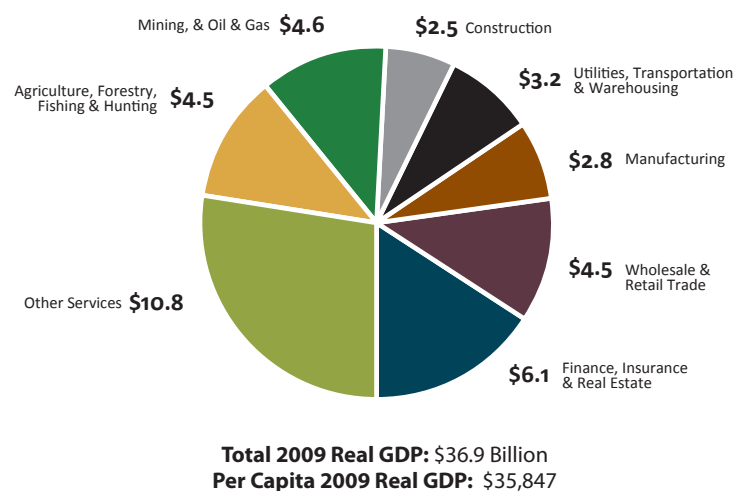


Figure 2: Saskatchewan 2009 GDP by Industrial Sector in Billions of Chained 2002 dollars



## Saskatchewan – Agriculture Returns to the Lead

Of the four western provinces, Saskatchewan was the most dependent on agriculture, forestry, fishing and hunting in 2009 as the sector comprised 11.5 per cent of the province's real output of \$36.9 billion or \$35,847 per capita, leaving this sector much more important in Saskatchewan than in any of the other western provinces. As recently as 2007 this sector had dropped to nearly 10 per cent of Saskatchewan's economy but has been buoyed by strong crops and improved prices since then. Nationally, agriculture, forestry, fishing and hunting contributed only 2.1 per cent of GDP in 2009.

Mining and oil and gas are also important in Saskatchewan, contributing another 11.8 per cent of total output in 2009 compared with 4.3 per cent for Canada as a whole.

## Alberta – Mining and Oil and Gas Dominate

The dominance of the oil and gas industry in Alberta is confirmed by the fact that its sector provided 18.6 per cent of the GDP of the province in 2009, contributing \$32.5 billion of the province's overall output of \$170.5 billion (\$46,248 per capita).

So dominant is this industry in Alberta that, even though the agriculture, forestry, fishing and hunting sector is as large as Saskatchewan's in dollar terms, it is less than a quarter as big as the neighbouring province in terms of share of total output.

Alberta's other leading sector is construction, which contributed 7.1 per cent of provincial GDP in 2009, from a sector that contributes only between 5.3 per cent and 6.3 per cent in the other western provinces and 5.8 per cent in Canada as a whole.

## British Columbia – Service Sector Prevails

British Columbia leads the west in its dependence on the service sector as contributors to the overall 2009 Real GDP of the province of \$148.1 billion or \$33,242 per capita.

Figure 3: Alberta 2009 GDP by Industrial Sector in Billions of Chained 2002 dollars

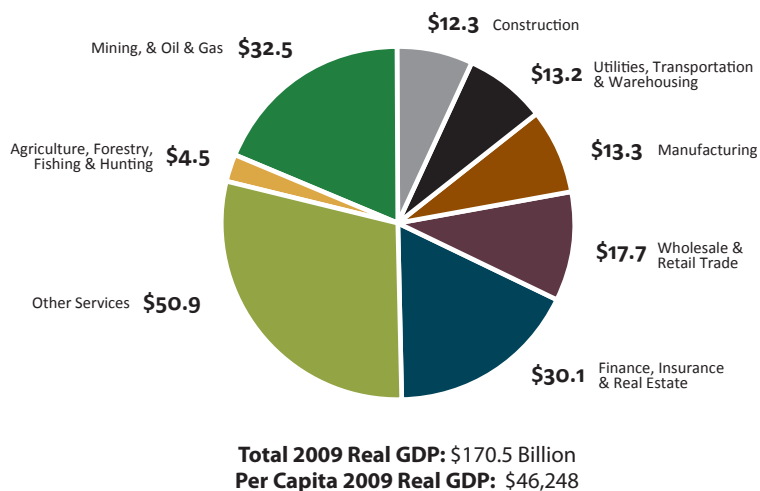
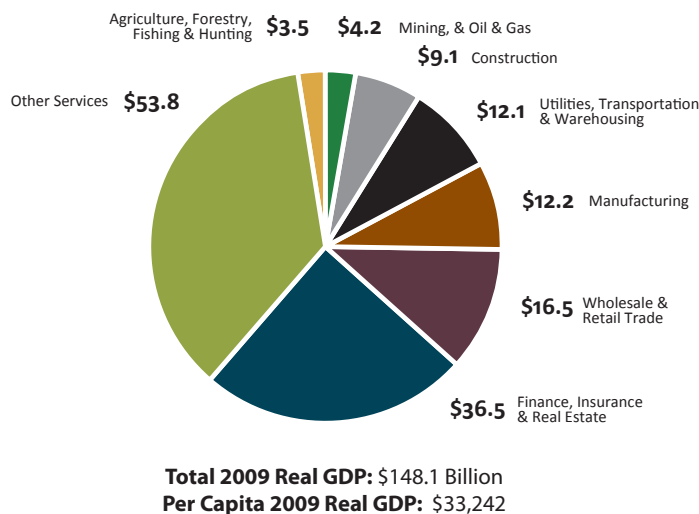


Figure 4: British Columbia 2009 GDP by Industrial Sector in Billions of Chained 2002 dollars



*continued on page 12...*

continued from page 11...

The finance, insurance and real estate sector comprised 24.7 per cent of that total 2009 output and “other services” contributed a further 36.4 per cent to the total. The former makes up only between 15.5 per cent and 19 per cent of the output in other western provinces and the latter between 28 per cent and 33 per cent elsewhere.

### Regional Overview

Taken together, these data reveal the western provinces to be a remarkably diverse region of the country with very large primary sector activities in Alberta and Saskatchewan (led by oil and gas, agriculture and construction) a large secondary sector in Manitoba (in manufacturing and in transportation and warehousing) and major tertiary (service) sector activities centred in British Columbia and in Manitoba as well.

### Policy Significance

While there are many similarities among western provinces, their differences may have implications for policy makers in each province.

Manitoba’s higher presence of manufacturing means that policy makers there will want to keep an eye on the drivers of that industry, especially exchange rates and growth rates in the Canadian and U.S. markets into which they deliver as these factors will affect the demand for their products as well as the competitiveness of Manitoba manufacturers.

Saskatchewan and Alberta, with their relatively greater dependence on agriculture and resources, will find their incomes affected (in the short run) by exchange rates and commodity prices, although the relatively high capital intensity of these industries would

suggest a relatively high importance of interest rate movements as an important factor in long-run growth.

B.C.’s relatively larger service sector suggests it may be somewhat insulated from exchange rates and commodity prices (at least in the short run) but means policy makers there need to be particularly conscious of economic conditions in surrounding and neighbouring economies (Canada, the United States and the Asia-Pacific region).

*Source: Statistics Canada. Table 379-0025 – Gross domestic product (GDP) at basic prices by North American Industry Classification System (NAICS) and province, annual (dollars), CANSIM (database).*

## STATISTICALLY SPEAKING...

### ○ CONSUMER PRICE INDEX (CPI) (AUGUST 2010 OVER AUGUST 2009)

Western Canada’s inflation rate remained below the Canadian average in August.

### □ EMPLOYMENT GROWTH (AUGUST 2010 OVER AUGUST 2009)

Post-recession employment continued to improve across the west.

