

Calgary's Economic Performance: 2001-2011

Executive Summary

- ▶ Alberta benefited from a resource boom in the 2001-2011 period as higher energy sales and prices boosted energy companies' cash flow.
- ▶ Higher cash flow stimulated business investment spending throughout the economy, thus increasing the overall levels of output and employment in Alberta.
- ▶ Calgary which is home to the energy industry benefited significantly from the spin-off effects of the resource boom.
- ▶ The Calgary Economic Region led the province and nation in most broad measures of economic growth.
- ▶ The resource boom resulted in a significant increase in The City's revenue bases (property tax & non-tax).

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Briefing Note

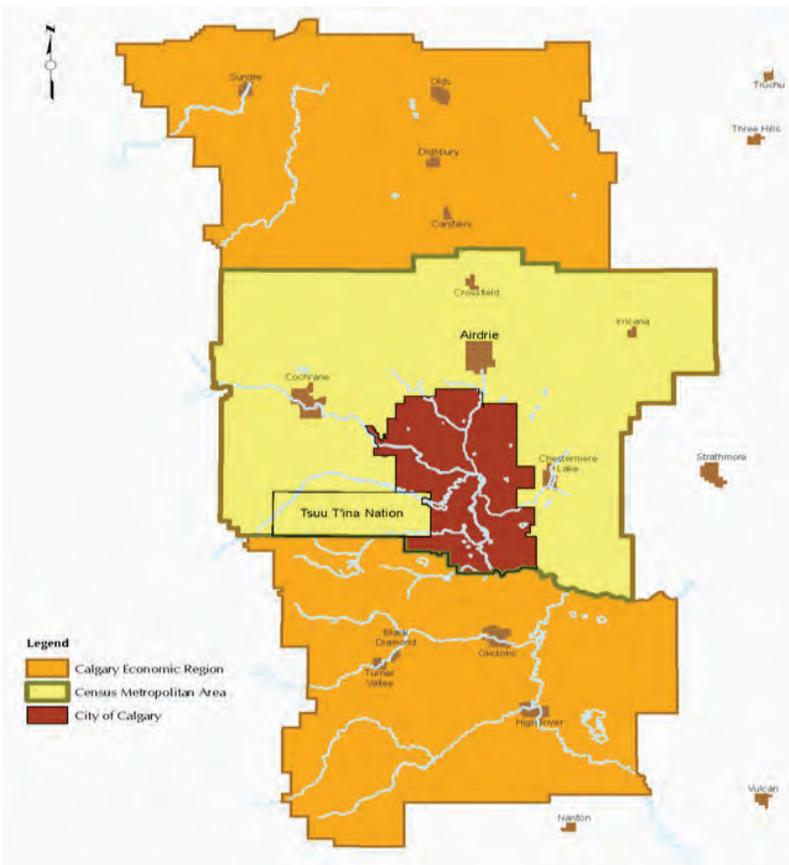
Introduction

The aim of the document is to review Calgary's performance over the 2001-2011 period, this is done by comparing the local economy against those of the province and country. The report attempts to answer the following questions:

- ▶ How fast did Calgary grow over the 2001-2011 period?
- ▶ How did this growth rate compare to those of the province and country?
- ▶ What industries is the region specialized in?
- ▶ How has economic growth affected the municipality's property tax revenue base?

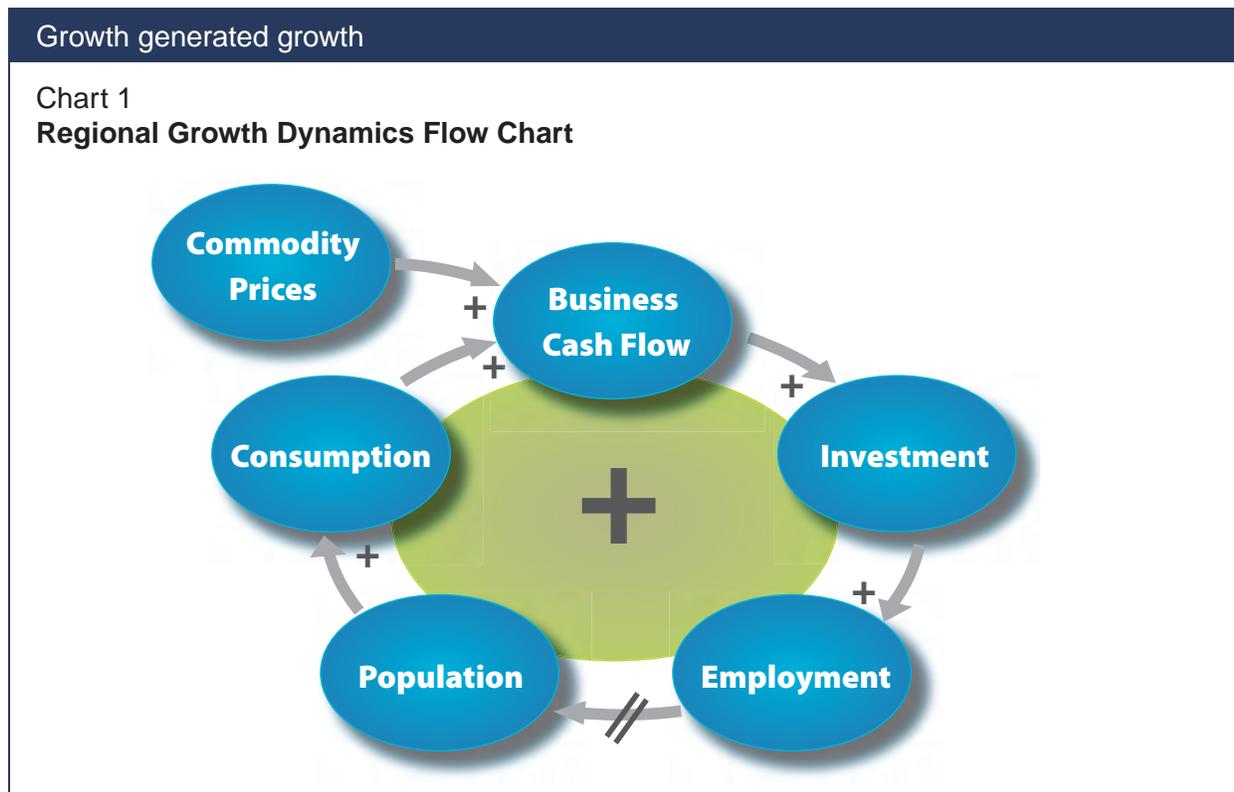
Calgary Economic Region

Businesses are often located in one municipality while their customers live in another and individuals live in one municipality and work in another. Also, recreation and sporting events generally cater to a regional rather than a local audience. These arrangements are common characteristics of a modern society, where specialization of economic and social activities is the norm. The geographic area is bound together by various transportation and communication links.



Regional Growth Dynamics

Economic growth in the local economy can be explained by the diagram below. Strong demand for energy from a growing world economy resulted in increased cash flow for businesses and the provincial government. This revenue created the basis for a sharp increase in investment spending which, resulted in increased output and job creation. In turn, higher output levels created a robust demand for labour and drove regional unemployment to relatively low levels. This resulted in increased net migration to the region inducing population growth. Strong population growth along with growing labour income drove house prices and consumer spending higher which further increased business cash flow. Growth resulted in further growth. The chart below serves as template for guiding the discussion of the region's economic performance over the 1999-2009 period. This template serves as a reminder that local economic activity is influenced by the region's ability to export to the world outside its borders.





Briefing Note

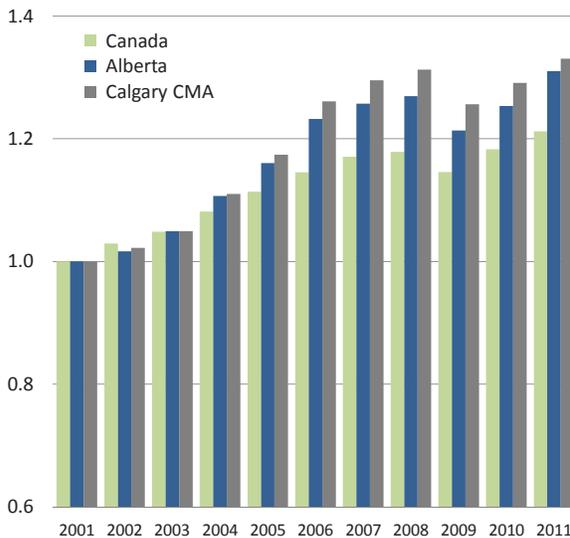
Real GDP Growth

- ▶ Gross domestic product (GDP) is the broadest measure of economic activity. It represents the sum of all goods and services that is produced by an economy over a given time.
- ▶ The Canadian economy expanded by 21 per cent over the 2001-2011 period. In this period, Alberta grew by 31 per cent and the Calgary Census Metropolitan Area (CMA) by 33 per cent.
- ▶ The consumer sector is the largest sector in the Canadian economy representing roughly 60 per cent of GDP. Calgary's consumption/GDP ratio was similar to the national average.
- ▶ Retail sales, adjusted for inflation, grew by 23 per cent in Canada between 2001 and 2011, while Alberta and Calgary grew by 42 and 41 per cent respectively. Consumer spending was therefore a major contributor to Calgary's economic performance.

Consumer spending a major driver.

Chart 2
Canada, Alberta and Calgary CMA:
Real GDP Growth

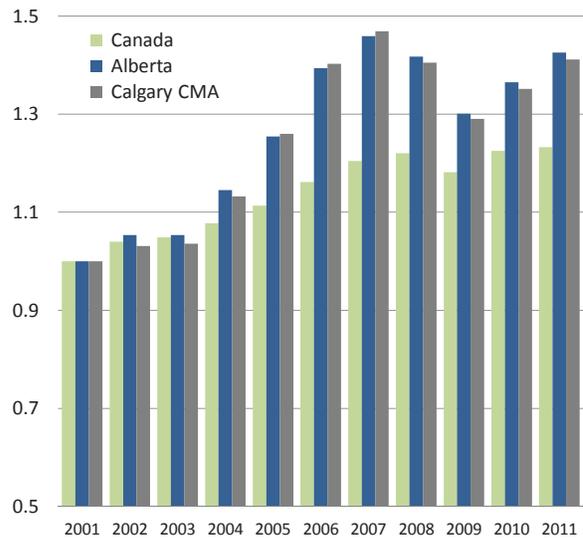
index, 2001 = 1



Source: Conference Board of Canada; Corporate Economics

Canada, Alberta and Calgary CMA:
Real Retail Sales

index, 2001 = 1

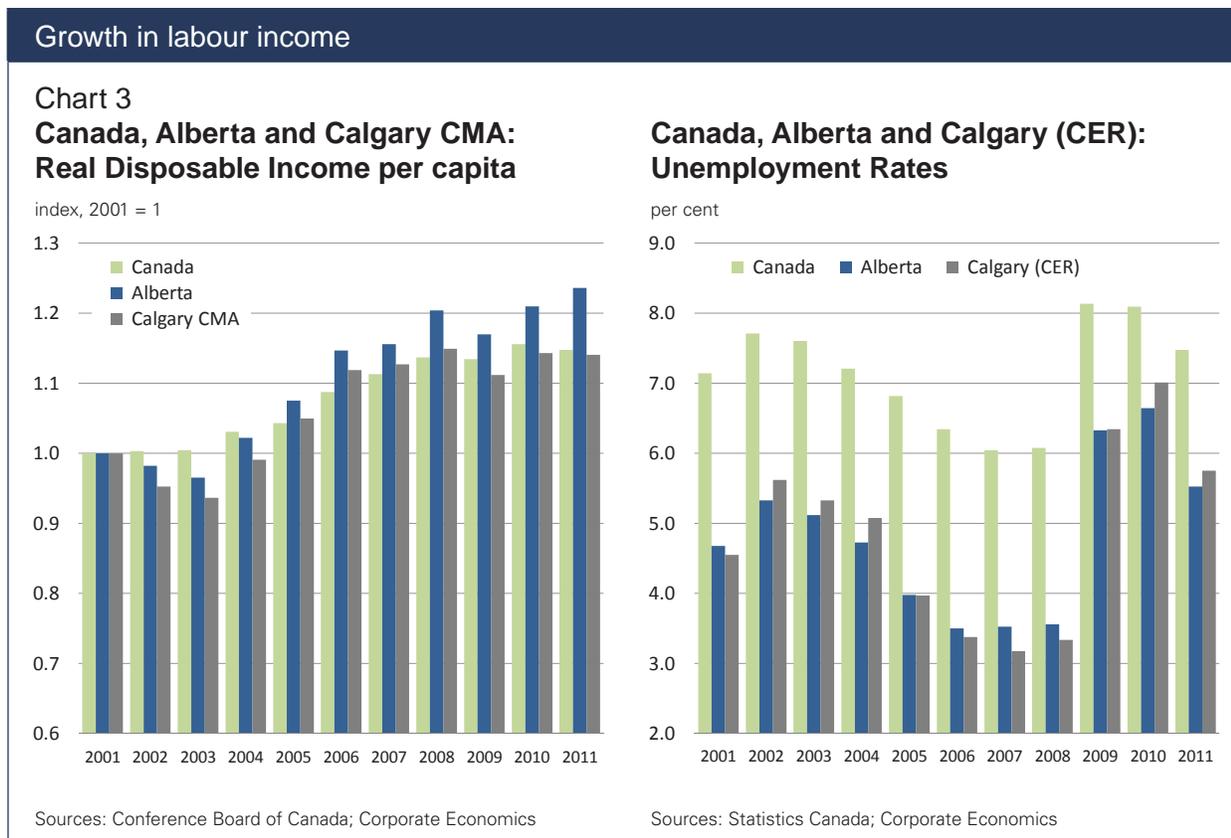


Source: Conference Board of Canada; Corporate Economics

Briefing Note

Real Personal Disposable Income

- ▶ Calgary's real personal disposable income per capita was higher than Canada's. This is explained by the difference in the industry mix between Calgary and the rest of Canada. Calgary had a higher proportion of jobs in industries that enjoyed larger output/employee ratios than the rest of Canada. Other primary and utilities are examples of sectors that are concentrated in Calgary and have higher output/employment ratios.
- ▶ Calgary has the second highest concentration of head offices in Canada and consequently, has a large number of professionals who provide support to those offices. Also, those professions tend to have a high educational and training requirement and therefore, compensation in Calgary is influenced by the city's head office presence.





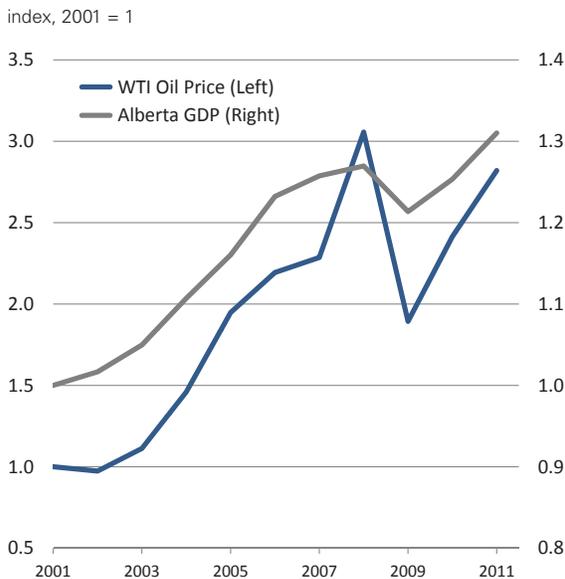
Briefing Note

Investment Activity

- ▶ In the 2001-2011 period, world commodity prices rose in response to increasing economic growth in the emerging economies. Increased demand for commodities resulted in increased price pressures. For example, between 2001 and 2011, the price for West Texas Intermediate oil climbed from \$25.92 (US per barrel) to \$95.01 (US per barrel). Adjusted for inflation, oil prices grew by 182 per cent over the review period.
- ▶ Investment intentions in Alberta adjusted for inflation, rose by 72 per cent between 2001 and 2011. Investment spending rose in response to higher commodity prices.
- ▶ In this period, Alberta's provincial GDP, rose 38 per cent, from \$141.9 billion in 2001 to \$185.9 billion by 2011. Investment spending was an important contribution to the GDP growth.

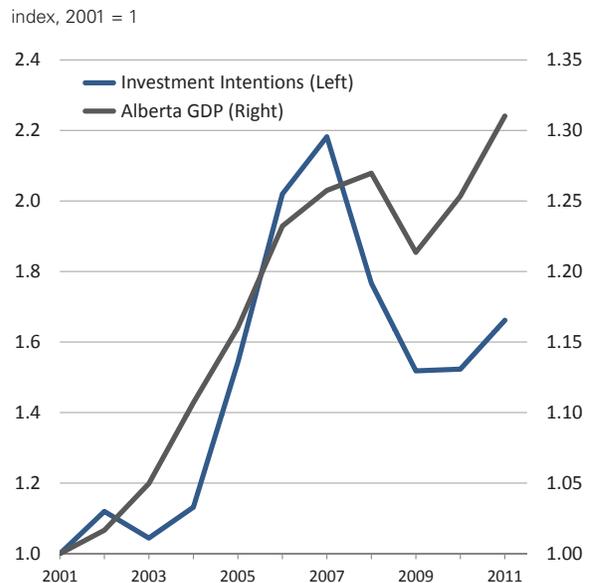
Significant increase in commodity prices

Chart 4
WTI Oil Price and Alberta GDP
(adjusted for inflation)



Sources: Conference Board of Canada; Corporate Economics

Alberta: Investment Intentions and GDP
(adjusted for inflation)

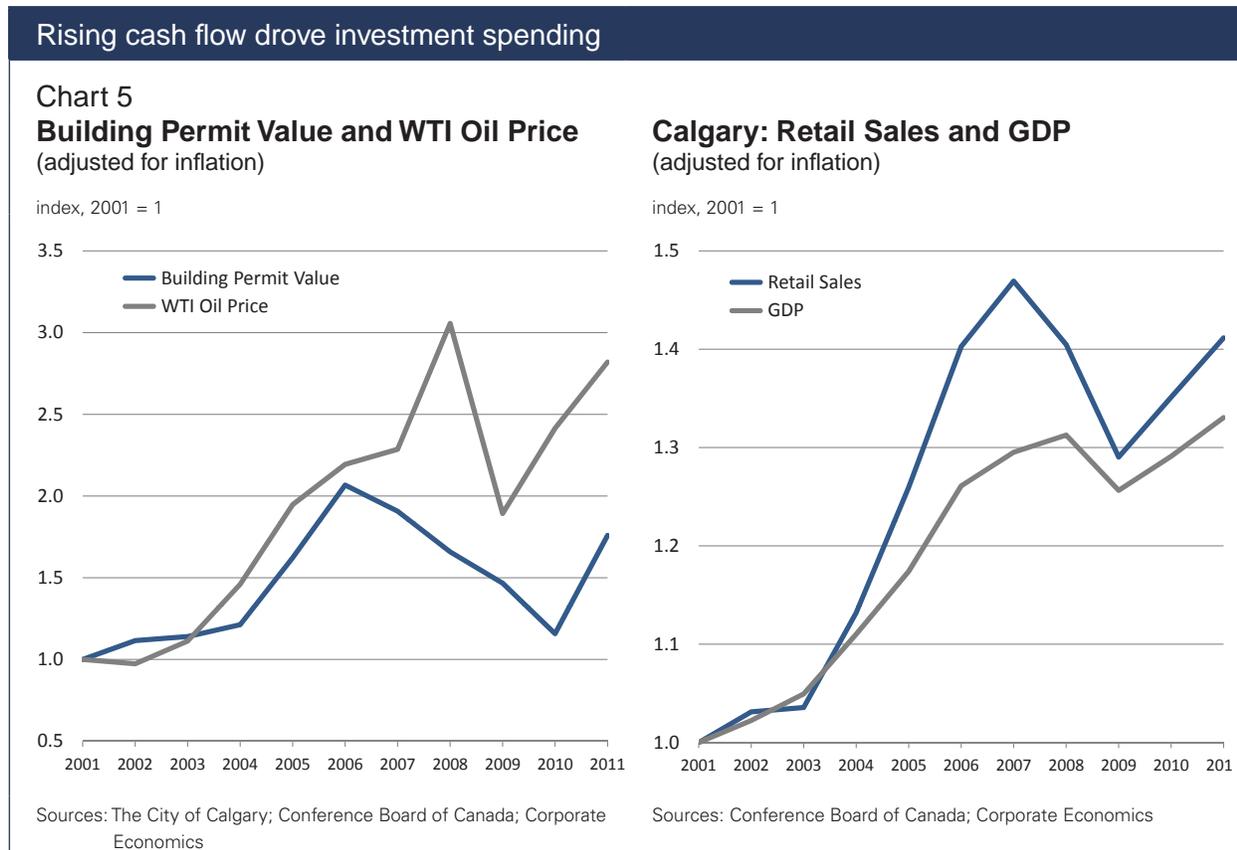


Sources: Statistics Canada; Conference Board of Canada; Corporate Economics

Briefing Note

Building Permit Values and West Texas Intermediate Oil Price

- ▶ The resource boom was quite visible in Alberta's cities, where high oil prices were accompanied by sharp increases in investment intentions. For example, the city of Calgary's total building permit values, adjusted for inflation, rose by 76 per cent while oil prices adjusted for inflation rose by 182 per cent.
- ▶ High oil prices drove investment spending in northern Alberta creating a number of spin-off effects in Calgary and throughout Alberta. Increased labour incomes drove consumer spending and thus further increasing the overall rate of economic growth.



Briefing Note

Calgary Economic Region Location Quotients: 2011

The table below compares the employment by industry distribution in the Calgary Economic Region against that for Canada as a whole. The results of the comparisons are summarized in column four, which is labelled location quotients. The results are tabulated by dividing the percentage of employment in a given industry in Calgary by the equivalent distribution in Canada as a whole. A result that is greater than one implies that the local economy has a greater concentration of employment in that industry than Canada as a whole. The analysis shows that Calgary is specialized in industries such as oil and gas extraction, construction, air transportation, and architectural, engineering and design services.

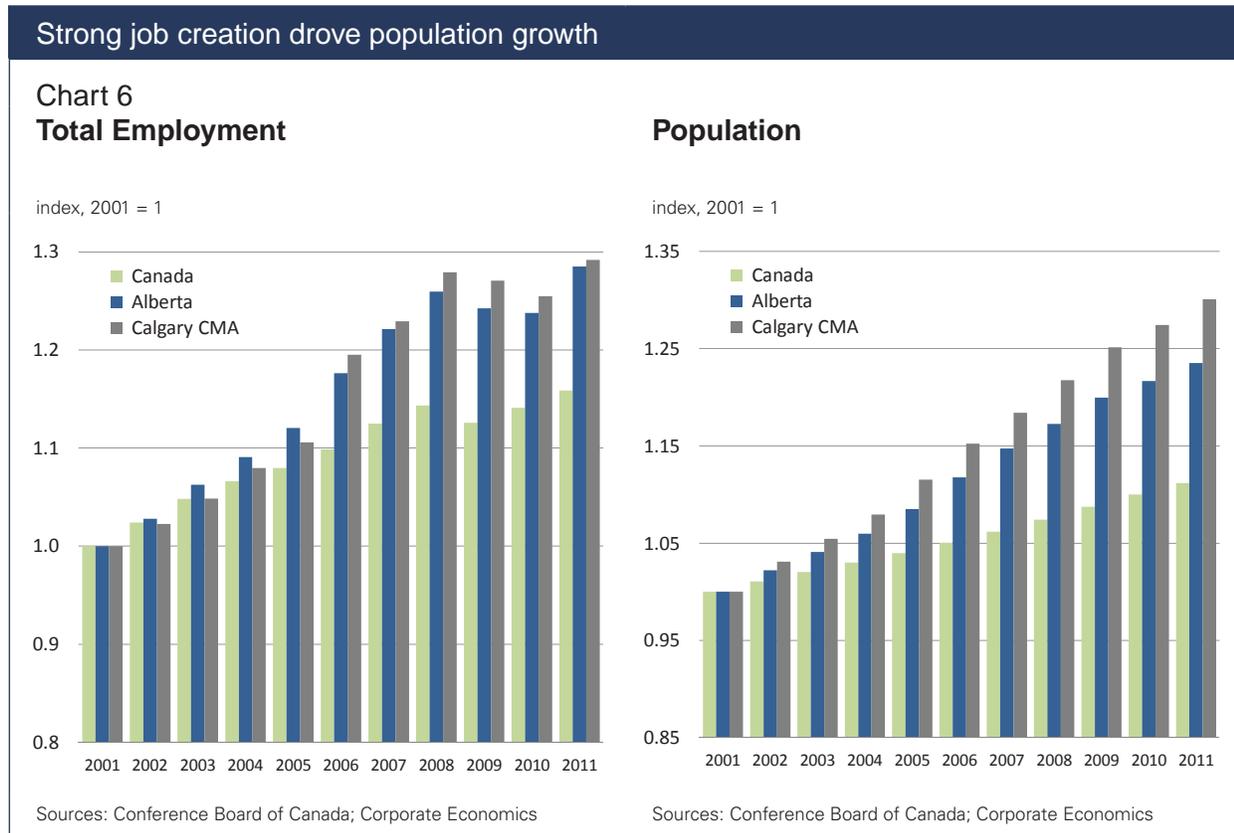
Description	2011 % Dist Calgary	2011 % Dist Canada	Location Quotients
Agriculture	0.73	1.77	0.41
Forestry, Fishing, Mining, Oil and Gas	6.82	1.94	3.52
Mining and Oil and Gas Extraction	6.79	1.56	4.36
Utilities	0.75	0.81	0.92
Construction	9.69	7.28	1.33
Manufacturing	6.83	10.20	0.67
Trade	14.98	15.45	0.97
Transportation and Warehousing	5.46	4.88	1.12
Air Transportation	0.77	0.37	2.07
Truck Transportation	1.31	1.56	0.84
Finance, Insurance, Real Estate and Leasing	5.37	6.28	0.85
Professional, Scientific and Technical Services	11.57	7.54	1.53
Legal Services	0.91	0.91	1.00
Architectural, Engineering and Design Services	5.35	1.95	2.74
Computer System Design Services	1.62	1.65	0.98
Management, Scientific and Technical Services	1.62	1.11	1.46
Other Professional Services	2.07	1.92	1.08
Business, Building and Other Support Services	3.72	3.93	0.95
Educational Service	5.62	7.05	0.80
Health Care and Social Assistance	10.28	12.07	0.85
Information, Culture and Recreation	4.67	4.54	1.03
Accommodation and Food Services	5.99	6.29	0.95
Other Services	4.36	4.37	1.00
Public Administration	3.18	5.61	0.57

Sources: Statistics Canada; CANSIM; Corporate Economics

Briefing Note

Labour Market

- ▶ Total employment in Calgary grew by 29 per cent between 2001 and 2011. In this period, Alberta's and Canada's employment grew by 30 and 18 per cent respectively. Strong investment spending and output growth in Alberta and Calgary contributed to an equally strong demand for labour, pushing the unemployment rate to relatively low levels.
- ▶ Low unemployment rates in Calgary and Alberta served as a major attractor for job seekers from the rest of Canada. Consequently, Calgary's and Alberta's population growth rates exceeded the national population growth rate.
- ▶ Net migration was the major source of population growth in the Calgary CMA accounting for about two-thirds of total population growth in the 2001-2011 period.





Briefing Note

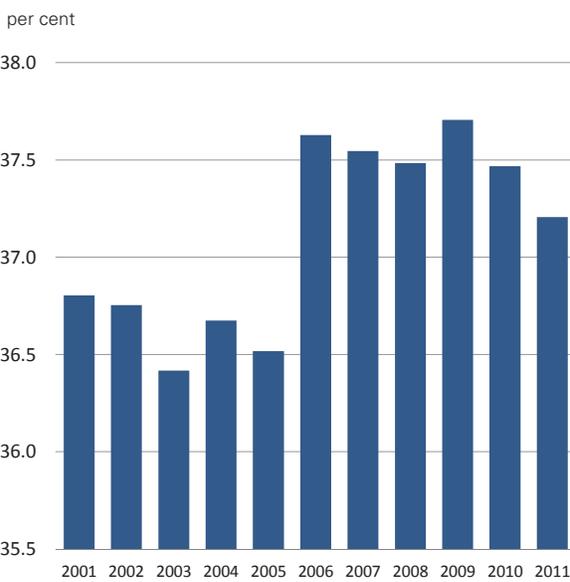
Calgary's Share of Alberta's Employment

- ▶ In 2001, the Calgary Economic Region's employed labour force was estimated at 599,100 persons and by 2011 it increased to 776,100. Employment therefore grew by 29.5 per cent over the review period or annually by 2.9 per cent. In this period, total provincial employment increased by 458,200 or by 28.2 per cent.
- ▶ In 2001, the Calgary Economic Region was home to 36.8 per cent of the province's employed labour force, increasing to 37.2 per cent by 2011. This occurred because Calgary's employment growth rate exceeded that of the rest of the province.
- ▶ Employment in the rest of Alberta grew by 30.6 per cent between 2001 and 2011 while employment in Calgary increased by 29.5 per cent.

Job growth in Calgary outpaced the provincial average

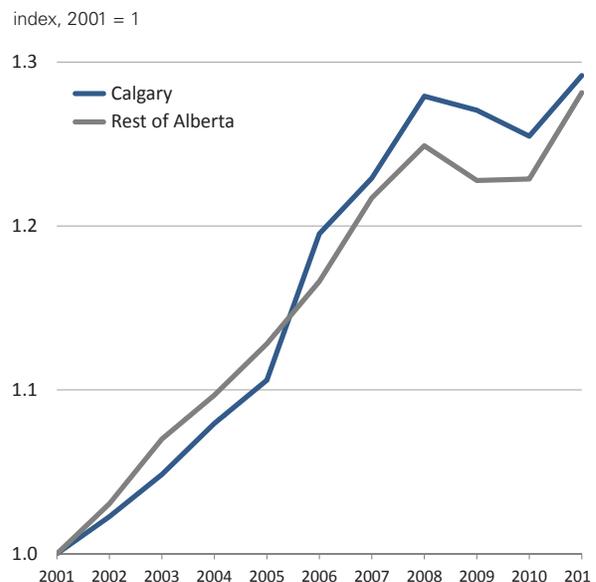
Chart 7

Calgary's Share of Alberta's Employment



Sources: Statistics Canada; CANSIM; Corporate Economics

Calgary vs. rest of Alberta: Employment Growth



Sources: Statistics Canada; CANSIM; Corporate Economics

Briefing Note

Calgary CER: Employment by Industry

- ▶ In this period, the Calgary Economic Region accounted for 39 per cent of all new jobs created in the province. This is a good performance, given that the region has close to one third of the province's population.
- ▶ The largest number of the jobs created in the 2001-2011 period were in health care and social assistance (30,300), trade (29,600) and construction (28,300). The industries experiencing the lowest levels of job increase were manufacturing (-1,600), agriculture (100) and utilities (700).

Industry	2001	2011	Difference 2011-2001
	('000 Persons)	('000 Persons)	('000 Persons)
All Industries	599.1	776.1	177.0
Agriculture	5.6	5.7	0.1
Forestry, Fishing, Mining, Oil and Gas	35.7	52.9	17.3
Utilities	5.1	5.8	0.7
Construction	46.9	75.2	28.3
Manufacturing	54.6	53.0	-1.6
Trade	86.6	116.2	29.6
Transportation and Warehousing	40.4	42.4	2.0
Finance, Insurance, Real Estate and Leasing	33.6	41.7	8.0
Professional, Scientific and Technical Services	72.3	89.8	17.5
Business, Building and Other Support Services	20.5	28.9	8.4
Educational Services	31.8	43.6	11.8
Health Care and Social Assistance	49.5	79.8	30.3
Information, Culture and Recreation	33.6	36.2	2.6
Accommodation and Food Services	39.3	46.5	7.2
Other Services	26.4	33.8	7.5
Public Administration	17.4	24.7	7.3

Sources: Statistics Canada; CANSIM; Corporate Economics

Briefing Note

Population Change

- ▶ Population growth over time is determined by in migration, out migration, births and deaths. The difference between in migration and out migration is referred to as net migration and that between births and deaths as natural increase.
- ▶ Net migration, particularly net inter-provincial migration, tends to be sensitive to economic conditions. Good job prospects act as a major draw to the region for individuals seeking employment. Net migration therefore tends to be volatile as it fluctuates with changes in the economy. Natural increase is generally influenced by the size and age composition of the population and therefore tends to be relatively more stable than net migration over time.

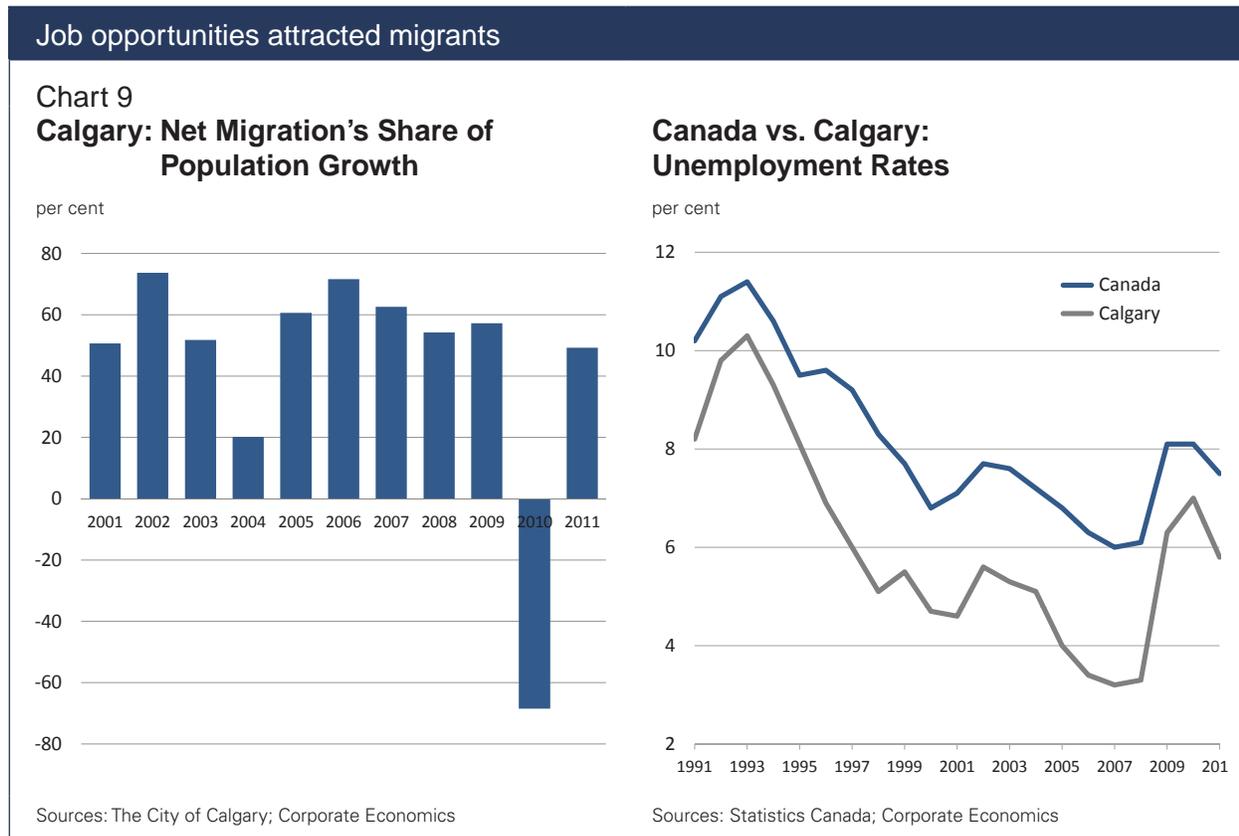
Labour market conditions drives net migration

Chart 8
Regional Growth Dynamics Flow Chart



Net Migration's Share of Population Growth

- ▶ Net migration is influenced by economic and social conditions in the sending and receiving areas. Conditions that cause individuals to migrate out of the area are generally referred to as the push factors, while conditions that cause people to come to an area are referred to as the pull factors.
- ▶ Over the period review period, net migration was the major source of population growth in the city of Calgary. A strong labour market created an increasing demand for workers and therefore drawing job seekers from the rest of Canada to Calgary.





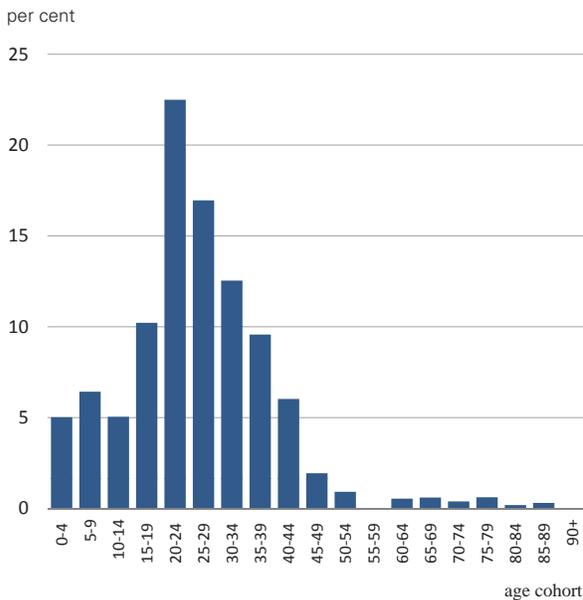
Briefing Note

Net migration and relative unemployment rate

- ▶ The unemployment rate in Calgary and Canada could be used as proxies to represent the pull factors in Calgary and the push factors in Canada respectively. The data in the chart on the preceding page shows the unemployment rate in Calgary was consistently below that for Canada for the period 1991 - 2011. From the job seekers' perspective, Calgary offered a better chance of finding employment than elsewhere.
- ▶ The data analysis shows that there is a negative correlation between net migration and the relative unemployment rate. When the unemployment rate in Calgary is high relative to Canada as a whole, net migration in Calgary tends to be lower than when the Calgary unemployment rate is low.
- ▶ The migrants who came to Calgary were generally young and of the childbearing age. This contributed both directly and indirectly to current and future population and economic growth.

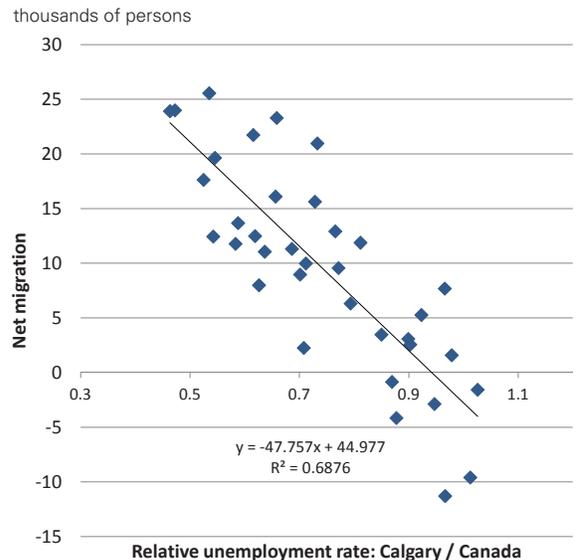
Tight labour market attracted migrants

Chart 10
Calgary CMA: Age Distribution of Net Migrants (1996-2011)



Sources: Statistics Canada; Corporate Economics

Calgary: Net Migration and Relative Unemployment Rate (1976-2011)

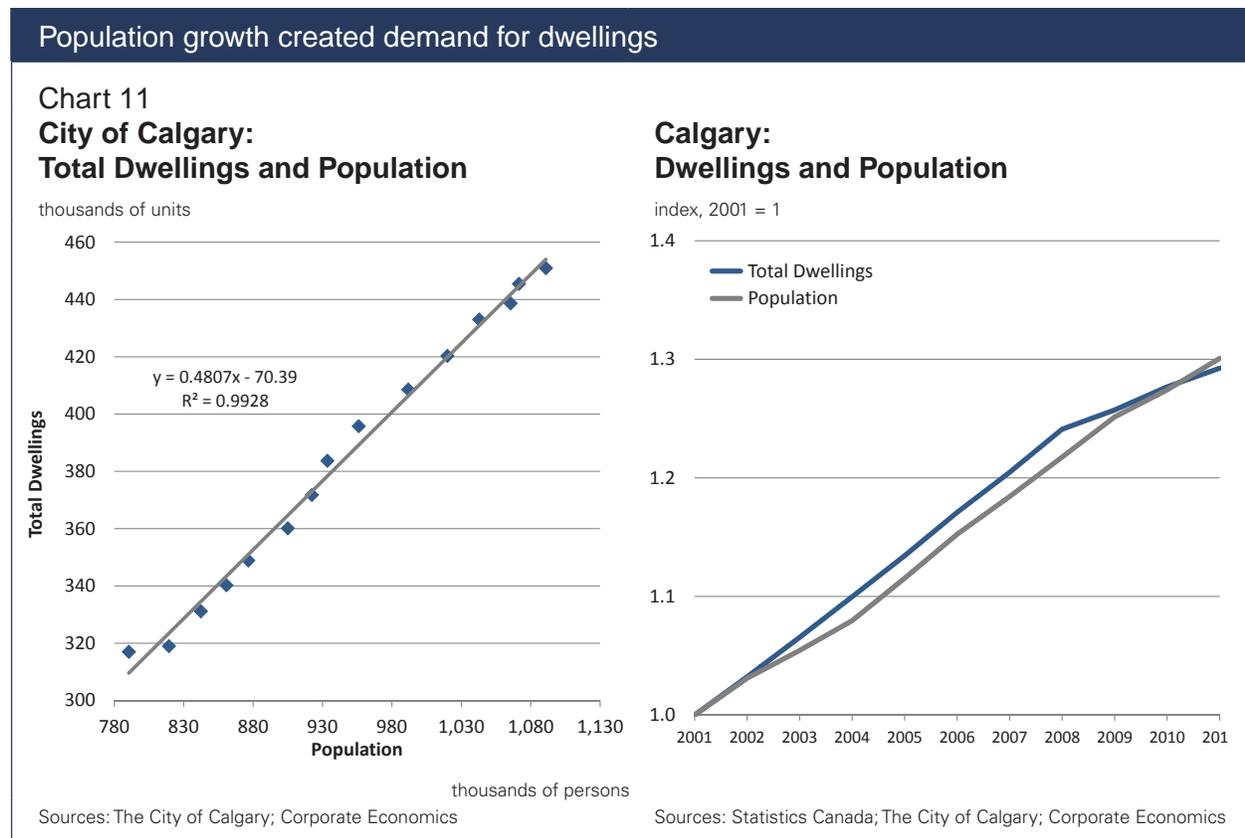


Sources: The City of Calgary; Statistics Canada; Corporate Economics

Briefing Note

Total Dwellings

- ▶ Between 2001 and 2011, the city of Calgary’s population increased by roughly 24.5 per cent. In this period, the dwelling stock grew by 29 per cent, much faster than population growth.
- ▶ In this period, the number of occupied dwellings increased to 422,290 in 2011, up from 339,516 in 2001. This resulted in the number of unoccupied dwellings growing from 7,87 units in 2001 to 28,662 units in 2011, with some fluctuation.
- ▶ The average household size fluctuated around 2.58 over the 2001-2011 period; rising and falling with the unemployment rate. Unemployed individuals tend to, abandon their homes, move in with friends and relatives during periods of high unemployment and move out, to form their own households, during periods of low unemployment.





Briefing Note

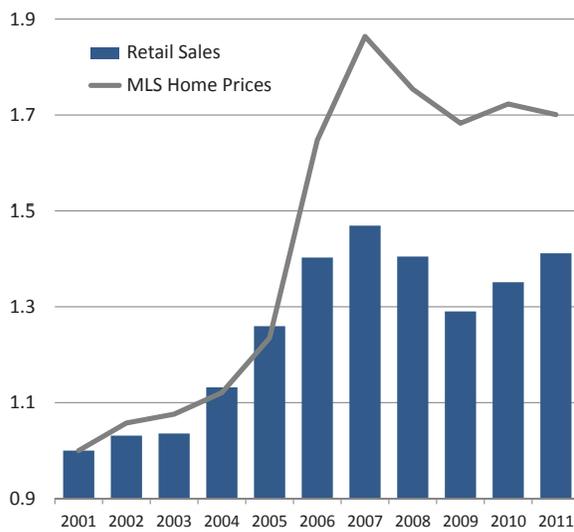
Population Growth and MLS Prices

- ▶ The analysis of the population and housing relationship charted on the previous page shows a strong correlation between the city’s population size and the housing stock. Population increase created a growing need for shelter resulting in an increase in the supply of housing units.
- ▶ The growth in consumer spending is generally influenced by the growth in income and wealth. The family home represents a significant portion of the average household’s balance sheet and consequently the growth in house prices contributed to the growth in consumer spending. The average resale price, adjusted for inflation, of a house in Calgary increased by 70 per cent between 2001 to 2011. In this period, real consumer expenditure grew by 41 per cent.

Consumer spending driven by wealth increase

Chart 12
Calgary: Retail Sales and MLS Prices
 (adjusted for inflation)

index, 2001 = 1

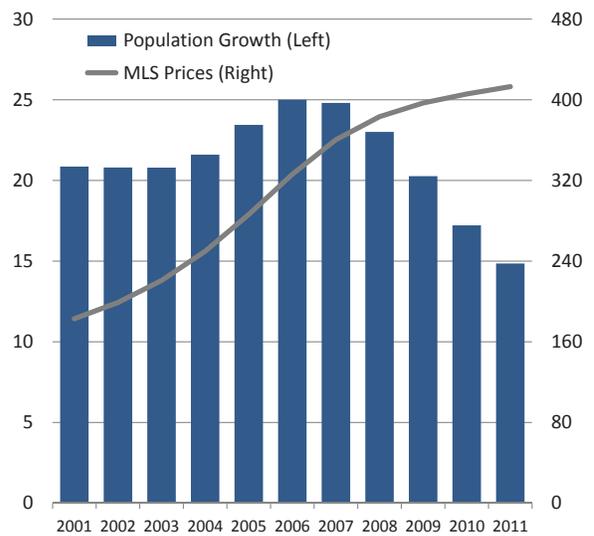


Sources: Conference Board of Canada; CREB; Corporate Economics

City of Calgary: Population Growth and MLS Prices - Trend Analysis

thousands of persons

thousands of dollars

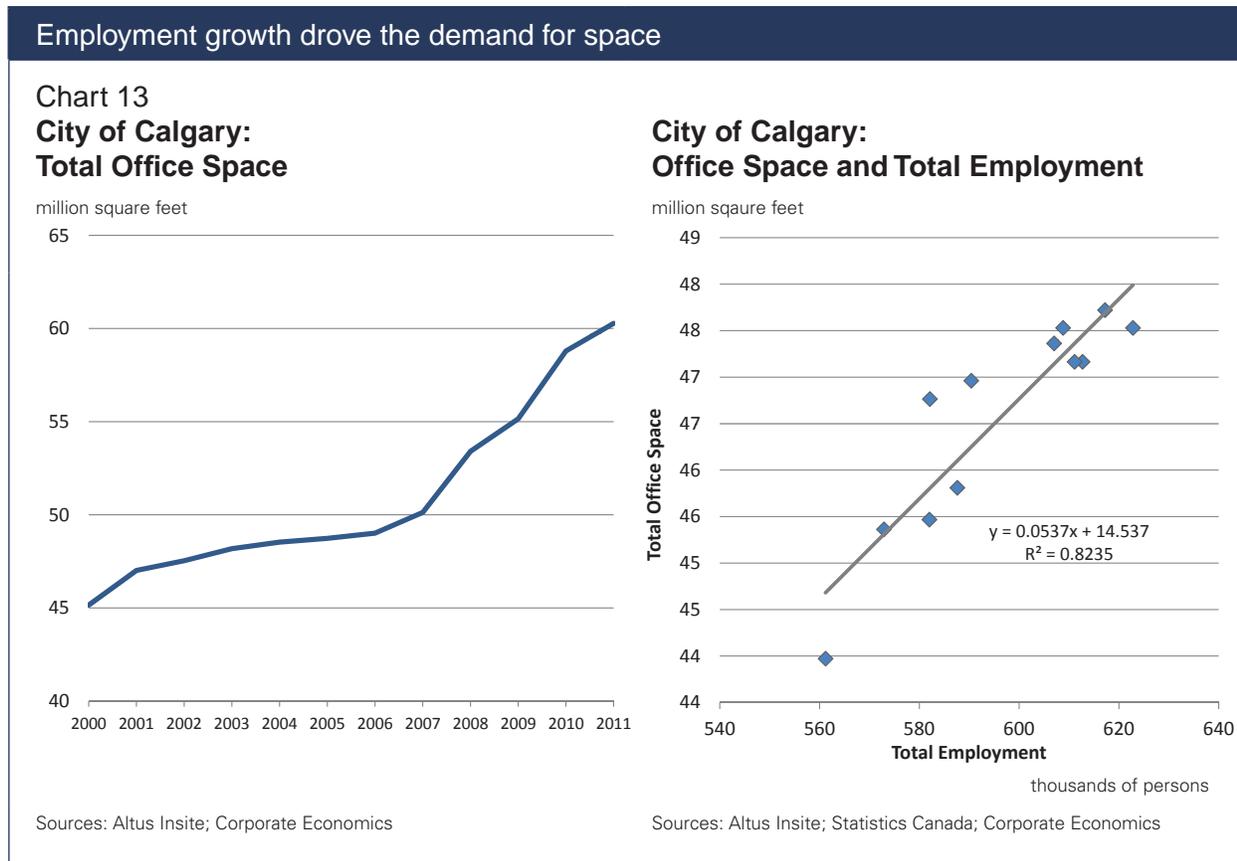


Sources: The City of Calgary; CREB; Corporate Economics

Briefing Note

Total Office Space

- ▶ The growth in total employment created an increase in the demand for non-residential space. The chart below shows a positive correlation between total employment and the total office space in the city of Calgary. Higher employment levels were accompanied by higher levels of office space.
- ▶ For example, total employment in the Calgary Economic Region increased by 177,000 between 2001 and 2011, and employment in the service producing sector grew by 132,200. In this period, total office space inventory grew by 15 million square feet.





Briefing Note

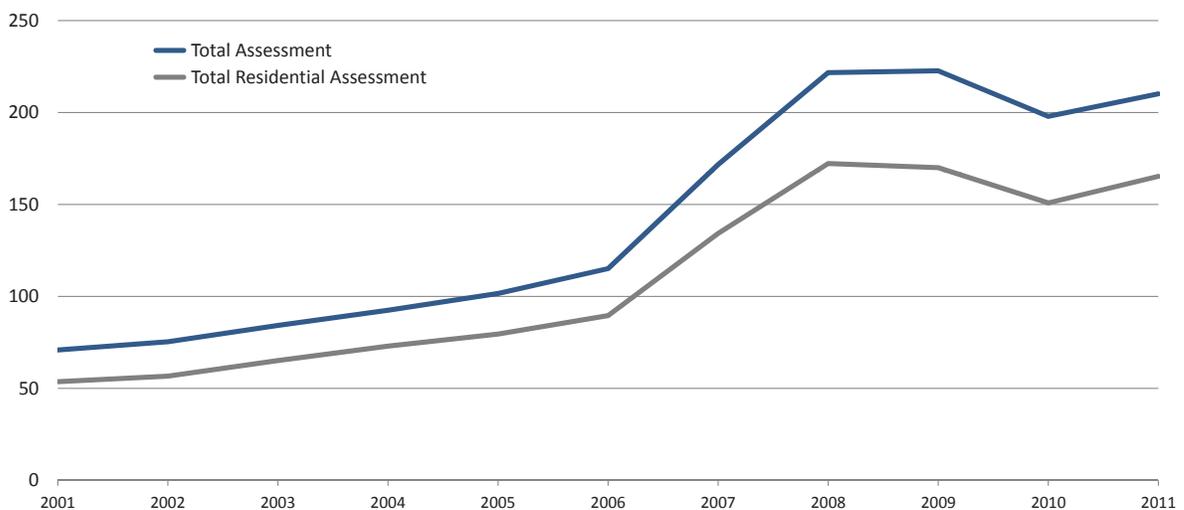
Assessment Values

- ▶ The economy and the stock of building space formed a causal loop over time. For example, increased economic growth resulted in population and employment growth which created a need for space. The construction activity that ensued resulted in higher levels of economic activity and this induced further construction activity which added to the stock of building space.
- ▶ In this period, economic growth created excess demand for space which resulted in price inflation and this caused the price for space to grow over time.
- ▶ The combination of growth in building space and growth in the price for this space caused the market value for property to increase over time.

Economic growth drove the demand for space

Chart 14
**City of Calgary:
Assessment Values**

billions of dollars



Sources: The City of Calgary (Annual Reports); Corporate Economics

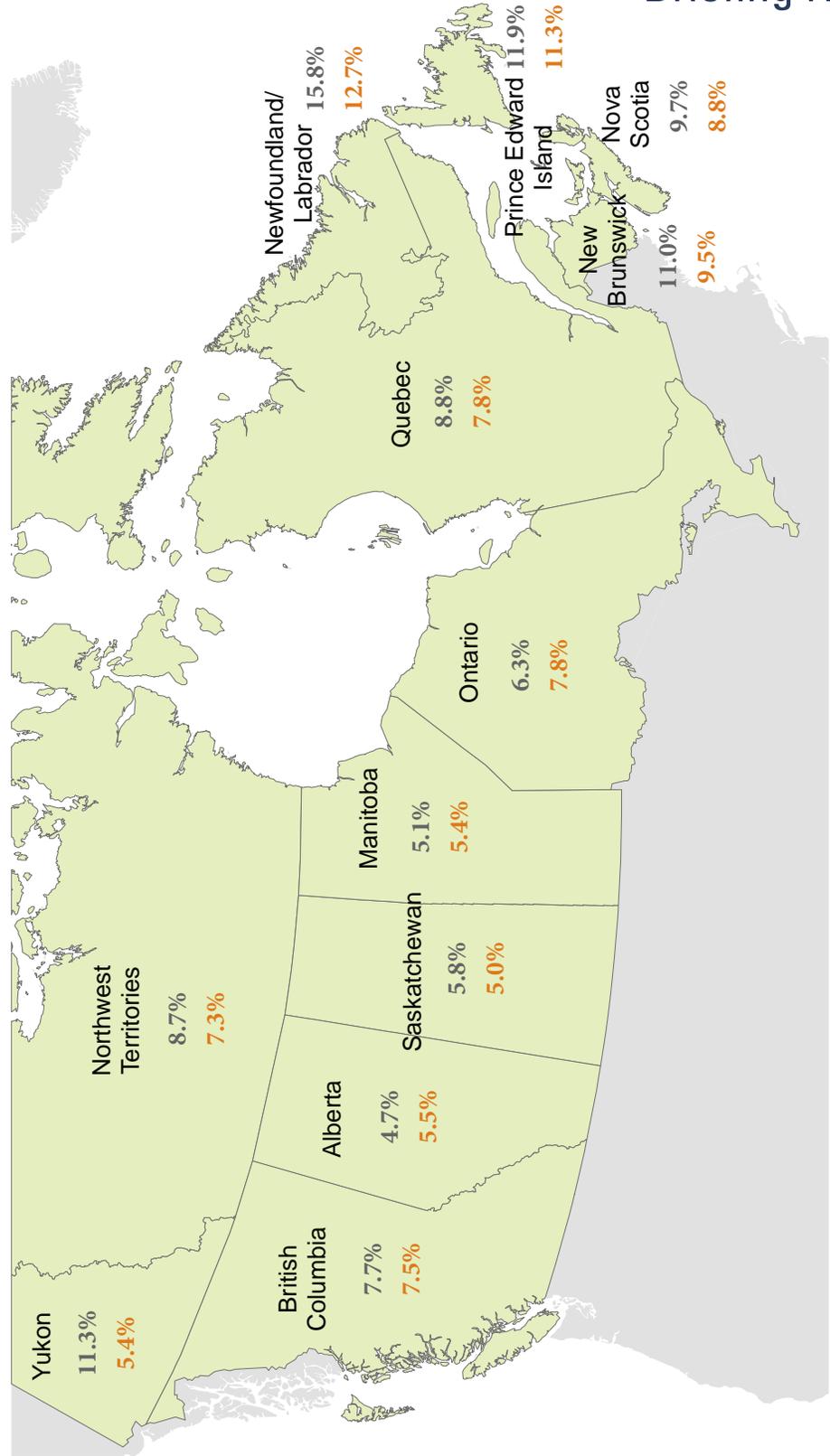
Briefing Note

Unemployment Rates across Canada, 2001 vs. 2011 (per cent)

Canada

2001 7.1%

2011 7.5%



Who We Are

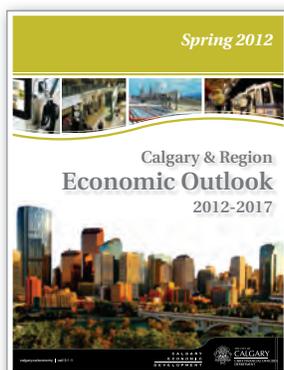
Corporate Economics provides services in four areas: forecasting, information provision, policy analysis and consulting. We also monitor the current economic trends which allows us to develop unique insights on how external events are impacting the local economy and the Municipal government. We are experienced at researching different economic topics and developed reliable methods of forecasting and analysis.

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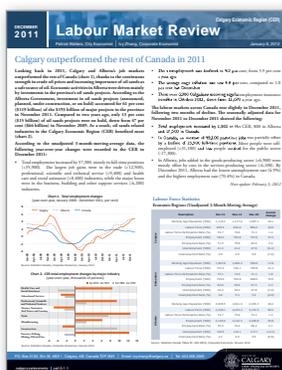
Many of our publications are available on the internet at www.calgary.ca/economy.

Forecasting



- ▶ Calgary & Region Economic Outlook
- ▶ Energy Reports on Natural Gas and Crude Oil

Information Provision



- ▶ Labour Market Review
- ▶ Inflation Review
- ▶ Current Economic Analysis
- ▶ Construction Inflation

Policy Analysis



- ▶ A Case of Fiscal Imbalance: The Calgary Experience
- ▶ Diesel Fuel Price Pass-Through in Calgary
- ▶ Calgary Residential and Commercial Real Estate Markets

Corporate Research Analyst: Estella Scruggs

Sources:

Statistics Canada, Conference Board of Canada, GLJ Energy Publications, The City of Calgary, CMHC, CREB, and others.