Importance of Cities:

with emphasis on Canadian urban areas

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EXECUTIVE SUMMARY

Introduction

This study identifies the importance of cities and their impact on local and national economies.

Purpose

- This report updates a 2003 study by K&L Consultants, for The City of Calgary, that analysed the economic contribution of urban areas to the Canadian economy.
- The report is intended as a reference document for The City of Calgary in its ongoing discussions with other orders of government over broadening the City's revenue base and or to increase its' revenue generation powers.

Organization

The report is divided into four parts:

- The first section is the introduction which introduces the question that the report addresses and also discusses the organization of the report.
- Part two is devoted to a review of the empirical and theoretical literature on the economic importance of cities in various parts of the world.
- The third section provides a statistical analysis of urban areas in Canada.
- The fourth section analyzes the growth accounting in Canadian cities from 1990 to 2008. In addition, it compares the growth in revenues among the three orders of government and studies the contribution of local to provincial and federal governments.

Literature Review

In the theoretical literature, the impact of cities on local and national economic development and growth is examined through three channels: sharing, matching, and learning.

Sharing

- Cities have an advantage over rural areas in sharing indivisible goods, production facilities, and marketplaces.
- Cities benefit from **sharing in the gains of variety**. From the consumers' point of view, a city provides the potential for variety in consumption.
- Cities also benefit from sharing the gains from individual specialization, sharing risk, as well as sharing trade costs and labor pooling,

Matching

- The benefit from matching comes from the **improvement in the expected chances and quality of matches**.
- Cities are more efficient because the chances of matching also increase with the size of labor force.

Learning

- Cities play an important role in **knowledge generation** because diversified urban environments facilitate research and experimentation in innovation.
- Cities benefit from **knowledge diffusion and accumulation** by bringing together a large number of people.

EXECUTIVE SUMMARY

Empirical Evidence

- Statistical analysis show that cities have advantages in attracting new businesses because they offer labor market pooling, input sharing, and knowledge spillovers.

Data Analysis

- The GDP for Canada's six largest CMAs increased by 38 per cent between 1998 and 2008 while the rest of Canada grew by only 20 per cent, during this period.
- The data shows that population growth is correlated with the size of the metropolitan area where larger areas tend to grow at a faster rate than smaller areas.
- Employment growth varied by the size of the urban area where the largest areas enjoyed the fastest rates of growth and the smallest areas the slowest rates of growth.
- International migrants tend to prefer urban areas over rural areas and also they show a greater preference for larger areas over smaller areas (see text box).
- It is estimated that 64.8 per cent of all economic growth in Canada comes from its six CMAs and 35.2 per cent from elsewhere.
- Local government revenues in Alberta grew at 0.3 per cent annually, between 1989 and 2008, after adjusted by population growth and inflation. In the same period, the federal and provincial real per capita revenues grew by 1.2 per cent and 0.9 per cent, respectively.

Conclusion

The focus of this study is to identify the importance of cities and their impact on local and national economy in Canada. The evidence from the six biggest cities in Canada shows that cities have advantages in generating employment opportunities, attracting immigration, facilitating technology innovation and development, and promoting economic growth. In the past two decades, two thirds of the economic growth in Canada was generated in its six biggest metropolitan areas and about 80% of the growth comes from the urban areas in total. 43 cities across the country annually attracted more than 94 per cent of the immigrants over the past ten years. Cities are more capable of competing internationally for financial capital and skilled labor, which make them the engines of economic growth and social development in Canada.

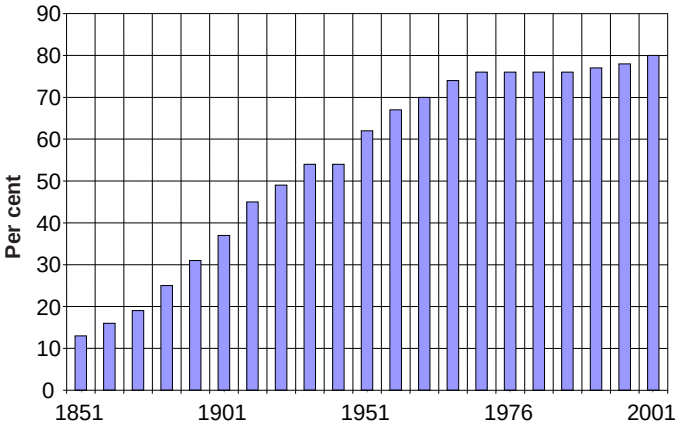
PART 1: INTRODUCTION

Purpose

- This report updates a 2003 study by K&L Consultants, for The City of Calgary, in which they analysed the economic contribution of urban areas to the Canadian economy. K&L Consulting (2003) suggests that cities are the engines of economic growth in Canada.
- The purpose of the current update is to provide a reference document for The City of Calgary that could be used by decision makers in their ongoing discussions with other orders of government over broadening the City's revenue base and or to increase its' revenue generation powers.

Background

Figure 1:
Canada's Urban Population as Per Cent of Total



Source: Statistics Canada

The majority of Canada's working age population[1] and employed labour force live and work in Urban Areas. Statistics Canada's data shows that 91 per cent of this population lived in the Census Metropolitan Areas (CMAs) in 2008. In addition, 77.6 per cent of the working age population lived in the nine largest CMAs[2, 3]. The data in table 1 shows that 42.5 per cent of the adult population lived in the large cities, 7.4 per cent in the medium sized cities, 2.8 per cent in the small cities and 47.2 per cent in the rural areas. The data also shows that the share of the Canadian population living in urban areas has grown steadily at the expense of the rural population over the 1998 – 2008 period.

Table 1:
Percentage of Canadian Population Aged 15 Years and Above Living in Cities, 1998-2008

	Large Cities	Medium Cities	Small Cities	Rest of Canada
1998	39.3	7.1	3.0	50.7
1999	39.6	7.1	2.9	50.4
2000	39.9	7.2	2.9	50.0
2001	40.4	7.2	2.9	49.5
2002	40.7	7.3	2.9	49.1
2003	41.0	7.3	2.9	48.8
2004	41.3	7.3	2.9	48.5
2005	41.7	7.3	2.9	48.1
2006	42.0	7.4	2.9	47.8
2007	42.3	7.4	2.8	47.5
2008	42.5	7.4	2.8	47.2

Source: Statistics Canada, Corporate Economics

1 The working age population is generally referred to as the adult population. It is the population that is eligible to work and therefore excludes the population that is of retirement age.

2 The CMAs are as follows: Montreal, Toronto, Vancouver, Ottawa-Hull, Calgary, Edmonton, Quebec, Hamilton and Winnipeg.

3 It should be noted that the CMA includes the urban core plus adjacent urban and rural municipalities.

PART 1: INTRODUCTION

In 2008, 51 per cent of Alberta's population lived in the cities of Calgary and Edmonton. The share of the provincial population living in these two cities has also grown steadily over 1998 – 2008. In other words, the rate of population growth in Edmonton and Calgary was much larger than the rate of growth in the rest of Alberta during 1998 – 2008. As in other Canadian cities, relatively stronger economic growth with increase job availability acted as a major attraction for would be job seekers from other areas of the country.

Table 2:
Percentage of Alberta's Population Aged 15 Years and Above Living in Cities, 1998-2008

	Calgary	Edmonton	Calgary & Edmonton	Rest of Alberta
1998	24.6	24.8	49.3	50.7
1999	24.9	24.7	49.6	50.4
2000	25.2	24.8	50.0	50.0
2001	25.5	24.8	50.3	49.7
2002	25.7	24.8	50.5	49.5
2003	25.7	24.8	50.5	49.5
2004	25.8	24.7	50.6	49.4
2005	25.8	24.6	50.4	49.6
2006	26.0	24.6	50.6	49.4
2007	26.4	24.8	51.2	48.8
2008	26.5	24.7	51.2	48.8

Source: Statistics Canada, Corporate Economics

In the 1980's, the Canadian federal and provincial governments became concerned about the state of their respective finances as poor economic performance caused revenue growth to lag expenditure growth and consequently, chronic annual operating deficits accumulated into escalating public debt. The federal government responded by introducing a combination of expenditure reductions, tax increases and higher user fees. For example, it cut transfer payments to the provinces in a number of areas including healthcare and social welfare. The provinces, in order to balance their budgets, followed a similar path to the federal government with reductions in program expenditures and transfer payments to municipalities. To address this revenue shortfall, municipalities responded by raising property taxes and user fees, delaying infrastructure construction and maintenance and initiating hiring freezes.

The Calgary economy recorded a period of relatively rapid growth in the 1990s in response to the booming U.S. economy that created an ever-expanding market for Canadian exports. During this era, federal and provincial governments' revenues grew faster than their respective expenditures and consequently, they enjoyed annual surpluses. However, despite improved fiscal balances, transfer payments to municipalities were never fully restored to pre-1980's levels. At the same time, these areas were left to take care of the growing ranks of homeless individuals, provide new physical infrastructure to accommodate growth and upgrade and maintain the stock of existing infrastructure. Urban municipalities such as Calgary experienced increased fiscal stress during this period as municipal revenues expanded at a much slower pace than either federal or provincial revenues.

Organization of the report

The report is divided into four parts. The first section introduces the question that the report addresses and presents the structure of the report. Part two is devoted to a review of the empirical and theoretical literature on the economic importance of cities in various parts of the world.

PART 1: INTRODUCTION

This section of the report underscores the point that the national economies are not homogenous but instead are significantly influenced by their urban economies; places where inventions and innovations are generated. The more technical aspects of the discussion are provided in a separate document which can be accessed by requirement. The third section provides a statistical analysis of urban areas in Canada. Parts of the discussion on globalization have focused on the role of cities in national and international trade. In this discussion, cities are often referred to as the engines of national economic growth. In addition, it has been stated that trade is more often than not conducted between cities rather than between nation. It is difficult to arrive at this conclusion by examining the available national data without expending considerable time and effort as this information is not readily apparent. The data on Canada and provincial economic growth doses not show how urban areas grow relative to the Canadian average. The intent is of this section is to fill this void. The fourth section provides an analysis of growth accounting from 1990 to 2008 which calculates the sensitivities of output changes to the changes of capital, labor and productivity respectively. This section also examines the growth of revenues among the three orders of government: federal, provincial and municipal. The final section provides a conclusion and summary of the report.

PART 2: LITERATURE REVIEW

Introduction

The K&L report (2003) presents evidence showing that cities have comparative advantages in attracting both international and domestic migrants; creating job opportunities; generating international exports to the U.S. and the world; and promoting economic growth in Canada.

The K&L report also lists a number of factors that fuelled the growing importance of cities:

(1) Productivity growth in agricultural reduced employment in rural areas, and thus contributed to urbanization in Canada;

(2) The immigration policies of the federal government attract younger and more educated workers to the urban areas; and

(3) The adoption of free trade policies enabled Canadian industry to specialize in areas of comparative advantages, and allow Canadian cities to be the main beneficiaries of more open markets and greater economic efficiency.

The current study builds on K&L by explaining why cities are important contributors to national economic growth and development. This report surveys both the theoretical and empirical literature to determine whether there is support for the aforementioned statement. Consequently, we reviewed both static and dynamic theories of urban growth, as well as the empirical works with micro data at the firm, industry or individual level, and with macro data at city or country level.

Theoretical Support

In the theoretical literature, the impact of cities on local and national economic development and growth is outlined through three channels: sharing, matching, and learning. The sharing mechanism describes the benefit of sharing indivisible facilities in urban areas, sharing the gains from the wider variety of input suppliers that can be found in large urban markets, sharing the gains from the narrower specialization that can be sustained with larger production, sharing risks, and sharing the interaction and trade costs. Matching[4] mechanism indicates city agglomeration improves the expected chances and quality of matches, and alleviates hold-up[5] problems. Finally, the existence of cities also improves knowledge generation, diffusion, and accumulation, which indicate the convergence of the hub cities across Canada with technology innovation as the major driving force. The first two mechanisms are measured with static modeling methodology, while the learning mechanism requires dynamic modeling.

Cities benefit from sharing:

Cities have an advantage over rural areas in **sharing indivisible goods, production facilities, and marketplaces**. Compared to individuals, cities are much more efficient in managing facilities with large fixed costs. For example, it is much easier for cities to provide public libraries and community colleges than other areas with lower population density.

4 Matching problem refers to any of the scenarios which involve matching the members of one group of agents with one or more members of a second, disjoint group of agents.

5 The hold-up problem is a term used in economics to describe a situation where two parties (such as a supplier and a manufacturer) may be able to work most efficiently by cooperating, but refrain from doing so due to concerns that they may give the other party increased bargaining power, and thereby reduce their own profits.

PART 2: LITERATURE REVIEW

Cities benefit from **sharing in the gains of variety**. From the consumers' point of view, a city provides the potential for variety in consumption. From the firms' point of view, by sharing a wider variety of differentiated intermediate inputs, the city offers the benefits of increasing returns due to input sharing.

Another source of the benefits of cities is **sharing the gains from individual specialization**. The city allows existing workers to specialize on a narrower set of tasks, so that they can improve their productivity by performing the same task more often. The worker is able to become an expert in a particular activity in a shorter period of time when compared to the situation where the same worker would have been required to learn a larger number of tasks. Also, a greater division of labor fosters labor saving innovations because simpler tasks can be automated more easily.

Cities with large number of industries **share risk** because the decisions of large numbers of imperfectly correlated economic actors in close proximity can provide a form of natural insurance. A localized industry gains a great advantage from the fact that it offers a constant market for skill. Employment can be stabilized with fluctuations in demand being imperfectly correlated across firms in an urban labor market, since some firms will be hiring workers while other firms will be contracting. To the extent that fluctuations in demand for products are uncorrelated across buyers, firms need carry fewer inventories, since some consumers are buying while others are not.

The emerging theory of the New Economic Geography provides another explanation of why cities are important which says that cities benefit from **sharing trade costs and labor pooling**. This theory addresses the question as to why economic activity concentrates in some areas and not in others. An over-simplified explanation of this theory suggests that economic concentration equals economic efficiency, and high sustainable growth rates can only occur in areas where the economy is highly concentrated.

Nobel Prize laureate Paul Krugman goes further in finding that investment in hard infrastructure alone will not automatically lead to higher growth. Instead, the combination of policies that boost agglomeration with the policies that encourage development of human capital, education and technological innovation will stimulate greater economic growth. This theory explains the lack of obvious convergence of economic growth among either Canadian cities or cities in OECD countries. Usually, cities show more evidence of **convergence within the same provinces** than otherwise because they share similar policies of both agglomeration and development.

Cities benefit from matching:

The benefit from matching comes from the **improvement in the quality of matches**. A larger urban scale can facilitate better matches between worker skills and job requirements or between intermediate goods and the production requirements for final output.

The benefit from cities also lies in the fact that an increase in the number of agents trying to match **increases the chances of matching**. More generally, matching is a function of the number of buyers and sellers in the market, which enjoys increasing returns to scale, indicating that a proportional increase in the number of job seekers and vacancies results in a more than proportional increase in the number of job matches. In this case, an increase in the number of agents in a

city reduces search frictions and results in smaller proportions of unemployed workers and unfilled vacancies. The lesson is simple: in a market with more job opportunities that can be explored simultaneously, it is less likely that none of them work out.

Cities benefit from learning:

Cities play an important role in **knowledge generation** because diversified urban environments facilitate research and experimentation. Young firms usually need a period of experimentation to realize their full potential. The ideal production process is initially unknown. With similar firms nearby, this process is shortened by learning from the processes already used locally. The combination of this learning process that draws from local types of production processes with costly firm relocation creates dynamic advantages to urban diversity.

Cities benefit from **knowledge diffusion** by bringing together a large number of people. Productivity spillovers may arise in denser spatial environments linking individuals with greater skills or knowledge. Therefore, cities offer better learning opportunities because they have more skilled workers who are in an environment conducive to the transimission of their skills.

The theoretical literature on growth in cities has specified the importance of **knowledge accumulation** in cities. Aggregate human capital generates externality which plays two roles simultaneously: engine of growth and agglomeration force. This proves the necessity for the existence of cities, since they have an important role in the innovation process because of the knowledge spillovers.

Empirical Evidence

The empirical evidence supports the importance of cities. Basic findings with **micro-level or firm data** show that cities have advantages in attracting incorporations because they offer labor market pooling, input sharing, and knowledge spillovers. Also by using individual level data, it was shown that urbanization has a positive impact on wages because of total factor productivity and the effects of learning. Similarly, using industry level data, it was shown that agglomeration within industries increases productivity in single-establishment firms.

The empirical growth literature focuses on the dynamic effects of cities and urbanization by using **macro-level** data of countries and regions. The results with macro-level data also indicate that urban primacy has large effects on economic growth. Some growth economists use country level data and sound econometric methods to look at the aggregate dynamic effects of cities and urbanization. Their empirical results yield large effects of urban primacy on economic growth, especially during the early period of urban primacy. A larger city implies greater learning opportunities for more workers. Provided that there is also a diffusion of this learning to other cities, a positive relation between aggregate growth and the relative size of the city occurs naturally.

PART 3: DATA ANALYSIS

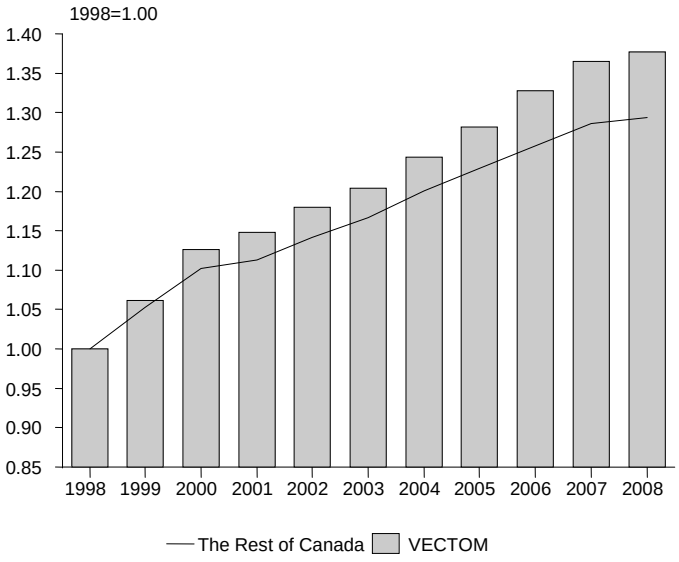
This section of the report compares the economic performance of urban areas against that for Canada for the period 1998 – 2008.

GDP and Growth

Several economic indicators could be used to measure an economy's progress; some of these are broad measures such as total employment while others such as building permits tend to be partial measures. Employment while a readily available statistic at the sub-provincial level does not provide a true picture of economic progress. It merely indicates how the employed population has changed over time. It does not provide an indicator of labour's productivity. For example, two geographic areas that have the same level of employment does not necessarily mean that they enjoy the same level of output or income as the level of output is determined by the sum of employment and the productivity of employment. This shortcoming could be overcome by using gross domestic product (GDP) as a measure of progress. The unavailability of this data at the local level presents a road block in the wide usage of this data as a measure of progress.

Researchers have corrected for this limitation by adjusting provincial and national data to derive GDP estimates for sub-provincial areas. In Canada data is only available for a selected number of CMAs. Data from The Conference Board of Canada for the largest CMA is used for this analysis. The Conference Board of Canada refers to this group as VECTOM: Vancouver, Edmonton, Calgary, Toronto, Ottawa and Montreal.

Figure 2:
Growth of GDP for VETCOM - CMAs



Conference Board of Canada, METRO Forecast Corporate Economics

The VETCOM group's GDP increased by 38 per cent between 1998 and 2008 while the rest of Canada grew by only 20 per cent. The Canadian average growth was 33 per cent during this period.

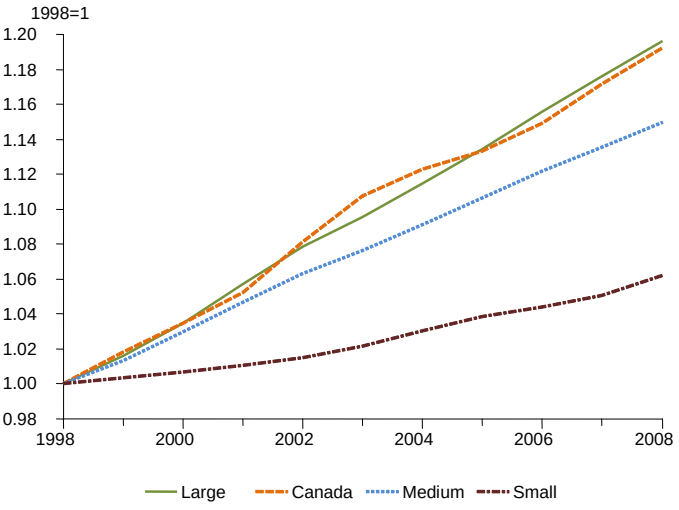
Population Growth

The total population in the largest metropolitan areas was estimated at 11.8 million in 1998 and grew to14.1 million by 2008, up by 20 per cent. In the 1998 – 2008 period, the population for Canada as whole grew by 19 percent, the medium sized metropolitan areas grew by 15 per cent and the small areas increased by 6 per cent.

The data shows that population growth is correlated with the size[6] of the metropolitan area where larger areas tend to grow at a faster rate than smaller areas. The larger area experienced a faster rate of population growth than Canada as a whole.

6 Here the size is measured by the population of the city.

Figure 3:
Population Growth by Size Census Metropolitan Area



Statistics Canada, CANSIM Corporate Economics

Table 3:
Unemployment Rate, by Size of Urban Areas, 1998-2008

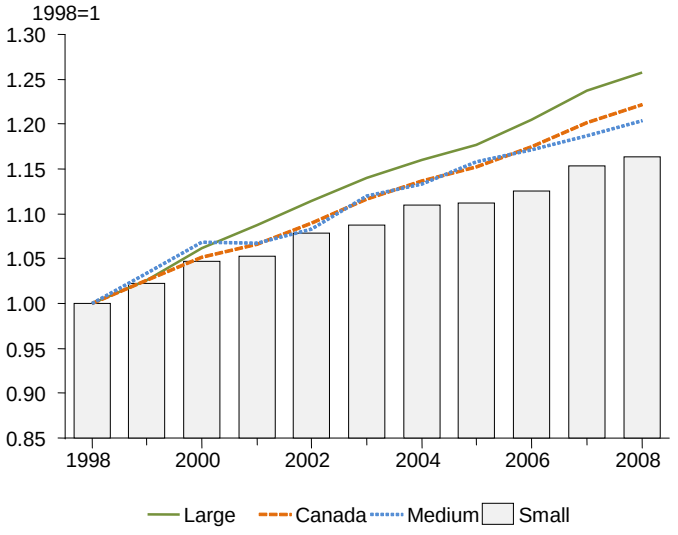
	Large Cities	Medium Cities	Small Cities
1998	7.0	7.4	10.7
1999	6.6	6.5	9.3
2000	5.9	5.9	8.4
2001	6.3	6.4	8.8
2002	6.7	7	8.8
2003	6.7	6.4	8.9
2004	6.3	6.2	8.4
2005	5.8	6.1	7.9
2006	5.3	5.8	7.3
2007	5.1	5.8	6.5
2008	5.1	6.2	6.6

Source: Statistics Canada, Corporate Economics

The data shows that the larger cities enjoyed a relatively lower unemployment rate along with a relatively higher job creation rate during this period. The above average labour market performance was a major influence in drawing migrants to the larger urban areas. However, stronger employment growth not only resulted in stronger population growth but population growth in turn caused stronger employment growth. The causal links between employment growth and population growth was therefore circular in nature rather than one way or linear.

Employment Growth

Figure 4:
Employment Growth by Size of Urban Area



Statistics Canada, CANSIM Corporate Economics

The data shows the share of total employment in the larger cities relative to Canada as whole has been on a slightly upward trend. As with population, this has occurred because the rate of employment growth in the larger cities has outpaced the rate of growth in the smaller cities.

Table 4:
Percentage of Job Creation by Area, Canada, 1998-2008

	Large Cities	Medium Cities	Small Cities	Rest of Canada
1998	62.6	8.8	3.4	25.3
1999	51.1	12.4	3.1	33.4
2000	72.7	12.5	3.4	11.4
2001	93.8	-1.2	1.4	6.0
2002	62.5	6.5	3.9	27.1
2003	48.1	12.4	1.2	38.3
2004	54.0	6.3	3.9	35.7
2005	53.7	15.0	0.4	30.9
2006	66.6	5.5	2.3	25.6
2007	62.5	5.4	3.6	28.5
2008	53.3	8.0	1.7	37.0

Source: Statistics Canada, Corporate Economics

Table 5:
Labour Force Aged 25-44 Years as a Percentage of the Total Labour Force, by Size of Urban Areas, 1998-2008

	Large Cities	Medium Cities	Small Cities	Rest of Canada	Canada
1998	54.6	52.4	52.7	51.0	53.1
1999	53.5	52.0	51.6	49.9	52.0
2000	52.5	50.5	50.9	49.2	51.1
2001	51.8	50.4	48.6	48.2	50.3
2002	50.8	49.3	46.7	47.1	49.3
2003	49.6	47.5	46.9	45.6	48.0
2004	49.2	46.8	46.7	44.5	47.3
2005	48.8	46.3	45.7	43.5	46.7
2006	47.7	45.2	44.7	43.4	45.9
2007	46.8	45.2	44.2	42.6	45.2
2008	46.3	44.1	43.5	41.3	44.3

Source: Statistics Canada, Corporate Economics

This differential rate of growth has had an impact on the age composition of the workforce aged 25 – 44 years. The percentage of the labour force aged 25 – 44 years has declined steadily over the period 1998 – 2008 and this has occurred across all sizes of cities. However, some cities experienced greater declines than others. The analysis shows the larger and medium sized cities experienced smaller declines (830 basis points each) compared to that of the smaller cities (920 basis points). On average, the Canadian labour force in this category declined by 880 basis points. The explanation for the relatively slower decline rests on the age profile of migrants to the cities. Migrants tend to be relatively younger than their host population. Also, analysis shows that they tend to move to the labour markets where jobs are available and these tend to be in the larger cities. Consequently, migration tends to lower the average age of the labour force in the larger labour markets.

The above conclusion is illustrated by the cases of Edmonton and Calgary. Even though both cities are relatively large by provincial standards, their experiences are different. The share of the 25 - 44 year labour force has declined by a greater extent in Edmonton than in Calgary. This stems from the fact that net migration to Calgary has been much higher than in Edmonton as Calgary is more attractive to migrants than Edmonton. In 1998, Calgary accounted for 33.1 per cent of total employment in Alberta and by 2008, Calgary's share increased to 35 per cent. While in Edmonton, 31.7 per cent of total jobs in Alberta were held by Edmonton's residents and by 2008, Edmonton's share fell to 30.9 per cent.

PART 3: DATA ANALYSIS

Table 6:
Labour Force Aged 25-44 Years as a Percentage of the Total Labour Force,
Calgary vs. Edmonton, 1998-2008

	Calgary	Edmonton
1998	55.3	53.3
1999	54.8	51.4
2000	52.7	51.0
2001	51.7	49.1
2002	51.1	47.4
2003	49.1	48.1
2004	46.5	47.8
2005	50.3	43.0
2006	48.0	42.8
2007	50.3	42.8
2008	49.1	43.1

Source: Statistics Canada, Corporate Economics

Table 7:
Percentage of Employment by Area, Alberta, 1998-2008

	Calgary	Edmonton	Calgary & Edmonton	Rest of Alberta
1998	33.1	31.7	64.8	35.2
1999	33.5	31.4	64.9	35.1
2000	34.3	31.1	65.4	34.6
2001	34.6	31.2	65.8	34.2
2002	34.4	31.4	65.8	34.2
2003	34.1	31.4	65.5	34.5
2004	34.1	31.5	65.6	34.4
2005	34.0	30.6	64.6	35.4
2006	35.2	30.1	65.3	34.7
2007	34.8	30.7	65.5	34.5
2008	35.0	30.9	65.9	34.1

Source: Statistics Canada, Corporate Economics

Table 8:
Percentage of Job Creation by Area, Alberta, 1998-2008

	Calgary	Edmonton	Calgary & Edmonton	Rest of Alberta
1998	45.7	13.5	59.2	40.8
1999	48.7	20.5	69.2	30.8
2000	66.3	17.9	84.2	15.8
2001	44.7	34.3	79.0	21.0
2002	25.5	41.5	67.0	33.0
2003	22.3	32.1	54.5	45.5
2004	35.4	36.1	71.5	28.5
2005	27.6	-30.7	-3.1	103.1
2006	61.3	19.3	80.6	19.4
2007	27.9	41.3	69.2	30.8
2008	41.5	38.9	80.4	19.6

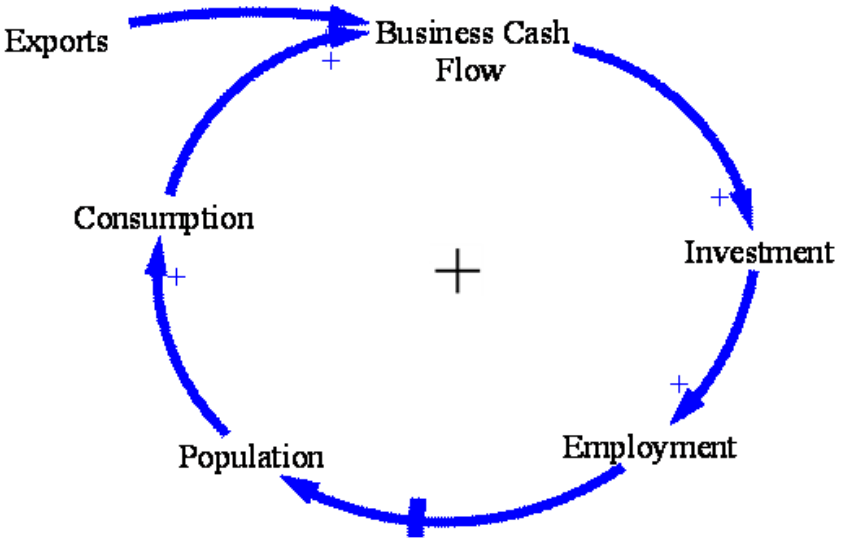
Source: Statistics Canada, Corporate Economics

The analysis of the employment data produces the same result as that for population[7]. Employment growth varied by the size of the urban area where the largest areas enjoyed the fastest rates of growth and the smallest areas the slowest rates of growth. The large areas grew at a faster pace than the Canadian average. In the period 1998 to 2008, the eight largest CMAs accounted for 60.8 per cent of all the jobs that were created. Canadian urban areas in the 1990s benefited from a virtuous loop (see figure below). This essentially means that initial growth produced further growth. For example, an increased in economic growth resulted in an increase in employment and this served to reduce the unemployment rate.

7 Population and employment levels at the national level tend to be related in a circular loop. Population growth increases the demand for employment which in turn increases the demand for population.

Lower unemployment rates resulted in increased competition for workers by employers and generated higher wage increases. Higher wages increased the region's total personal income. A larger personal income base buoyed consumer spending and this increased the level of economic activity. Increased economic activity resulted in increased employment.

Figure 5:
System Dynamics of Regional growth



Bigger Cities Attract More Immigration in Canada

More immigration in Canada comes to cities other than rural areas. According to Citizenship and Immigration Canada (CIC), more than 94 per cent of the immigrants chose to live in 43 cities[8] across the country every year over the past ten years (CIC, 2007).

Bigger cities tend to attract more immigrants. The relation between immigration and city size indicate an exponential growth path. For example, the population of Toronto is around twice of Vancouver and 4 times of Calgary, however, the amount of immigration in Toronto is 3 and 8 times of the two cities respectively. Figure 6a records the immigration in the major Canadian cities from 1998 to 2007. We can see that immigration rises increasingly with city's existed population. In Figure 6b, when we drop the outlier observations of Montreal which has different language and background requirements of immigrants, this relation becomes clearer and more significant.

Figure 6a:
Immigration and Population in Major Canadian Cities, 1998-2007

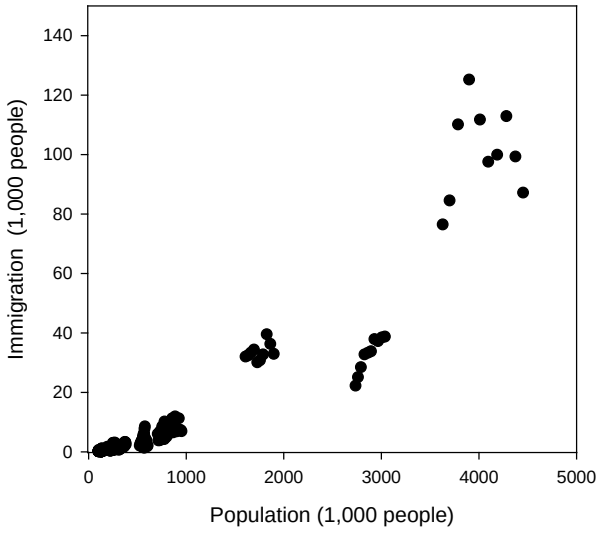
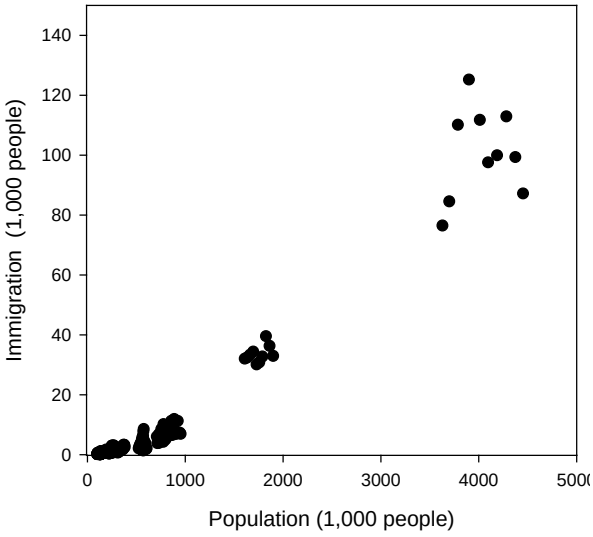


Figure 6b:
Immigration and Population in Major Canadian Cities, 1998-2007 (Except Montreal)



When we look into the details of the exponential growth specification, we found more empirical evidence by using the panel data across major cities in Canada in 1998-2007.

8 The 43 cities include St. John's, Charlottetown, Halifax, Moncton, Saint John, Fredericton, Québec, Sherbrooke, Trois-Rivières, Montréal, Ottawa-Gatineau, Kingston, Peterborough, Oshawa, Toronto, Hamilton, St. Catharines-Niagara, Kitchener, Brantford, Guelph, London, Windsor, Sarnia, Barrie, Greater Sudbury, Thunder Bay, Winnipeg, Regina, Saskatoon, Lethbridge, Calgary, Red Deer, Edmonton, Kelowna, Kamloops, Chilliwack, Abbotsford, Vancouver, Victoria, Nanaimo, Prince George, Whitehorse, and Yellowknife.

Column 1 of Table 9 shows the regression results by pooling the data of all cities together. Notice that the marginal effects are recorded here. It shows that, on average, when the city size increases by 10,000 people, it attracts 21 more immigrants into this region.

The results become more interesting if we break down the data into three groups: big cities with population more than 500,000 people, medium cities with population more than 200,000, and small cities with population less than 100,000. Columns 2 to 4 record the marginal effects of the regression results. We can see the difference: with the increase of 10,000 in population, small cities attract 6 immigrants, medium cities attract 8, while big cities attract 24. By dropping Montreal in the big cities group, this effect in column 5 is even higher which jumps to 28 immigrants. As shown in Table 9, all the results are significant at 1% level.

Table 9:
Marginal Effects of Existed Population in Cities and Immigration[9]

	All Cities	Small Cities	Medium Cities	Big Cities	Big Cities Except Montreal
Effect of Existing Population	21.41	6.39	7.93	24.11	28.03
	(0.54)***	(1.73)***	(1.35)***	(1.01)***	(0.60)***
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
Region Fixed Effects	Yes	-	-	Yes	Yes
Observations	230	60	80	90	80
R_squared	0.68	0.21	0.35	0.82	0.80

Note: 1. Marginal effects of coefficients are recorded; log-linear OLS regressions with the dependent variable in log form.
2. ***, **, * mean coefficients statistically significant at 1%, 5%, 10% respectively.

There are several reasons for newcomers and immigrants to settle in the cities, especially the bigger ones. Firstly, big cities offer more employment and entrepreneurial opportunities to immigrants. Secondly, immigrants find it easier to settle in big cities, as there are large ethnic populations from which they can link up with the community of their type. Moreover, the main concern of an immigrant is settlement, which they find more favourable in big cities.

9 All of the big cities, 87% of the medium cities and some of the small cities are included in the regressions due to data availability.

Migration

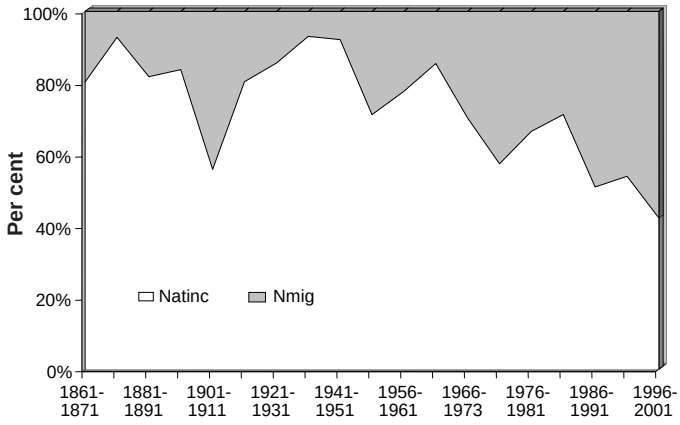
Population growth is generally determined by natural increase, which is births less deaths, plus net migration. Natural increase tends to be relatively stable over time as it is influenced by the age and numbers of the women of childbearing age. However, net migration tends to be relatively more volatile than natural increase as it is generally affected by the fluctuations in the economy and or the quality life in the sending and receiving areas for migrants.

Migrants can be split into two groups: domestic and foreign.

Domestic Migrants

Domestic migrants originate from within Canada (both intra provincial and inter provincial migrants). The domestic migrants are often referred to as economic migrants as they tend to respond to the chance to improve on their economic circumstances. Inter-provincial migrants tend to be young, between the ages of 20 to 39.

Figure 6:
Source of Population Growth - Canada



Immigration

Reasons for foreign migrants moving to the local economy are somewhat different from those of the domestic migrants; generally a mixture of economic and social considerations.

Since the 1960s, birth rates have steadily declined and international migration has become a more important source of population growth. This trend is expected to increase in coming years as the "baby boom" population ages in to the cohorts with higher mortality rates. It is generally accepted that Canada would become increasingly reliant on foreign migration as a source for both population and labour force growth. The foreign migrants are affected by national immigration quotas and family concerns, which tend to share certain characteristics such as age and education. In the sections that follow data will be presented on the age and education levels of international migrants.

International migrants tend to prefer urban areas over rural areas and also they show a greater preference for larger areas over smaller areas (see text box). Data from the Government of Canada shows that the majority of international migrants are attracted to Ontario, Quebec and British Columbia. This is not surprising because the ports of entry to Canada are located within those provinces. Vancouver, British Columbia is the port of entry for Asia and Montreal and Toronto the entry points for Europe and the Caribbean.

Table 10:
Canadian Permanent Residents by Age

Age Group	1998		2007	
	Persons	%	Persons	%
0 - 14	40,002	23.0	48,278	20.4
15 - 24	27,092	15.6	37,879	16.0
25 - 44	84,825	48.7	114,702	48.4
45 - 64	18,029	10.4	29,547	12.5
65 +	4,221	2.4	6,352	2.7
Total	**174,169**	**100.0**	**236,758**	**100.0**

Source: Citizenship and Immigration Canada, Facts and Figures 2007, Ottawa Ontario, 2008

The largest group of international migrants fall within the 25 to 44 years age group. The next largest groups are the 0-14 (children) and the 15 – 24 (the first time labour market entrants). The data show that more than 80 per cent of all migrants to Canada are less than 45 years old. The migrants to Canada therefore tend to be young and of working age.

International migrants tend to have a higher level of education than the Canadian average. As of 2008, 60 per cent of individuals who came to Canada as permanent residents had at least a trade certificate or higher level of education. This is roughly the same distribution as that of the Canadian working age population. The difference comes in the level of university training. The data shows that between 30 to 40 per cent of individuals coming to Canada as permanent residents had one or more university degrees. While only, 23 percent of the Canadian working age population had one or more university degrees.

The findings based on more recent data on the quality of migrants coming to Canada and urban areas is similar to the findings of K&L Consulting (2003) which states that:

> *In 2002, 60 [per cent] of all international in-migrants came to Canada with a trade certificate, non-university diploma, bachelor's degree, master's degree or doctorate. This percentage is significantly higher than the Canadian average.*

Canada and urban areas therefore benefit from immigration given the relatively high education of the permanent residents.

Table 11:
Canadian - Permanent Residents 15 Year + and Level of Education

	1998		2007	
	Persons	%	Persons	%
0 - 9 years of schooling	21,125	15.7	30,184	16.0
10 - 12 years of schooling	29,214	21.8	31,837	16.9
13 or more years of schooling	11,436	8.5	14,429	7.7
Trade Certificate	12,200	9.1	10,099	5.4
No-university Diploma	12,685	9.5	20,955	11.1
Bachelor's Degree	35,716	26.6	54,493	28.9
Master's Degree	9,341	7.0	22,212	11.8
Doctorate	2,451	1.8	4,271	2.3
Total	**134,168**	**100.0**	**188,480**	**100.0**

Source: Citizenship and Immigration Canada, Facts and Figures 2007, Ottawa Ontario, 2008

Table 12:
Educational attainment and age groups, Canada, 2006

Level of educational attainment	25 to 34 years	35 to 44 years	45 to 54 years	55 to 64 years	Total	Percent
Less than high school	433,940	603,605	811,240	834,725	2,683,510	15
High school diploma	897,835	1,091,465	1,294,505	872,930	4,156,740	24
Post-secondary qualification	2,655,300	3,099,025	2,845,665	1,941,870	10,541,865	61
Trades certificate	416,045	609,270	651,920	478,770	2,156,010	12
College diploma	906,155	1,064,810	972,500	589,910	3,533,375	50
University certificate or diploma below bachelor level	181,350	235,965	245,230	204,185	866,735	5
University degree and above	1,151,750	1,188,975	976,015	669,005	3,985,745	23
Total	**3,987,075**	**4,794,100**	**4,951,410**	**3,649,530**	**17,382,115**	**100**

Source: Statistics Canada, Census of Population, 2006.
http://www12.statcan.gc.ca/english/census06/analysis/education/adults_completed.cfm

Growth Accounting

The average output growth rate in Canada from 1990 to 2008 is 2.5%, which comes from the growth in capital and labor inputs, as well as productivity growth caused by technology innovation and production process improvement. In growth accounting calculation using Canadian data, the sensitivities of output changes to the changes of labor and capital are typically judged to be 0.67 and 0.33, respectively. The average growth rates of labor and capital in the same time period are 1.5% and 3.4%, therefore their contributions to GDP growth are 1% and 1.1% respectively in the past two decades. The national output growth caused by productivity is around 0.4% every year. The results are recorded in the first panel of the following table.

In the second panel, we try to separate the contributions to growth caused by each sector in urban as opposed to rural areas. The sensitivities of national output with respect to growth in urban areas and in rural areas are different. The average growth rates of employment in urban and rural areas are 1.7% and 0.7% respectively from 1990 to 2008. The average growth rate of capital in the same period is 3.38%, which can be separated into the growth in urban areas at the rate of 3.8% as opposed to 2.4% in the rural areas. Following the K&L report (2003), here we assume values representing the sensitivity of national output to changes in the growth rates of employment and capital for urban and rural regions that sum to 0.67 and 0.33 respectively. We also assume that the values for the sensitivity of changes in urban employment and capital are 80% and 75% of the national levels. A further assumption made in the calculation is that 80% of the effects on growth due to total factor productivity advances accrue to urban areas while 20% accrues to rural areas. These assumptions yield the results that 2.11 percentage points will be due to economic growth emanating from urban centers and 0.40 percentage points from rural areas. Therefore, **84.4% of all economic growth in Canada comes from urban areas in the past two decades**.

In a similar way, we also calculated the contribution to the economic growth from Canada's six biggest cities, the VECTOM . The six cities account for 46% of employment in Canada and the employment grows at 1.8% every year which is significantly higher than elsewhere (1.2%). The capital stock is assumed to grow at 4% in VECTOM areas and 2.4% in elsewhere. In the growth accounting equation, we assume the values representing the sensitivities of changes in employment and capital in VECTOM areas are 46% and 60% respectively, and 67% of the effects on growth due to technological innovation accrue to VECTOM while 33% accrues elsewhere. After adjusting the parameter values to capture the changes, we calculate that 1.61 percentage points will be due to economic growth emanating from VECTOM and 0.89 percentage points from all the other areas of Canada. **Thus 64.8% of all economic growth in Canada comes from its six biggest cities and 35.2% from elsewhere**.

PART 4: CONTRIBUTION

Table 13: Growth Accounting of National Output in Canada, 1990-2008

Canada 1990-2008	Growth Rate	Sensitivity	Contribution to Growth	Contribution Share
GDP Growth Rate Average	2.50%			100%
Growth Accounting Identification 1				
Total Factor Productivity (TFP)	0.38%	1.00	0.38%	15.4%
Labor	1.50%	0.67	1.00%	40.0%
Capital	3.38%	0.33	1.12%	44.6%
Growth Accounting Identification 2				
TFP Urban	0.30%	1.00	0.30%	12.2%
TFP Rural	0.08%	1.00	0.08%	3.0%
Labor Urban	1.70%	0.54	0.91%	36.4%
Labor Rural	0.70%	0.13	0.09%	3.8%
Capital Urban	3.80%	0.24	0.90%	35.8%
Capital Rural	2.40%	0.09	0.23%	9.1%
Urban contribution			2.11%	84.4%
Rural contribution			0.40%	15.6%
Growth Accounting Identification 3				
TFP VECTOM	0.25%	1.00	0.25%	10.0%
TFP Non-VECTOM	0.13%	1.00	0.13%	5.2%
Labor VECTOM	1.80%	0.31	0.55%	22.0%
Labor Non-VECTOM	1.20%	0.36	0.44%	17.5%
Capital VECTOM	4.00%	0.20	0.79%	31.7%
Capital Non-VECTOM	2.40%	0.13	0.32%	12.7%
VECTOM contribution			1.61%	64.8%
Non_VECTOM contribution			0.89%	35.2%

Note: 1. Growth accounting identification 1 is the basic equation to calculate the contribution of endowments of growth, where the output growth comes from the growth in total factor productivity, labor, and capital respectively.

2. The second identification of growth accounting further divides the contributions to growth caused by each sector in urban as opposed to rural areas from productivity, labor and capital.

3. The third identification of growth accounting further divides the contributions to growth caused by each sector in VECTOM as opposed to non-VECTOM areas from productivity, labor and capital.

Revenue Growth

Total local government revenues in Alberta increased by an average of 5.6 per cent annually, over the period 1989 to 2008; after adjusting for population growth and inflation local government revenues increased by 0.3 per cent, annually. In this period, the federal and provincial real per capita revenues grew by 1.2 per cent and 0.9 per cent, respectively. The results are shown in Table 15. The analysis shows that in Alberta, the provincial government enjoyed a significantly greater amount of revenue growth than all local governments combined. This results from the province's ability to employ revenue sources that are sensitive to economic growth. Whereas, local governments were largely financed by property tax revenues: a revenue source that grew at a slower pace than the economy. Also, provincial transfer payments to municipal governments were not tied to the rate of inflation. Consequently, this revenue source grew at a much slower rate than the growth rate in provincial government revenues.

The data gives us an idea of the changes of revenues per capita (revenues divided by the working age population) of local, Alberta provincial and federal governments respectively. We can see that federal revenues almost always grow at a higher rate than the local revenues during the past two decades. The provincial revenues in Alberta had a similar growth rate with local revenues during early 1990s. Since 1995, provincial revenues have been growing at a much higher rate, especially after 2004. Clearly, the revenues going to local government grew at a relatively lower rate. In some years, the local revenues even decreased compared to the late 1980s.

Figure 7:
Revenues per capita of local, Alberta and Federal governments

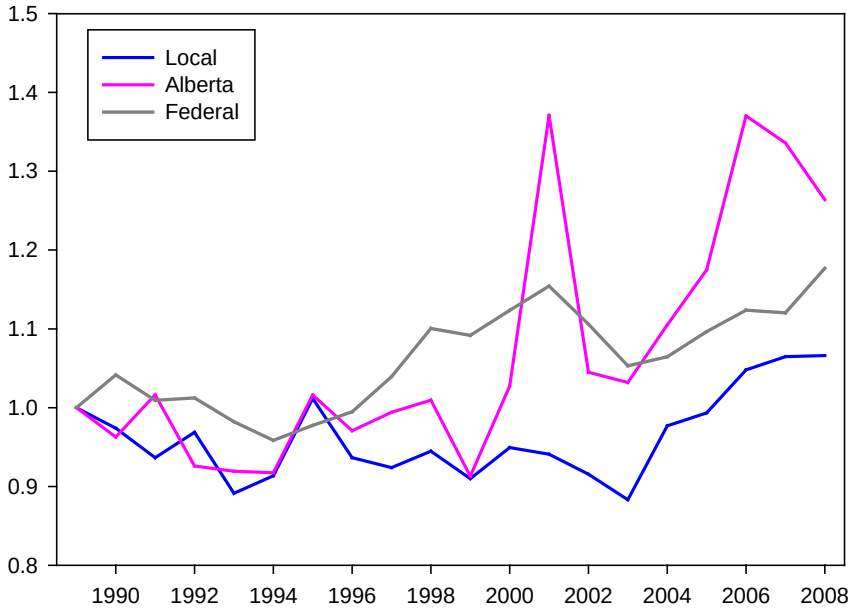


Table 15:
Government Revenues Growth and Per Capita Revenues by Working Age Population

Year	Alberta - Local Government Revenues					Alberta - Provincial Revenues			Canada - Revenues				
	Total Revenues	Working Age Population	CPI	Per capita Revenues	Real per capita Revenues	Total revenues	Per capita Revenues	Real per capita Revenues	Total Revenues	Working Age Population	CPI	Per capita Revenues	Real per capita Revenues
	(000 Dollars)	Persons		(Dollars)	(Dollars)	(000,000 Dollars)	(Dollars)	(Dollars)	(000,000 Dollars)	Persons		(Dollars)	(Dollars)
1989	2,922,639	1,789,135	0.71	1,634	2,301	12,064	6,743	9,497	109,892	20,876,153	0.75	5,264	7,019
1990	3,109,920	1,850,176	0.75	1,681	2,241	12,687	6,857	9,143	120,815	21,186,497	0.78	5,702	7,311
1991	3,230,736	1,897,954	0.79	1,702	2,155	14,473	7,626	9,653	126,441	21,503,615	0.83	5,880	7,084
1992	3,511,763	1,945,188	0.81	1,805	2,229	13,855	7,123	8,793	130,101	21,799,329	0.84	5,968	7,105
1993	3,271,445	1,969,160	0.81	1,661	2,051	13,925	7,072	8,730	130,873	22,075,231	0.86	5,928	6,894
1994	3,521,384	2,018,271	0.83	1,745	2,102	14,593	7,230	8,711	129,277	22,341,873	0.86	5,786	6,728
1995	4,031,604	2,037,270	0.85	1,979	2,328	16,709	8,202	9,649	136,648	22,632,286	0.88	6,038	6,861
1996	3,797,101	2,048,993	0.86	1,853	2,155	16,245	7,928	9,219	142,553	22,942,992	0.89	6,213	6,981
1997	3,948,276	2,110,593	0.88	1,871	2,126	17,535	8,308	9,441	152,541	23,235,600	0.90	6,565	7,294
1998	4,158,781	2,149,803	0.89	1,934	2,174	18,344	8,533	9,587	165,179	23,498,577	0.91	7,029	7,725
1999	4,187,827	2,198,186	0.91	1,905	2,094	17,343	7,890	8,670	169,379	23,768,215	0.93	7,126	7,663
2000	4,605,622	2,219,441	0.95	2,075	2,184	20,570	9,268	9,756	180,336	24,070,955	0.95	7,492	7,886
2001	4,754,669	2,264,244	0.97	2,100	2,165	28,594	12,628	13,019	193,825	24,409,447	0.98	7,941	8,103
2002	4,898,970	2,325,562	1.00	2,107	2,107	23,078	9,924	9,924	192,288	24,770,615	1.00	7,763	7,763
2003	5,074,037	2,400,900	1.04	2,113	2,032	24,471	10,192	9,800	190,914	25,075,486	1.03	7,614	7,392
2004	5,803,970	2,436,037	1.06	2,383	2,248	27,098	11,124	10,494	199,398	25,414,984	1.05	7,846	7,472
2005	6,212,585	2,516,566	1.08	2,469	2,286	30,324	12,050	11,157	212,244	25,770,899	1.07	8,236	7,697
2006	6,838,433	2,532,113	1.12	2,701	2,411	36,909	14,576	13,015	224,834	26,152,719	1.09	8,597	7,887
2007	7,647,237	2,645,236	1.18	2,891	2,450	39,604	14,972	12,688	231,481	26,520,730	1.11	8,728	7,863
2008	8,132,657	2,717,419	1.22	2,993	2,453	39,791	14,643	12,002	253,222	26,888,557	1.14	9,417	8,261
Growth Rate (%)	5.6	2.2	2.9	3.3	**0.3**	6.5	4.2	**1.2**	4.5	1.4	2.2	3.1	**0.9**

Source: Statistics Canada CANSIM Table 385-0024; Corporate Economics.

Table 16:
Government Revenues Growth and Per Capita Revenues by Total Population

Year	Alberta - Local Government Revenues					Alberta - Provincial Revenues			Canada - Revenues				
	Total Revenues	Total Population	CPI	Per capita Revenues	Real per capita Revenues	Total revenues	Per capita Revenues	Real per capita Revenues	Total Revenues	Total Population	CPI	Per capita Revenues	Real per capita Revenues
	(000 Dollars)	Persons		(Dollars)	(Dollars)	(000,000 Dollars)	(Dollars)	(Dollars)	(000,000 Dollars)	Persons		(Dollars)	(Dollars)
1989	2,922,639	2,498,325	0.71	1,170	1,648	12,064	4,829	6,801	109,892	27,276,781	0.75	4,029	5,372
1990	3,109,920	2,547,788	0.75	1,221	1,628	12,687	4,980	6,639	120,815	27,691,138	0.78	4,363	5,594
1991	3,230,736	2,592,306	0.79	1,246	1,578	14,473	5,583	7,067	126,441	28,037,420	0.83	4,510	5,433
1992	3,511,763	2,632,672	0.81	1,334	1,647	13,855	5,263	6,497	130,101	28,371,264	0.84	4,586	5,459
1993	3,271,445	2,667,292	0.81	1,227	1,514	13,925	5,221	6,445	130,873	28,684,764	0.86	4,562	5,305
1994	3,521,384	2,700,606	0.83	1,304	1,571	14,593	5,404	6,510	129,277	29,000,663	0.86	4,458	5,183
1995	4,031,604	2,734,519	0.85	1,474	1,735	16,709	6,110	7,189	136,648	29,302,311	0.88	4,663	5,299
1996	3,797,101	2,775,133	0.86	1,368	1,591	16,245	5,854	6,807	142,553	29,610,218	0.89	4,814	5,409
1997	3,948,276	2,829,848	0.88	1,395	1,585	17,535	6,196	7,041	152,541	29,905,948	0.90	5,101	5,667
1998	4,158,781	2,899,066	0.89	1,435	1,612	18,344	6,328	7,110	165,179	30,155,173	0.91	5,478	6,019
1999	4,187,827	2,952,692	0.91	1,418	1,559	17,343	5,874	6,455	169,379	30,401,286	0.93	5,571	5,991
2000	4,605,622	3,004,198	0.95	1,533	1,614	20,570	6,847	7,207	180,336	30,685,730	0.95	5,877	6,186
2001	4,754,669	3,058,017	0.97	1,555	1,603	28,594	9,351	9,640	193,825	31,019,020	0.98	6,249	6,376
2002	4,898,970	3,128,364	1.00	1,566	1,566	23,078	7,377	7,377	192,288	31,353,656	1.00	6,133	6,133
2003	5,074,037	3,183,396	1.04	1,594	1,533	24,471	7,687	7,391	190,914	31,639,670	1.03	6,034	5,858
2004	5,803,970	3,239,471	1.06	1,792	1,690	27,098	8,365	7,891	199,398	31,940,676	1.05	6,243	5,945
2005	6,212,585	3,322,200	1.08	1,870	1,732	30,324	9,128	8,452	212,244	32,245,209	1.07	6,582	6,152
2006	6,838,433	3,421,253	1.12	1,999	1,785	36,909	10,788	9,632	224,834	32,576,074	1.09	6,902	6,332
2007	7,647,237	3,510,892	1.18	2,178	1,846	39,604	11,280	9,560	231,481	32,927,372	1.11	7,030	6,333
2008	8,132,657	3,585,142	1.22	2,268	1,859	39,791	11,099	9,097	253,222	33,311,389	1.14	7,602	6,668
Growth Rate (%)	5.6	2.3	2.9	3.6	**0.7**	6.5	4.7	**1.8**	4.5	1.2	2.2	3.5	**1.3**

Source: Statistics Canada CANSIM Table 385-0024; Corporate Economics.

PART 4: CONTRIBUTION

In Table 16, we did a robustness check of our results by using the total population instead of working age population. We can see that, our conclusions based on Table 15 are still very significant. The local revenues adjusted by population growth and inflation grew at 0.7% annually from 1989 to 2008. This number is much lower than the growth rates of revenues for Alberta provincial and federal governments, which are 1.8% and 1.3% respectively.

Table 17:
Local revenues per capita and GDP growth in Calgary

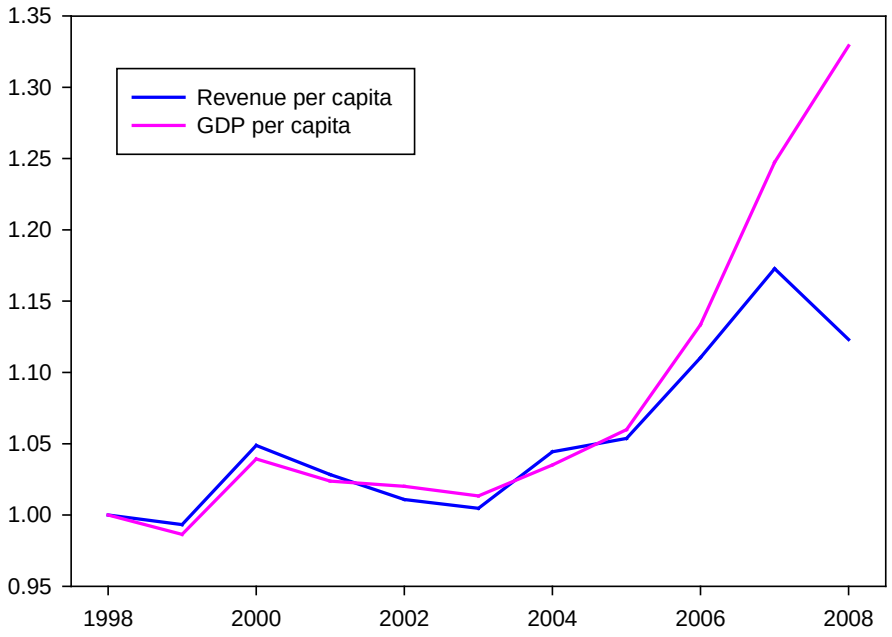
Year	Calgary					Alberta	Federal
	Total Revenues	Working Age Population	CPI	Per capita Revenues	Real per capita Revenues	Real per capita Revenues	Real per capita Revenues
	(000 Dollars)	Persons		(Dollars)	(Dollars)	(Dollars)	(Dollars)
1998	4,158,781	2,149,803	0.89	1,934	2,174	9,587	7,725
1999	4,187,827	2,198,186	0.91	1,905	2,094	8,670	7,663
2000	4,605,622	2,219,441	0.95	2,075	2,184	9,756	7,886
2001	4,754,669	2,264,244	0.97	2,100	2,165	13,019	8,103
2002	4,898,970	2,325,562	1.00	2,107	2,107	9,924	7,763
2003	5,074,037	2,400,900	1.04	2,113	2,032	9,800	7,392
2004	5,803,970	2,436,037	1.06	2,383	2,248	10,494	7,472
2005	6,212,585	2,516,566	1.08	2,469	2,286	11,157	7,697
2006	6,838,433	2,532,113	1.12	2,701	2,411	13,015	7,887
2007	7,647,237	2,645,236	1.18	2,891	2,450	12,688	7,863
2008	8,132,657	2,717,419	1.22	2,993	2,453	12,002	8,261
Growth Rate (%)	5.6	2.2	2.9	3.3	**0.3**	**1.2**	**0.9**

Source: Statistics Canada; ASIST; Corporate Economics.

If we look at the revenues of Calgary, in Table 17, we can see that from 1998 to 2008, the real revenues per capita (real revenues divided by working age population) in Calgary grew at the rate of 1% annually. While during the same period, the real GDP per capita (real GDP divided by working age population) grew mush faster, at 3% every year. This huge difference shows that in Calgary, there is a gap between local economic development and municipal revenue growth. In addition, although the real revenues per capita grew at a similar rate with the federal revenues per capita, it is still lower than the provincial level.

The gap between municipal revenues and economic growth is reflected in the figure below. Between 1998 and 2005, the gap was not significant. The revenues of municipality of Calgary followed the rate of local economic growth. However, after 2005, this gap started growing. In 2008, the real GDP per capita in Calgary was 32% more than its 1998 level, while the real municipal revenues per capita were only 12% higher than that of 10 years ago.

Figure 8:
Growth paths of municipal revenues per capita and GDP per capita in Calgary



PART 5: CONCLUSION

The focus of this study is to identify the importance of cities and their impact on local and national economy in Canada. The evidence from the six biggest cities, i.e., the VECTOM, shows that cities have advantages in generating employment opportunities, attracting immigration, facilitating technology innovation and development, and promoting economic growth. In the past two decades, two thirds of the economic growth in Canada was generated in its six biggest metropolitan areas and about 80% of the growth comes from the urban areas in total. More than 94 per cent of the immigrants chose to live in 43 cities across the country every year over the past ten years. Cities are more capable of competing internationally for financial capital and skilled labor, which make them the engines of economic growth and development in Canada.

Cities are becoming more and more important because of the following reasons. Firstly, they have the comparative advantages over rural areas in sharing large fixed costs and the gains of variety. The high concentration of cities also provides the possibility of sharing trade costs and labor pooling. Secondly, cities are more efficient in matching work opportunities of business companies and the employment of labor force in Canada. Thirdly, Canadian cities play an important role in knowledge generation, accumulation and diffusion because diversified urban environments facilitates research and experimentation in innovation.

The implication of this study for The City of Calgary is that the municipal government must prove itself to be more and more capable of competing with international cities in attracting foreign capital, skilled labor and other endowments and resources. It is very important to broaden the City's revenue base and to increase its revenue generation powers. In this way, The City of Calgary can grow faster and become a stronger engine for both local and national economy.

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