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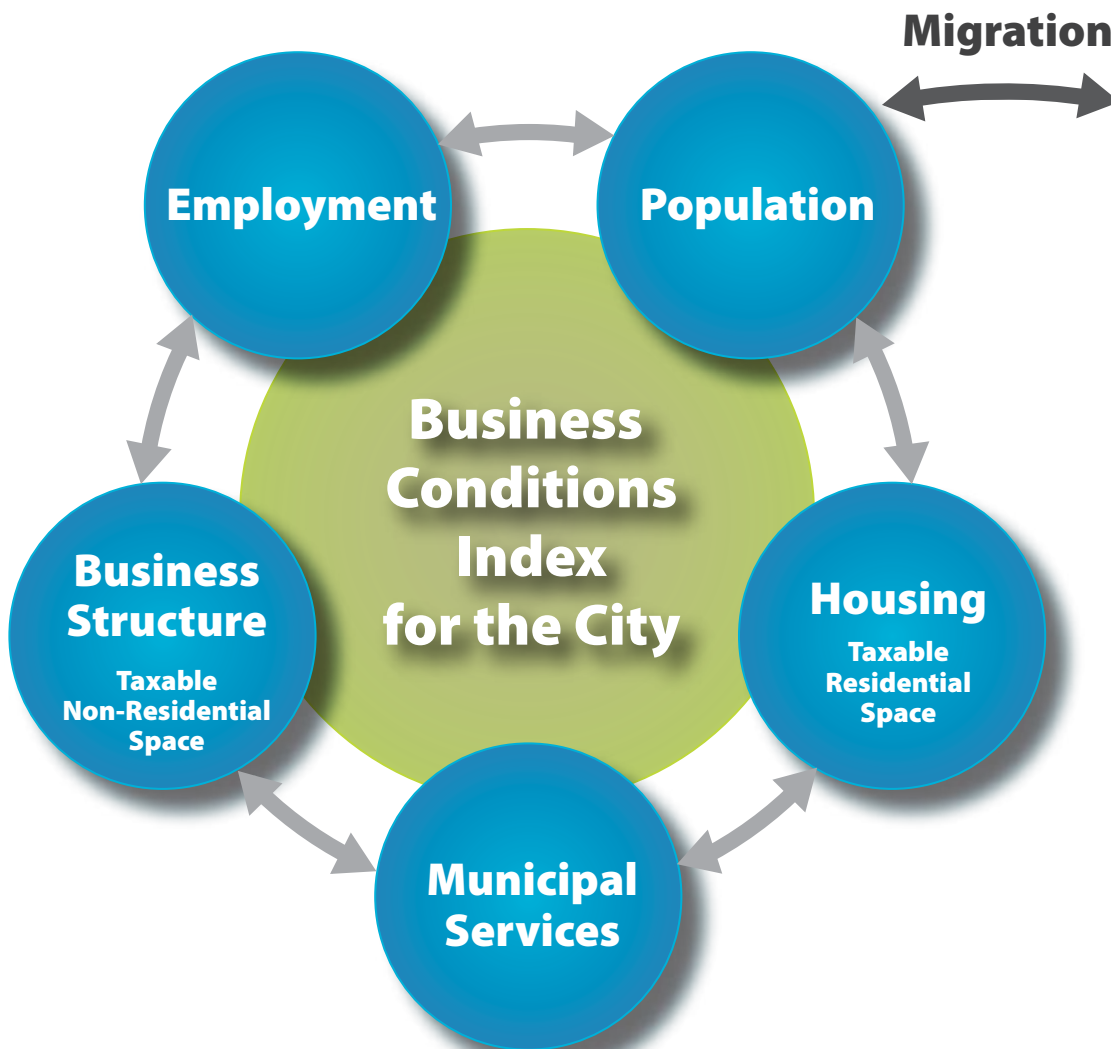
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PURPOSE OF THE CALGARY ECONOMIC OUTLOOK 2009-2019

1. The report is a conditional forecast of key indicators for Calgary and the Calgary Economic Region. The forecast assumes that the world outside of Calgary and its region would evolve in a particular manner.
2. This publication is a reference document created to support Calgary City Council during the budget- adjustment process.
3. This 10-year outlook can help readers understand and adapt to change in the world outside and inside of Calgary.
4. The economy plays an important part in The City's financial well being. The accompanying diagram illustrates this

fact. The local economy within a municipality could be represented as a system consisting of a number of interacting parts of which the municipal finance system is a component. These components are linked by material and information flows. For example, population growth creates an increase in demand for municipal services and the municipality's assessment base is increased as more residential and non-residential space is built to serve a larger population. In turn, the municipality draws on its assessment base to finance the payment for the services it provides and attracts businesses and population by the availability of services, jobs and housing.



The global recession served as the catalyst in bringing Alberta's resource boom to a halt. Sharply lower demand for commodities resulted in correspondingly lower resource prices and this reduced the energy industry's revenues. The industry responded by curbing investment spending and hiring, which had a ripple effect throughout the economy.

EXECUTIVE SUMMARY

Purpose

This publication is a reference document created to support Calgary City Council during the budget-adjustment process.

City of Calgary

The Civic Census placed the city of Calgary's population at 1,065,455 as of April 2009, up from 1,042,892 in 2008, representing an increase of 22,563 persons. This increase is roughly the same as the average growth of 22,306 for the period 1999 – 2009.

The total population for the city of Calgary is expected to grow to 1.278 million persons in 2019 from 1.065 million in 2009, up by 0.213 million. Population is expected to increase by an average of 21,300 annually over the 2009 - 2019 period.

The rate of natural increase is projected to decline over the forecast period, falling from 9.5 per 1,000 persons in 2009 to 7.2 per 1,000 persons in 2019.

The number of Calgarians that were unable to qualify for a mortgage in 2008 was estimated to have increased by approximately 263 per cent compared to 1980.

The total value of building permits in 2009 is expected fall in the range of \$2.2 to \$3.5 billion, from \$4.2 billion in 2008. Higher vacancy rates in the residential and non-residential real estate markets should have a negative impact on investment intentions in 2009. With economic recovery from 2010 onwards, the total value of building permits should grow to between \$3.9 and \$5.6 billion by 2014 and remain at that level for the rest of the forecast period.

Calgary Economic Region (CER)

Economic activity in the CER should contract by 2.5 per cent in 2009 and then increase by 2.2 per cent in 2010. As economic growth in the US and the emerging economies gather

momentum, the CER's output should expand by 3.7 percent in 2011.

Construction output in 2009 - 2011 will be buoyed somewhat by institutional projects and by refurbishment and redevelopment activity. The finance, insurance and real estate sector is expected to show significant growth as the residential real estate markets stabilizes in late 2009 and show strong growth later in the forecast as Calgary emerges from the recession as a strong financial centre.

Total employment in the CER was estimated at 756,000 in 2008, up from 735,000 in 2007. The forecast is for total employment to decline to 745,000 in 2009 and rebound to 755,000 in 2010 as economic growth resumes.

The consumer price inflation rate is expected to average -1.0 per cent for 2009 as a whole and increase to 1.5 per cent in 2010 and 2.0 per cent in 2011. Inflation rates are expected to increase as the region's spare capacity becomes exhausted.

The unemployment rate is expected to average 6.5 per cent in 2009 and 7.0 per cent in 2010. Labour force growth is expected to outpace employment growth as the economy begins its recovery from the recession. Individuals who left the labour force because of slim hopes of finding employment would now return.

Increased institutional construction activity in 2009 is having a larger impact on commercial construction in Calgary than previously thought. This activity provides some offset to downward price readjustments. We anticipate a brief dip to 2004 price levels in 2010/2011 from the combination of excess capacity in the non-residential construction sector and falling international commodity prices.

Alberta

Alberta's Gross Domestic Product (GDP) is expected to contract by 3.0 per cent in 2009 and grow by 2.5 per cent in 2010. As world economic growth gathers momentum, the Alberta economy should respond by growing at 3.9 per cent in 2011.

Natural gas prices are expected to remain around \$3/GJ in 2009 and \$4/GJ in 2010, as the combination of gas supply from shale and Liquefied Natural Gas (LNG) supply is expected to overshadow current and expected demand. North American markets are expected to tighten in 2011 and 2012, with stronger GDP growth, which should restore industrial gas demand to prerecession levels.

Reduced investment spending combined with reasonably high OPEC compliance with production cuts and weaker non-OPEC output, particularly in the North Sea should tighten supply and increase crude oil prices in the near future. WTI prices are expected to average US\$60/bbl in 2009 and increase to US\$68/bbl in 2010.

Canada

The Canadian economy should record positive growth by the second half of this year, but the average growth for 2009, as a whole, would be negative. Economic growth should be positive for 2010 and should accelerate in 2011. With the withdrawal of stimulus policies after recovery, economic growth in Canada should trend down to its long-term potential rate of 2.1 per cent by the end of the forecast period.

United States

The U.S. economy, after contracting by 6.4 per cent in Q1, 2009, declined by 1.0 per cent in Q2, 2009. This provides strong evidence that the strength of the recession is weakening. The recession is expected to bottom out in the second half of 2009, bolstered by an accommodative monetary policy, government efforts to stabilize financial markets and the sizable fiscal stimulus. The recovery should be moderate in 2010 and then accelerate in 2011 and 2012, as the economy begins to experience job gains. Over the forecast period, the long-term U.S. GDP growth is expected to average 2.7 per cent annually.

World

World output is expected to decline by 1.7 percent in 2009 as a whole. With a growth rate of 2.2 per cent in 2010, the recovery should be anemic. Higher growth rates will follow from 2011 to 2014 as the recovery gains momentum before falling back to its long-term trend.

Commodity prices

Commodity prices, in 2009, fell sharply from the high levels of 2008, but have partly recovered since early this year.

Asphalt price increases are expected to moderate over the near term as the balance between roofing and roadwork shifts back to historical norms in the 2012 time frame.

Rubber prices should decline in 2009 and then increase steadily until 2018, when global demand will necessitate increased

synthetic rubber production which will cause the price of rubber to be more linked to the price of oil than it currently is.

Diesel fuel prices are expected to grow steadily over the forecast period as world economic growth returns to positive territory.

RISKS

Forecast risks

Forecasts are always subjected to both upside and downside risks. The risks for this forecast are as follows:

Downside risk

- ▶ Household spending is not expected to be a major force in boosting domestic demand in the very near term even if the consumer sector accounts for about 70 per cent of GDP in North America.
 - North American households have suffered major losses of wealth and jobs in the current economic crisis and they are also heavily indebted.
 - A prolonged (and deeper) recession would create situations where people run out of employment benefits.
- ▶ Even though the global credit crisis has eased the U.S. banking system is still burdened with bad debts.
- ▶ The possibility of a delayed worldwide recovery exists if the stimulus plans are terminated too early.
- ▶ Protectionism is generally an outcome of a steep recession where governments try to stimulate demand in their countries at the expense of foreign countries. These actions generally result in a reduction in trade volumes and in the end, every one suffers by paying higher prices.
- ▶ Alberta's royalty revenues from natural gas are significantly reduced due to sharp drop of natural gas prices and volumes sold, in response to increased gas supplies from the drilling of shale reserves in the U.S. and B.C. and the collapse of U.S. demand. This has caused the provincial budget to move into a deficit position. Given, the province's resolve to hold the line on spending, its stakeholders should expect very little increase in transfer payments.

- ▶ A sustained recovery in the U.S. economy is based on a stabilization of the housing market. A stable housing market would result in increased property values. The U.S. housing market is still unstable as foreclosures have reached an all time high.
- ▶ Uncertainties around the U.S. clean energy bill may delay investments in Alberta's tarsands.

the tar sands should rebound in the early stages of the forecast period.

- ▶ The need for energy security should drive the search for a secure North American energy source. Consequently, this should boost investment in the province's and country's transportation infrastructure that is geared at delivering the tar sands output to markets in the U.S.

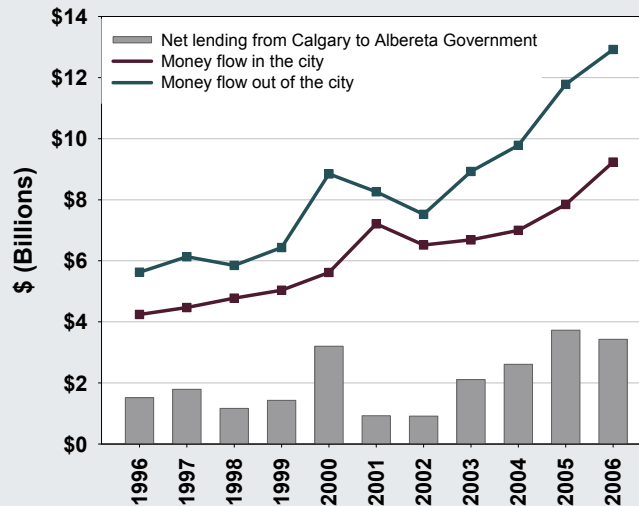
Upside risk

- ▶ The possibility of a rapid worldwide recovery exists if the stimulus plans are kept in place for an extended period of time.
- ▶ Through the purchase of foreign assets, China is attempting to diversify its investments portfolio. This cash infusion into commercial real estate in the U.S. may stabilize that sector.
- ▶ Canada's stable banking system may lure more foreign investors to do business in Canada (for example: China investing in Canadian resources such as uranium, conventional oil and tarsands.)
- ▶ Alberta, known as the 'wealthy' province in Canada, with relatively low taxes, can lure more newcomers. Their spending would support the province's retail sector.
- ▶ Alberta as an energy producer would benefit from higher energy prices and lower input costs.
 - Oil prices, after bottoming out at \$US39 (per barrel) in February 2009, have staged a strong rebound and have traded around \$US70 as of June 3, 2009.
 - Higher unemployment rates in all Canadian provinces have exerted downward pressure on wage inflation rates.
 - The world recession has reduced the demand for building materials and prices for these commodities have fallen as a result.
- ▶ The combination of higher prices and reduced input costs should lead to improved profitability for the various investment projects and therefore induce investments in tar sands facilities. Oil sands companies are re-examining the economics of their stalled projects in view of rising prices and falling input costs. Increased investment spending in

MUNICIPAL FISCAL IMBALANCE

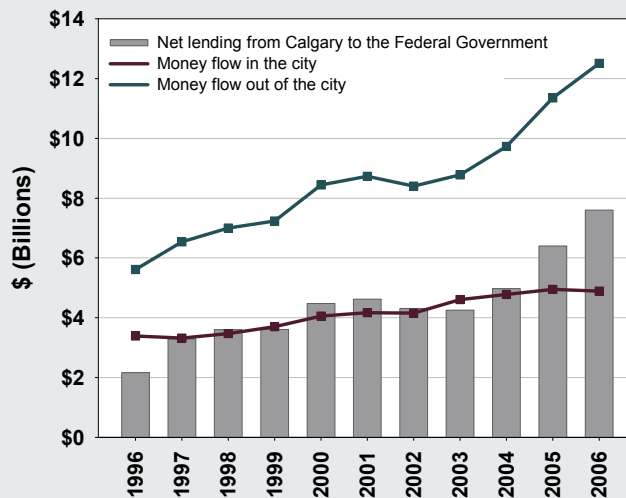
The city of Calgary has made significant contributions to the fiscal positions of the federal and Alberta governments over the past ten years, and this includes the recession in 2001. In 2006, the latest year for which income tax data are available, the businesses and citizens of Calgary sent \$7.6 billion more in taxes and other payments (\$12.5 billion) to the federal government than they received in various benefits (\$4.9 billion) from it. In that same year, they sent \$3.4 billion more in taxes and other payments (\$12.9 billion) to the provincial government than they received in various benefits (\$9.2 billion) from it. These net payments, which totalled \$11 billion, represented substantial contributions to the fiscal positions of the federal and provincial governments.

City of Calgary: Net lending to Alberta Government
(1996 - 2006, billions of dollars)



Source: Statistics Canada; Corporate Economics

City of Calgary: Total net lending to the Federal Government
(1996 - 2006, billions of dollars)



Source: Statistics Canada; Corporate Economics

CITY OF CALGARY



SUMMARY

The Civic Census placed the city of Calgary's population at 1,065,455 as of April 2009, up from 1,042,892 in 2008, representing an increase of 22,563 persons. This increase is roughly the same as the average growth of 22,306 for the period 1999 – 2009.

The total population for the city of Calgary is expected to grow to 1.278 million persons in 2019 from 1.065 million in 2009, up by 0.213 million.

Population is expected to increase by an average of 21,300 persons annually over the 2009 - 2019 period.

The rate of natural increase is projected to decline over the forecast period, falling from 9.5 per 1,000 persons in 2009 to 7.2 per 1,000 persons in 2019.

The total value of building permits in 2009 is expected to fall in the range of \$2.2 to \$3.5 billion, from \$4.2 billion in 2008. Higher vacancy rates in the residential and non-residential real estate markets should have a negative impact on investment intentions in 2009. With economic recovery from 2010 onwards, the value of building permits should grow to peak between \$3.9 and \$5.6 billion by 2014 and remain at that level for the rest of the forecast period.

Total housing start in 2009 are expected fall to 3,900 units, from 9,606 units in 2008. The number of units constructed in 2009 and 2010 would be below demographic requirements. With economic recovery from 2011 onwards, construction activity should grow in line with population change. The forecast is for housing starts to total 9,800 units in 2011 and 9,500 units in 2012.

2009 CIVIC CENSUS

Population

The Civic Census placed the city of Calgary's population at 1,065,455 as of April 2009, up from 1,042,892 in 2008, representing an increase of 22,563 persons. This increase is roughly the same as the average growth of 22,306 for the period 1999 – 2009. The 2009 population count was in line with The City's projection of 1,065,700.

Net migration was estimated at 12,920 in 2009, relatively unchanged from 12,441 in 2008. Positive net migration is partly explained by the relatively lower unemployment rate in Calgary compared to the rest of Canada.

Natural increase, defined as births less deaths, was estimated at 9,643 in 2009 and 9,695 in 2008. The relative stability in natural increase can be attributed to deaths and births growing at roughly the same rate.

City of Calgary - Population Distribution

Age	1999		2009	
	Amount	% dist	Amount	% dist
0 - 4	53,708	6.4	65,274	6.1
5 - 14	110,788	13.2	123,003	11.5
15 - 19	58,164	6.9	66,767	6.3
20 - 24	76,373	9.1	80,731	7.6
25 - 34	145,714	17.3	183,391	17.2
35 - 44	153,224	18.2	179,765	16.9
45 - 54	107,044	12.7	167,418	15.7
55 - 64	59,214	7.0	100,534	9.4
65 - 74	46,371	5.5	54,756	5.1
75 +	31,789	3.8	43,816	4.1
Total	842,388	100.0	1,065,455	100.0

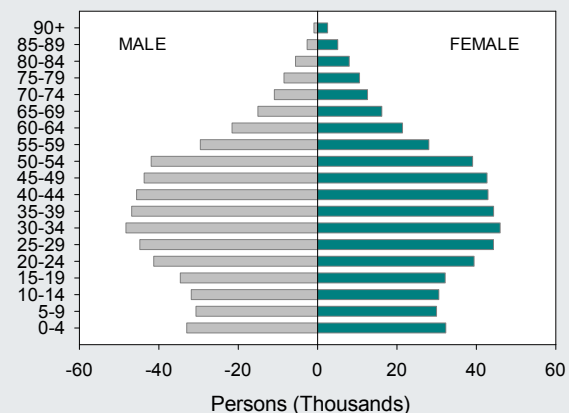
Age	Amount	% dist	Amount	% dist
0 - 19	222,659.9	26.4	255,044	23.9
20 - 64	541,568.3	64.3	711,839	66.8
65 - 74	46,371.0	5.5	54,756	5.1
75 +	31,788.8	3.8	43,816	4.1

20-54	482,354.6	57.3	611,305	57.4
55 +	137,373.5	16.3	199,106	18.7

55 +	78,159.8	9.3	98,572	9.3
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Source: City of Calgary, Civic Census 1999 and 2009

City of Calgary: Population distribution (2009, thousands of persons)



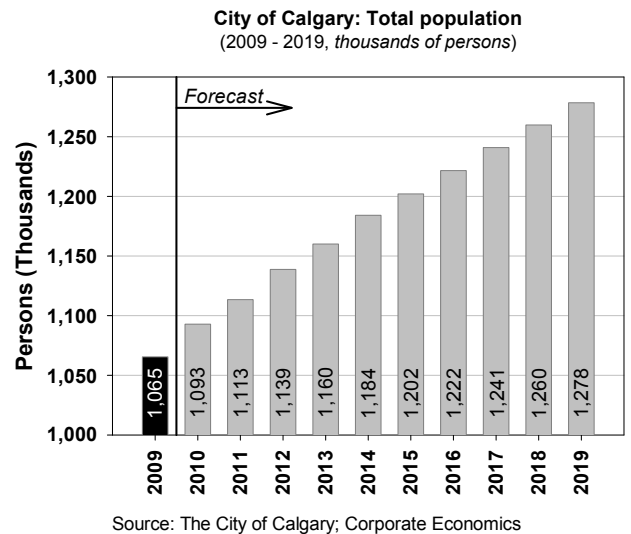
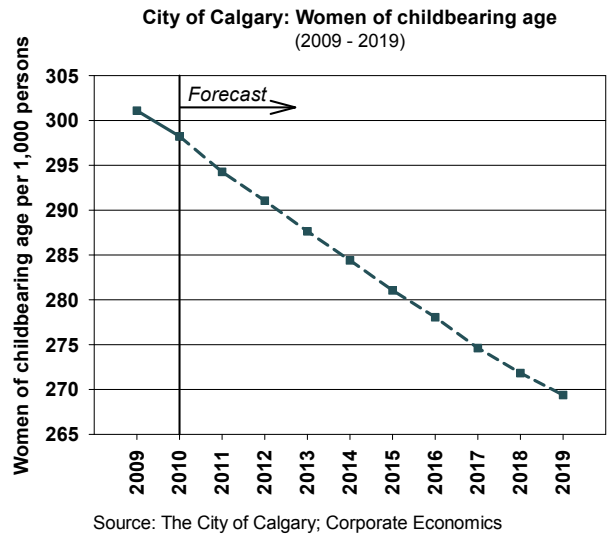
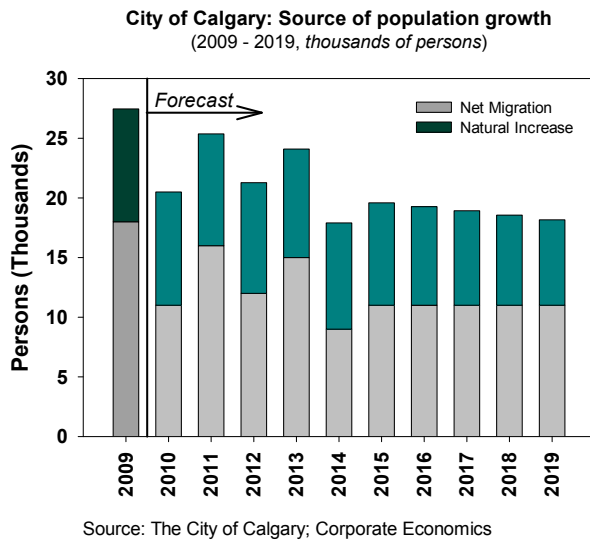
Source: The City of Calgary; Corporate Economics

Housing

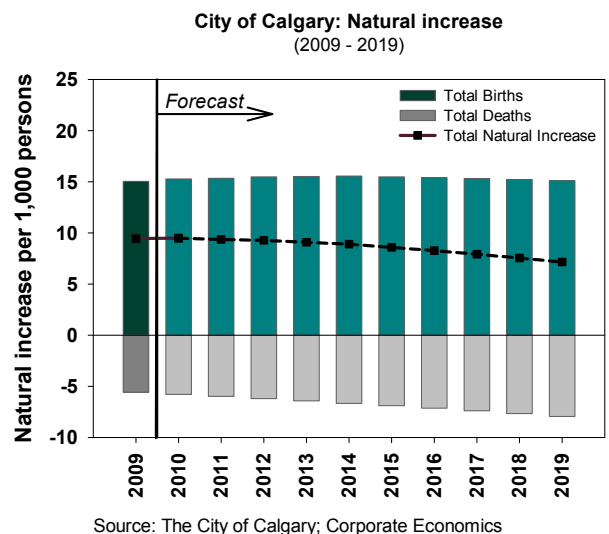
The number of dwelling units in Calgary was estimated at 438,663, as at April 2009, up from 432,997 for the same period 2008. The number of vacant dwellings was estimated at 13,012 in 2009, up from 9,199 in 2008. The vacancy rate in 2009 was estimated at 3.08 per cent, an increase from 2.23 per cent in 2008.

City of Calgary Population Outlook 2009 - 2019

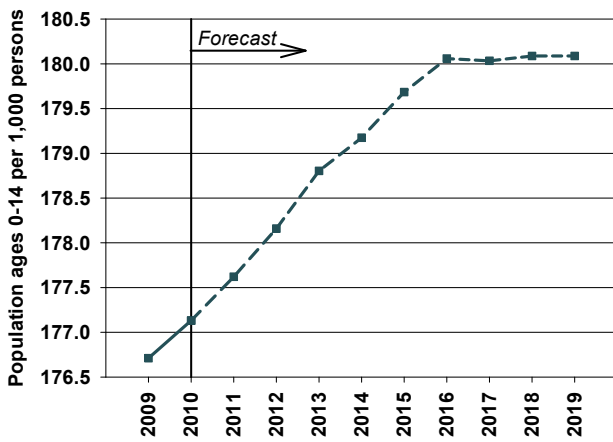
- ▶ The total population for the city of Calgary is expected to grow to 1.278 million persons in 2019 from 1.065 million in 2009, up by 0.213 million. Population is therefore expected to increase by an average of 21,300 persons annually over the 2009 - 2019 period. This annual increase is less than that for the 1999 - 2009 period.
- ▶ The sources of population growth are natural increase and net migration.
- ▶ Net migration is relatively more volatile than natural increase as it responds to changes in the economy and social conditions in both the sending and receiving areas.



- ▶ The rate of natural increase is projected to decline over the forecast period, falling from 9.5 per 1,000 persons in 2009 to 7.2 per 1,000 persons in 2019.
 - The number of births in this period should climb slightly from 15,000 in 2009 to 16,000 in 2014 before falling to 15,100 in 2019.
 - While, total deaths should grow from 5,600 to 7,900. The death rate is projected to grow at a faster pace than the birth rate. The death rate should increase over time as the population ages and moves into those cohorts with higher deaths rates.
- ▶ The number of women in the childbearing cohort (15 - 44) should increase from 321,000 in 2009 to 344,000 in 2019.

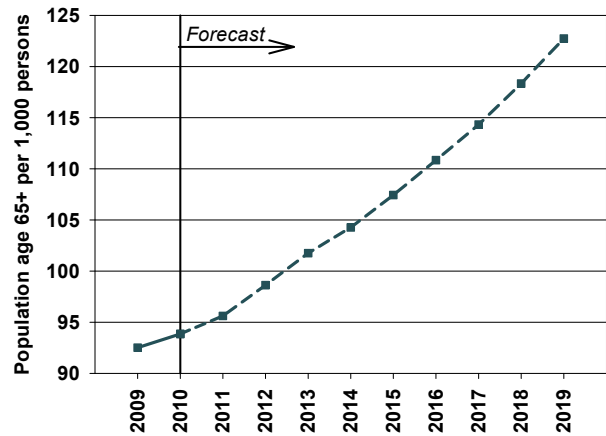


City of Calgary: Population ages 0-14 years
(2009 - 2019)



Source: The City of Calgary; Corporate Economics

City of Calgary: Population age 65+
(2009 - 2019)



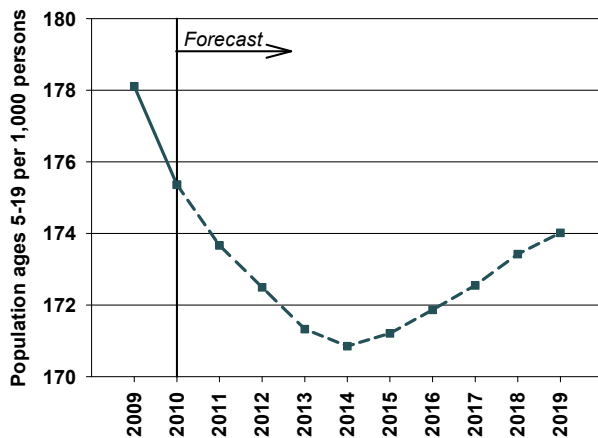
Source: The City of Calgary; Corporate Economics

In terms of the city's population, there are 301 women of child bearing age per 1,000 persons in 2009 and by 2019 this should fall to 269 per 1,000 persons.

- ▶ The number of women of child bearing age as a percentage of the total population, is shrinking as the overall population ages.

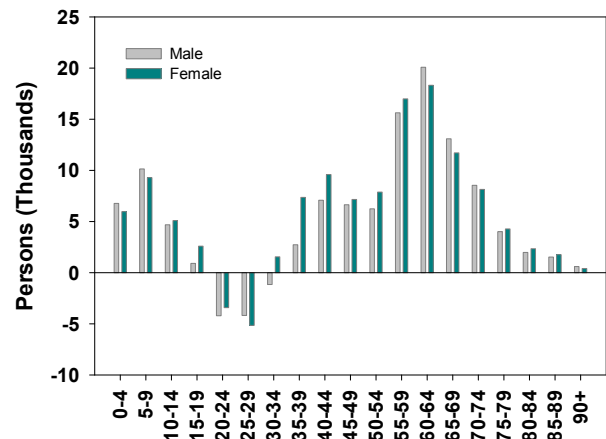
- ▶ The male population in 2009 was estimated at 537,000 and the female at 528,000. The number of males outnumbered the number of females between the ages of 0 to 64. The reverse situation occurred between 65 to 90 plus years.

City of Calgary: Population ages 5-19 years
(2009 - 2019)



Source: The City of Calgary; Corporate Economics

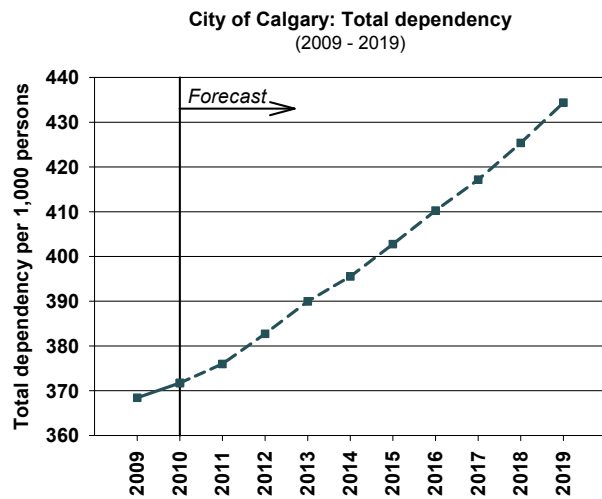
City of Calgary: Population shifts
(2009 - 2019, thousands of persons)



Source: The City of Calgary; Corporate Economics

- ▶ In 2009, about 50 per cent of Calgary's population was between the ages of 25 and 54.
- ▶ By 2019, the largest numbers of people in Calgary should be between the ages of 35 and 64.

- ▶ The male population in 2019 is forecasted at 638,000 and the female at 640,000. The numbers of males outnumber the number of females in the younger cohorts and the reverse occurs in the older cohorts.
- ▶ The largest changes should be observed in the cohorts at the extremes of the age scale.
 - At the lower end, the 0 – 4 and 5 - 9 cohorts are projected to increase by 32,186 persons.
 - While towards the upper end of the age scale, the 55 – 64 (pre-seniors) should increase by 71,040 persons.



Source: The City of Calgary; Corporate Economics

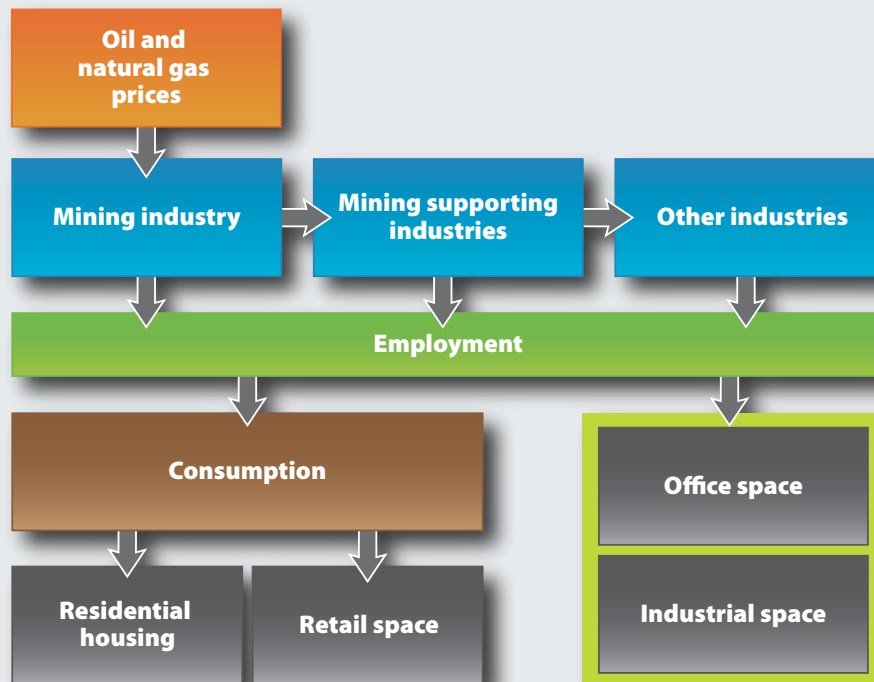
- The 20 - 29 cohorts should be smaller by 16,975 persons in 2019 than in 2009.
 - The shifts in the population distributions should affect the size of the markets for various public and private sector goods and services. For example, the 0 - 9 cohorts would affect the need for children based services such as elementary education and recreation.
 - ▶ The total population in the 0 - 14 age groups is expected to increase by 41,950 persons over the 2009 - 2019 period. The 5 - 9 cohorts should increase by 19,435 persons and the 0 - 4 cohort should grow by 12,750 persons.
 - ▶ The 0 - 14 group should grow rapidly between 2009 and 2016 and then grows much slower from 2017 to 2019, in response to a slower rate of net migration.
 - ▶ The rate of growth of the school age population (5 - 19) should decline from 178 per 1,000 persons in 2009 to 171 per 1,000 persons in 2014. From 2015 to 2019, the trend reverses itself slightly.
 - ▶ The 65+ population should grow relative to the rest of the population. This cohort's rate of growth should climb from 93 per 1,000 persons in 2009 to 123 per 1,000 persons in 2019.
 - ▶ All groups in the 65+ population should experience positive growth. For example, the 65-74 cohorts should increase from 54,756 in 2009 to 96,253 in 2019 and the 75+ cohorts should grow from 43,816 in 2009 to 60,671 in 2019.
- ▶ The labour force replacement rate is defined as the population 15 - 24 divided by the population 55 - 64. The 15 - 24 population is the source population for first time labour market entrants and the 55 - 64 is the source for pre-retirees from the work force. A ratio of one indicates that the numbers of labour market entrants are roughly equivalent to those about to retire. A ratio greater than one indicates that the entrants are greater than the pre-retirees and a ratio less than one states the opposite.
 - ▶ The labour force replacement rate is estimated at 1.5 in 2009 and should fall to 0.8 by 2019. This implies that employers may encounter greater difficulties in hiring younger (15 - 24) workers towards the end of the forecast period.
 - ▶ Specifically, the ages 15 - 19 (-600 persons) and ages 20 - 24 (-1,500 persons) cohorts are expected to shrink in the 2009 - 2019 period. Industries that rely on these cohorts for their staffing needs, would find it difficult to hire workers.
 - ▶ The total dependency rate measures the number of persons in the 0 - 14 and 65+ cohorts relative to the number of persons in the 15 - 64 cohorts. The analysis shows that for every 1,000 persons in Calgary in 2009, there were 368 persons who were outside of the "working age" population and by 2019 the dependency rate should climb to 434.

CALGARY REAL ESTATE

In Alberta and Calgary: energy prices have important impacts on real estate...

- ▶ Energy plays an important role in the success of Calgary's economy. As a home to the majority of Canada's oil and gas production companies, major pipeline operators, oilfield service and drilling companies and energy-related engineering and consulting firms, Calgary has benefited from investment in the energy sector in the past.
 - High energy prices led to improved cash flow and more private investments;
 - More jobs and better salaries attracted migrants to Calgary;
 - More people resulted in more consumption of goods and services and higher housing starts;
 - The greater demand for products created more jobs and increased demand for office, retail and warehousing space and real estate.

- ▶ Change in mining industries earnings (through the multiplier effects) cascades through other sectors of the economy and inducing changes in employment and accordingly in consumption.
- ▶ This changes the demand for office and industrial space, and through the consumption loop impacts residential housing and retail space.
- ▶ Rising energy prices work through the system resulting in increased house prices.
- ▶ Falling energy prices work through the system in roughly the same way; inducing overall decrease of real estate pricing. Price decrease for goods and services occur but with a time delay.

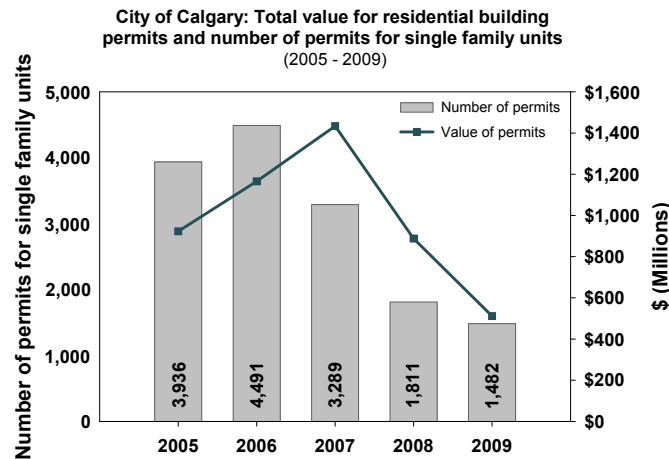


Real estate investment slowed in Calgary...

building permit

Investment intentions, in both the residential and non-residential sectors, declined sharply during the first six months of 2009, compared to the same period 2008. In addition, the mix of the non-residential permit values changed during this period. The following are the highlights:

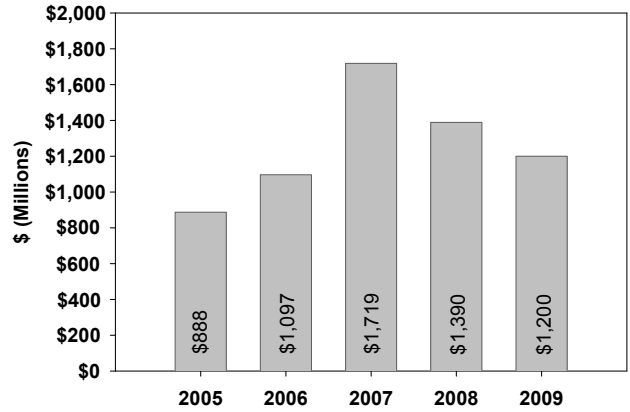
- ▶ The total number of building permits authorized for single family houses for the first six months of 2009 was 1,482, down 18 per cent from the same period 2008.
- ▶ The total value of residential building permits was \$511.3 million, down 42 per cent compared to the first half of 2008.



Source: The City of Calgary; Corporate Economics
Note: The time period is January to June of each year

- ▶ The value of non-residential building permits dropped by 16 per cent to \$1,200 million when compared with the first half of 2008.
- ▶ Over 70 per cent of the non-residential building permits issued during the first six months of 2009 belonged to the public sector. Whereas, at the end of 2007, public investment intentions accounted for only 4 per cent of the value of authorized non-residential building permits.
- ▶ The total value of building permits in 2009 is expected to fall to the range of \$2.2 to \$3.5 billion, from \$4.2 billion in 2008. Higher vacancy rates in the residential and non-residential real estate markets should have a negative impact on investment intentions in 2009. With economic

City of Calgary: Total value of non-residential building permits (2005 - 2009, millions of dollars)



Source: The City of Calgary; Corporate Economics
Note: The time period is January to June of each year

recovery from 2010 onwards, the value of building permits should grow to peak between \$3.9 and \$5.6 billion by 2014 and remain in that range for the rest of the forecast period.

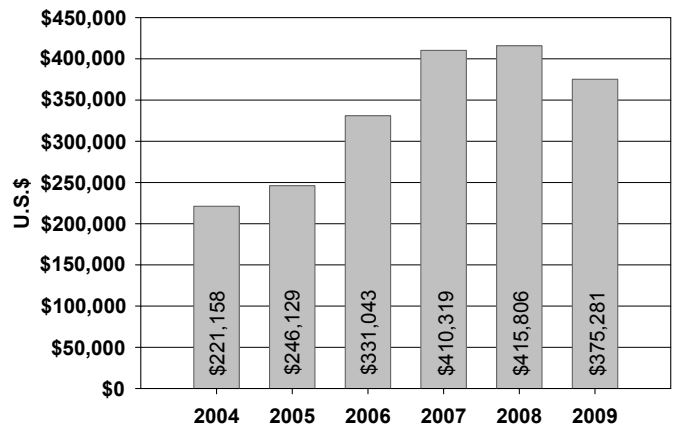
MLS and housing starts

During the 1999 - 2008 period, residential construction was driven by a combination of employment growth, net migration, increasing personal income and relatively low interest rates. In this period, house prices soared in response to strong demand growth and housing became increasingly pricey in Calgary.

The economic downturn in 2008 – 2009 resulted in falling house prices, increased job losses, higher unemployment rates and limited income growth. The recession therefore created a set of conditions that was not conducive to new home construction.

These changed economic circumstances resulted in:

City of Calgary: MLS residential monthly average price* (2004 - 2009, U.S.\$)



Source: Calgary Real Estate Board; Corporate Economics
*data recalculated to keep consistency over years
Note: The time period is January to June of each year

ESTIMATING HOUSING AFFORDABILITY IN CALGARY 1980 – 2008

Methodology

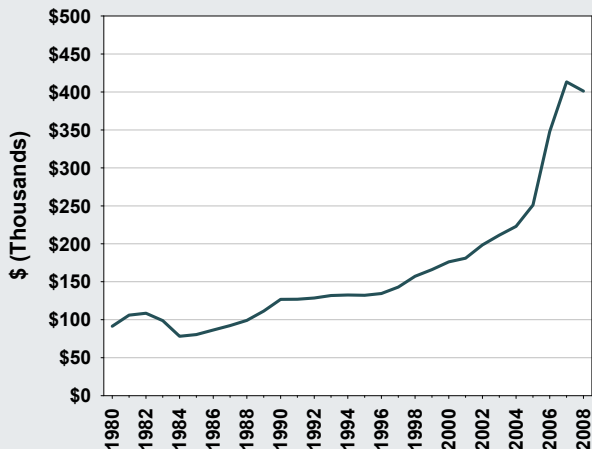
Housing affordability was estimated for the 1980 – 2008 period by taking into consideration household income, house price, property taxes, mortgage payment and the cost of utilities.

Results

Corporate Economics estimated that housing affordability in Calgary worsened significantly in 2008 from 1980. The estimates show that housing affordability was at its' lowest level in 28 years. The worsening of housing affordability resulted from the dramatic increases in housing prices in 2007 and 2008. Even though incomes in Calgary have risen in the study period, they did not increase enough to cancel the effect of rising house prices.

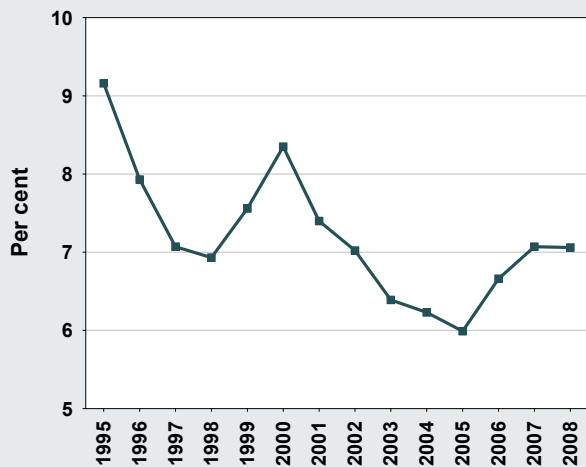
The number of households in Calgary that were unable to qualify for a mortgage in 2008 was estimated to have increased by approximately 263 per cent compared to 1980.

MLS Average house prices
(1980 - 2008, thousands of dollars)



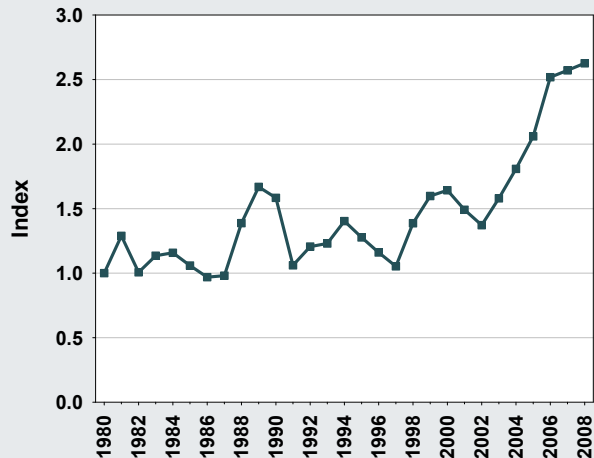
Source: MLS; Corporate Economics

5-Year conventional mortgage rates
(1995 - 2008, per cent)



Source: Bank of Canada; Corporate Economics

Unaffordability Index
(1980 - 2008)

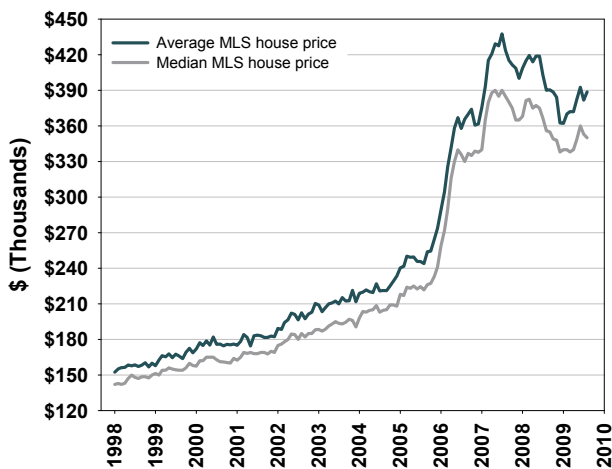


Source: Corporate Economics

- ▶ High house prices in 2007 and 2008 contributed to homeownership being more unattainable for many potential low income buyers, since they did not possess the required incomes to purchase homes at prevailing market prices.
- ▶ Rising house prices induced a supply side response from some investors and homeowners, as they listed their homes for sale in increasing numbers in the hope of realizing large capital gains.
- ▶ However, high prices have caused some pent-up demand as potential homebuyers were priced out of the market. Softening prices while interest rates are at historic lows are enticing these people to enter the market. Though they tend to buy at lower (entry level) price points their activity in the market is supporting overall prices in Calgary.
- ▶ After peaking in July 2007, house prices began falling as the market attempted to adjust supply to meet demand. For example, the median price for resale housing, seasonally adjusted, peaked at \$387,000 in July 2007 and has declined steadily since. The median price, as at June 2009, was estimated at \$350,000. Without a strong rebound of energy prices, Calgary might see additional drop in

- ▶ Several months of declining house prices in 2008 and 2009 and relatively low mortgage rates have resulted in improved housing affordability and therefore allowed more Calgarians to purchase houses. The number of MLS houses sold in August 2009 was 2,324 units, up from 1,990 units in August 2008. During this period, the number of houses listed for sale fell to 3,740 units in August 2009, from 4,364 units in August 2008. The real estate market has now moved into a more balanced position as evidenced by the sales-to-listings ratio which was 64 per cent in August 2009, up 47 per cent from a year ago. The current sales-to-listings ratio is the same as the 5-year moving average.

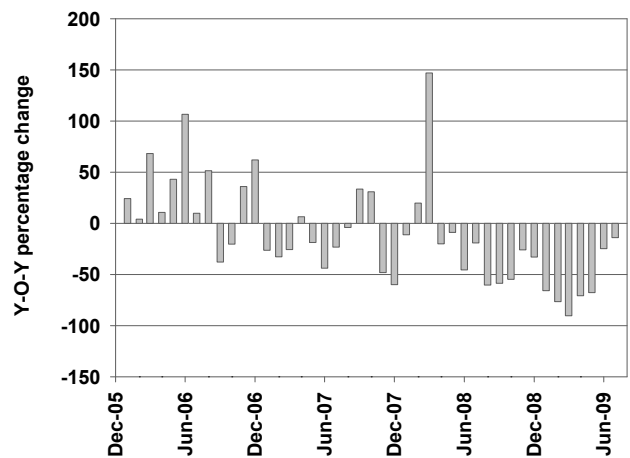
City of Calgary: MLS residential average price
(January 1998 - August 2009, thousands of dollars)



Source: Calgary Real Estate Board; Corporate Economics

housing prices in coming quarters; this has implications for the overall health of the local economy as housing is a major component of household wealth. Household wealth is a major driver of consumer spending and consequently, falling house prices would continue to depress retail sales in Calgary.

City of Calgary: Total housing starts
(2006 - 2009, y-o-y percentage change)



Source: CMHC; Corporate Economics

- ▶ Total housing start in 2009 are expected fall to 3,900 units from 9,600 units in 2008. Higher vacancy rates in the residential and non-residential real estate markets should have a negative impact on residential construction in 2009. The number of units constructed in 2009 and 2010 would be below demographic requirements. With economic recovery from 2011 onwards, construction activity should grow in line with population change. The forecast is for housing starts to total 9,800 units in 2011 and 9,500 units in 2012.

Office space

Rising energy prices in recent years drove investment and economic activity in Alberta and Calgary. For most of this period, Calgary led the province and the nation in job creation. Employment growth resulted in an increased demand for non-residential space and which pushed vacancy rates in the non-residential markets to extremely low levels. Low vacancy

rates, higher real estate prices and increasing employment laid the groundwork for a significant growth in new office space. Investment intentions rose sharply in the 2004 – 2007 period. Currently, there is a large amount of office space under construction, in view of the long time lags between the start and completion of construction.

The conditions that favored office space construction during the good years changed as the world recession drove commodity and asset prices down and shrank business cash flow and curbed consumer and business credit availability. Businesses responded by cutting investment and hiring plans. The absorption of space was drastically reduced in response to business mergers and lower employment levels. Over the last 12 months, the vacancy rate for office space increased in Calgary from 3.2 per cent in the first quarter of 2008 to 9.3 per cent in June 2009, which is still considered “tight” in this industry.

The office vacancy rate is expected to increase further as space completions grow in excess of space absorptions in 2009 and 2010. The forecast is for the following:

- ▶ The office vacancy rate to rise over the next 18 months.
- ▶ Rents should decline as landlords focus on tenant retention, though this will take some time as commercial leases tend to span many years.

Industrial & retail market

- ▶ The vacancy rate¹ for industrial space is trending upwards as space absorbed lags space completed. As at July 2009, the industrial vacancy rate was estimated at 5.2 per cent, up from 2.3 per cent a year earlier.

Office Space

	“2009 vacancy rate head lease only”	“2009 combined* vacancy rate”	“Forecast - 2009 potential combined* vacancy rate”
Downtown Office	3.4%	7.8%	15.7%
Beltline	6.7%	9.8%	12.0%
Suburban North	11.5%	13.0%	16.0%
Suburban South	93.0%	12.0%	18.0%
Calgary Citywide	5.7%	9.3%	16.0%

* combined vacancy rate = head lease and sublease

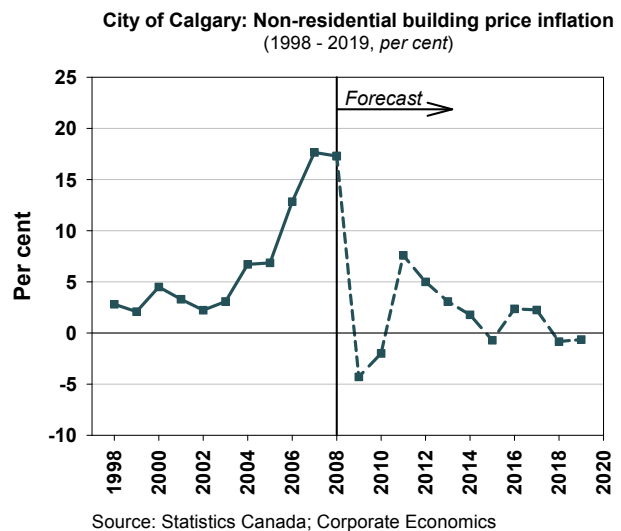
Source: Avison Young Calgary Office Market Report, Second Quarter 2009

1 Colliers, The Calgary Industrial Perspective, July 2009 <http://www.colliersmn.com/prod/ccgrd.nsf/publish/3874B597D794C1F88525759300634394>

- ▶ High vacancy rates are depressing prices and rents and thus the construction of new space in the industrial market.
- ▶ The retail real estate² market is still relatively healthy in Calgary, as monthly retail sales per capita leads the national average. In April 2009, the vacancy rate in the retail market increased to 2 per cent from 1.4 per cent a year ago.

Non-residential building price inflation

Excess supply in labour and commodity markets has resulted in contractor prices falling by an average of 9 per cent in Q1 of 2009, year-over-year, in the Calgary market. The outlook calls for 2006 level of prices to be supported in the 2012-2019 period as competition for commercial jobs becomes fierce but in an environment facing international construction material price inflation. However, first we anticipate a brief dip to 2004 price levels in 2010/2011 when existing projects wind down while international construction material inflation is subdued.





ECONOMIC REGION (CER)

Economic recovery in the Calgary Economic Region would be directly linked to the resumption of growth in the world economy. Growth in world economic activity would result in an increase demand for commodities causing commodity prices to increase. Eventually, this should lead to a boost in investment, employment and economic output in Alberta. The Calgary Economic Region, which is home to a substantial part of the Canadian energy sector, would enjoy the spinoff from the economic expansion.

SUMMARY

The forecast is for overall economic activity to contract by 2.5 per cent in 2009 and then increase by 2.2 per cent in 2010. As economic growth in the US and the emerging economies gather momentum, the CER's output should expand by 3.7 per cent in 2011. Beyond that, the outlook is for modest gains as baby boomers start to retire and domestic demand and the labour force both grow at slower rates.

Construction output in 2009-2011 will be buoyed somewhat by institutional projects and by refurbishment / redevelopment activity. The finance, insurance and real estate sector is expected to show significant growth as the residential real estate markets stabilizes in late 2009 and strong growth later in the forecast as Calgary emerges from the recession as an important financial centre.

Total employment in the CER was estimated at 756,000 in 2008, up from 735,000 in 2007. The forecast is for total employment to decline

to 745,000 in 2009 and rebound to 755,000 in 2010 as economic growth resumes.

The consumer price inflation rate is expected to average -1.0 per cent for 2009 as a whole and increase to 1.5 per cent in 2010 and 2.0 per cent in 2011. Inflation rates are expected to increase as the region's spare capacity becomes exhausted.

The unemployment rate is expected to average 6.5 per cent in 2009 and 7.0 per cent in 2010. Labour force growth is expected to outpace employment growth as the economy begins its recovery from the recession. Individuals who left the labour force because of slim hopes of finding employment would now return.

Increased institutional construction activity in 2009 is having a larger impact on commercial construction in Calgary than previously thought. This activity provides some offset to downward price readjustments. We anticipate a brief dip to 2004 price levels in 2010/2011 from the combination of excess capacity in the non-residential construction sector and falling international commodity prices.

Economic activity in the Calgary Economic Region moderated in 2008 and 2009 in response to a worsening of economic conditions inside and outside of Calgary. The economy was shaken by falling resource prices which squeezed the energy industry's profit margins. These changes along with tighter credit conditions and higher labour costs resulted in the postponement or cancellation of several large investment projects in northern Alberta.

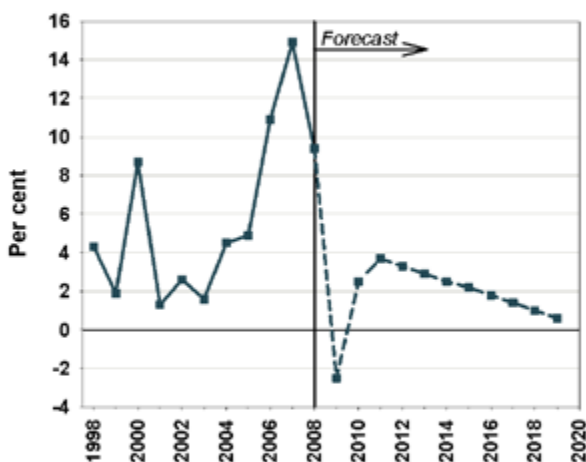
In Calgary falling equity and house prices resulted in a reduction of household wealth. These factors and stagnant labour incomes combined to have a negative effect on the demand for various goods and services in the Calgary area. Economic recovery should therefore result in a reversal of the aforementioned conditions: commodity prices should increase as world demand improves and resource companies' cash flow should grow leading to renewed investment and increased hiring.

The forecast is for overall economic activity to contract by 2.5 per cent in 2009 and then increase by 2.2 per cent in 2010. As economic growth in the US and the emerging economies gather momentum, the CER's output should expand by 3.7 per cent in 2011. Towards the end of the forecast period, the region's economic expansion would be constrained by modest labour force growth arising from an aging population. The rate of future economic expansion is therefore expected to be lower than what was experienced in the 1998 – 2008 period.

Construction output from 2009 - 2011 will be buoyed somewhat by institutional projects and by refurbishment and redevelopment activity. Beyond 2011, residential construction is expected to strengthen but commercial / industrial activity is not expected to return to 2007 levels for the remainder of the forecast period due to significant overbuild. Notwithstanding this, the finance, insurance and real estate markets should stabilize in late 2009 and show strong growth later in the forecast as Calgary emerges from the recession as a strong financial centre. Retail activity, and associated activities like warehousing, wholesaling, and food services are expected to remain relatively flat as people focus on core purchases – food and shelter – for the next couple of years. Beyond that, the outlook is for modest gains as baby boomers start to retire and their consumption of everything except health care wanes. Health care is expected to show significant and worrisome gains beyond 2012 which may necessitate fundamental shifts in how health care is provided and financed in the Province. Forestry and Energy industries are expected to stabilize as tar sand facilities begin operation. Financial benefits are expected to accrue to Calgary from the increased Ft. McMurray production, and this shows up in the Finance, Insurance and Real Estate markets as discussed above.

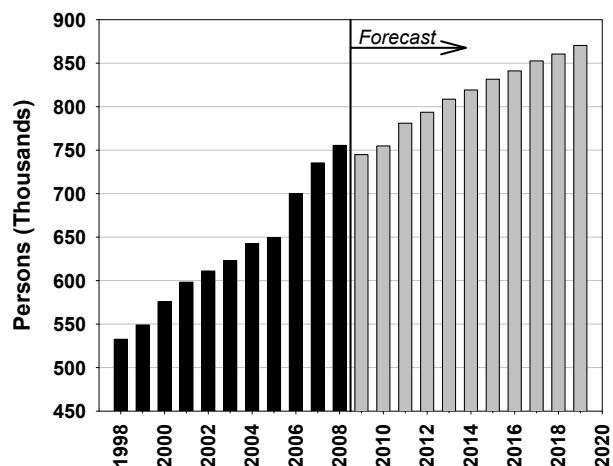
Total employment in the CER was estimated at 756,000 in 2008, up from 735,000 in 2007. The forecast is for total employment to decline to 745,000 in 2009 and rebound to 755,000 in 2010 as economic growth resumes. Total employment is expected to reach 870,400 by 2019. The employment growth rate should increase between 2010 and 2012 as the region uses up its spare capacity. Once this capacity is exhausted, employment should grow at a slower pace, in line with labour force growth.

Calgary Economic Region: Gross domestic product growth
(1998 - 2019, per cent)



Source: Statistics Canada; Corporate Economics

Calgary Economic Region: Total employment
(1998 - 2019, thousands of persons)



Source: Statistics Canada; Corporate Economics

PRICE INDICES

In any given year, the municipality spends its budget on a variety of goods and services. Also over time, it can be expected that the average price of this basket of goods and services^[1] would change and this would affect The City’s purchasing power. For example, an increase in the cost of the basket of goods and services would result in an erosion of The City’s purchasing power while a reduction in the cost would have the opposite effect.

The change in the price of a basket of goods and services is measured by a composite indicator - a price index. There are several price indices and notable examples of these are the consumer price index (CPI), the education price index^[2], the industrial product price index (IPPI) and the non-residential building construction price index (NBCPI). These price indices differ over the distribution of expenditures among various goods and services. The City of Calgary spends its budget differently than the average household in Alberta. For example, The City’s major expenditure is on labour costs (56 per cent); whereas the average household’s major expenditure item is on housing costs (28 per cent).

Because of this difference, The City of Calgary uses its own measure of inflation: the municipal price index. The City’s inflation rate – the Municipal Price Index (MPI) – measures the changes in the cost of a fixed basket of goods and services that is purchased by The City of Calgary. The Municipal Price Index is expected to increase by 4.3 per cent in 2010 and fall to 3.8 per cent by 2011.

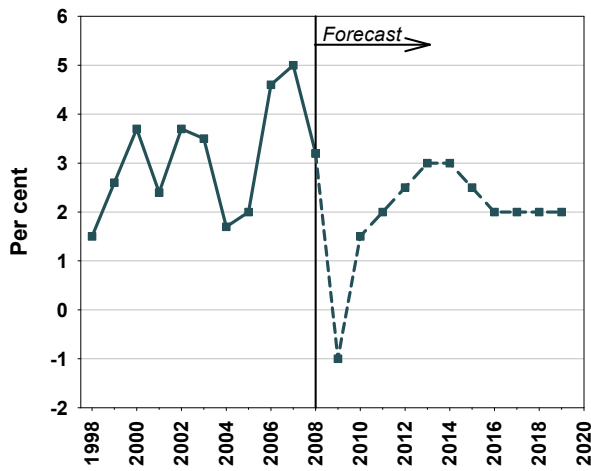


1 The basket of goods and services is assumed to be fixed in terms of quantity and quality.

2 This index was established in the 1970s. "The Education Price Index (EPI) is an annual input price index that measures changes of a fixed basket of goods and services purchased by public school boards in Canada excluding the territories. It compares current salary grids of teachers with those in a base year and uses selected sub-indices from the Consumer Price Index and the Industry Product Price Index as proxies for price increases of non-salary items of school board's expenses. It also uses the federal government's General Services GS-04 category's salaries as a proxy for the non-teaching salaries component. It tracks changes over time in the level of real resources used by school boards, and the net of the effect of changes in prices. The EPI results are published in the Daily and are also available on CANSIM". <http://www.statcan.gc.ca>

Consumer prices rose by 3.2 per cent in 2008, down from 5 per cent a year earlier. The inflation rate averaged 0.8 per cent in the first eight months of 2009, down from 3.7 per cent for the same period 2008. The sharp reduction in the inflation rate was caused by the buildup in excess capacity in the economy. Businesses are currently unable to pass on increased costs to consumers because of weak demand. Similarly, workers are unable to demand and obtain wage increases in the face of rising unemployment levels.

Calgary Economic Region: Inflation rate
(1998 - 2019, per cent)

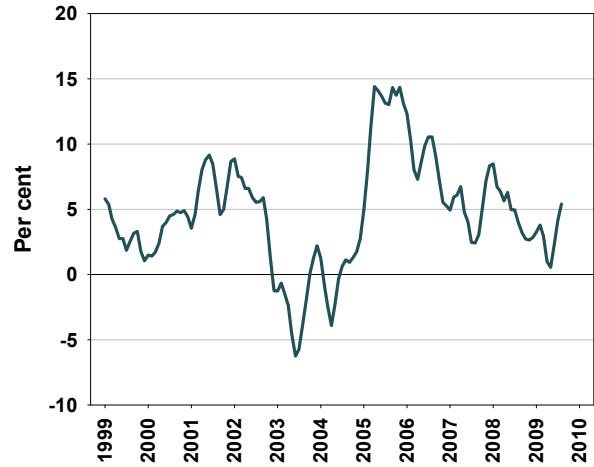


Source: Statistics Canada; Corporate Economics

The consumer price index is expected to change by -1.0 per cent for 2009 as a whole and increase to 1.5 per cent in 2010 and 2.0 per cent in 2011. Inflation rates are expected to increase as the region's spare capacity becomes exhausted. By 2019, the inflation rate should trend lower as the region grows in line with population growth and the mid-point of The Bank of Canada's inflation target range.

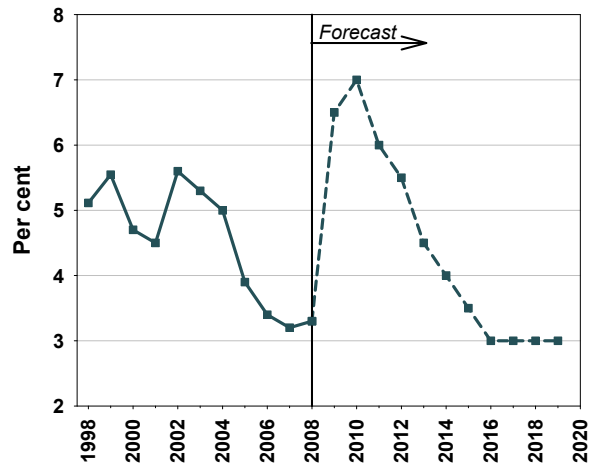
Calgary's average hourly wage rate increased by 3.9 per cent in March 2009, down from 7.2 per cent for the same 2008 period. The wage inflation rate has moderated in response to a higher unemployment rate as employers were able to fill vacant positions from a larger pool of workers without having to offer increasingly higher salaries to attract them.

Calgary CMA average hourly wage inflation
(year-over-year, 1999 - 2009, percentage change)



Source: Statistics Canada; Corporate Economics

Calgary Economic Region: Unemployment rate
(1998 - 2019, per cent)



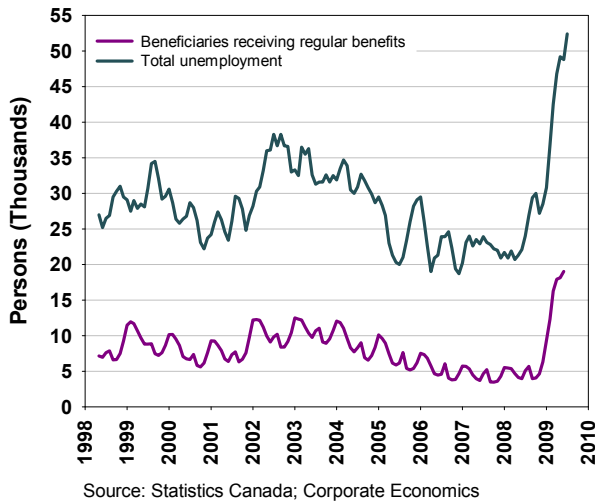
Source: Statistics Canada; Corporate Economics

The CER's July 2009 unemployment rate was estimated at 6.8 per cent. The unemployment rate trended higher in 2009 as job seekers from the rest of Canada came to the region in search of employment. This caused the labour force to grow at a faster rate than total employment.

The unemployment rate is expected to average 6.5 per cent in 2009 and 7.0 per cent in 2010. Labour force growth is expected to outpace employment growth as the economy begins its recovery from the recession. Individuals who left the labour force because of slim hopes of finding employment would now return.

Also, the labour utilization rate is expected to increase as the economic recovery gains traction. Specifically, employers are

Calgary CMA: Total unemployment vs. EI beneficiaries
(1998 - 2009, thousands of persons)

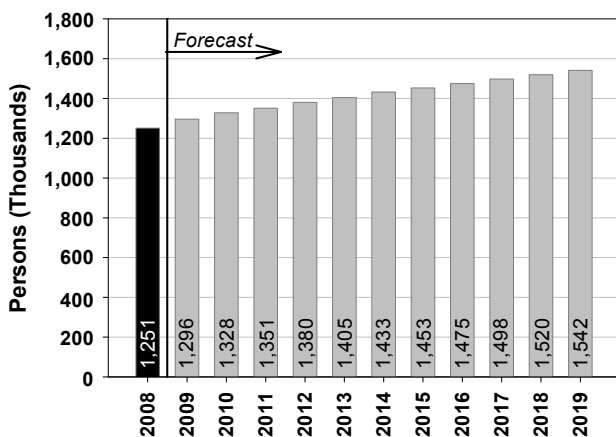


expected to increase the working hours for their employees and convert part-time employment to full-time employment. These actions should cause the rate of job creation to lag the labour force growth rate.

The number of recipients of employment insurance benefits in Calgary jumped sharply in recent months as the numbers of unemployed increased. For example, 18,150 persons received benefits in May 2009, up from 4,130 a year earlier.

The Calgary Economic Region's population is expected to total 1,542,000 persons in 2019, up from 1,296,000 in 2009, an increase of 245,000 persons over the next ten years.

Calgary Economic Region: Total population
(2009 - 2019, thousands of persons)



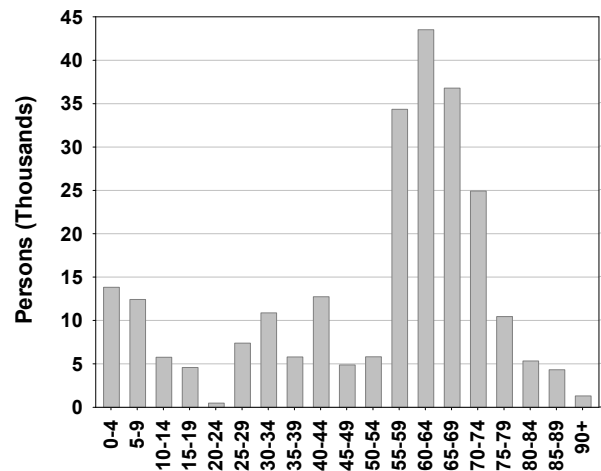
These aggregate results mask the changes in the age distribution of the population over the next ten years. For the purpose of this analysis, the population was disaggregated into nineteen age groups. The average increase per cohort was therefore estimated at approximately 13,000 persons. The cohorts that are expected to experience above average increases in the 2009-2019 period are as follows:

Cohorts	Persons
0-4	14,000
55-59	34,000
60-64	44,000
65-69	37,000
70-74	25,000

The cohorts with the smallest increases are the following:

Cohorts	Persons
15-19	5,000
20-24	0
80-84	5,000
85-89	5,000
90+	1,000

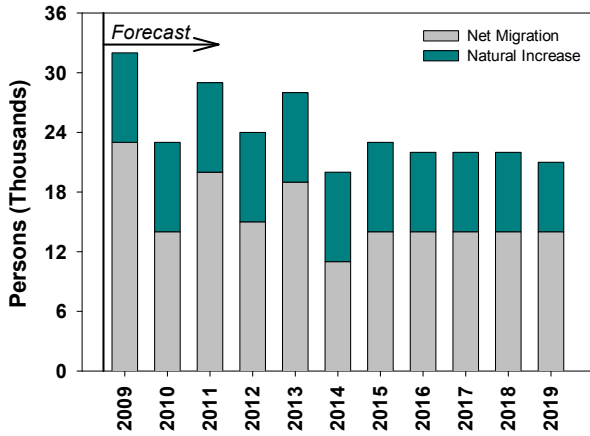
Calgary Economic Region: Population growth by age cohorts
(2009 vs. 2019, thousands of persons)



The adult population (15+) is projected to grow from 1,061,000 in 2009 to 1,274,000 in 2019. This cohort's share of total population should increase to 82.7 per cent in 2019, up from 81.9 per cent in 2009. This increase is explained by the above average rate of growth that is projected for the 60-64 and 65-69 age groups.

The data also shows the 15 - 64 cohort, which is generally referred to as the working age population (or the labour force source population), should increase to 1,060,000 by 2019, up from 931,000 persons in 2009. This group's share of the total population should fall to 68.8 per cent from 71.8 per cent in 2009. The decline in the share is driven by the relatively slower growth in the younger cohorts (see figure below). Given the slower growth in the labour force, it can be concluded that the region's economic growth potential would decline over the 2009 – 2019 period.

Calgary Economic Region: Source of population growth
(2009 - 2019, thousands of persons)



Source: The City of Calgary; Corporate Economics

ASSUMPTIONS





ALBERTA ECONOMY

Economic growth in Alberta was driven by high energy prices over the last ten years. High resource prices led to increased investment which in turn spurred economic and employment growth, relatively low unemployment rates and above average wage increases. During this period growth generated further growth.

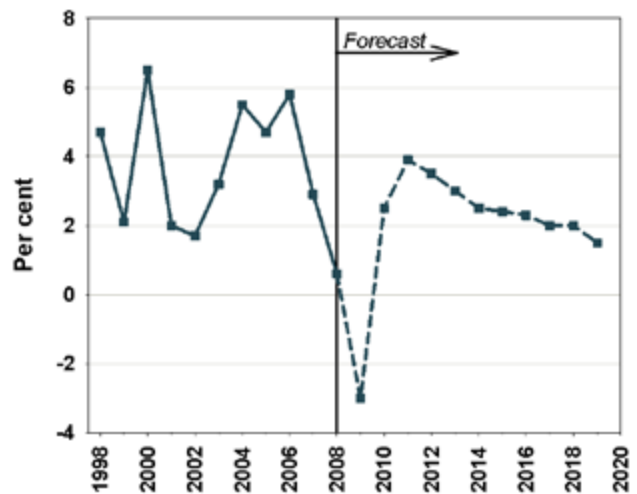
Reduced investment spending combined with reasonably high OPEC compliance with production cuts and weaker non-OPEC output, particularly in the North Sea should tighten supply and increase crude oil prices in the near future. WTI prices are expected to average US\$60/bbl in 2009 and increase to US\$68/bbl in 2010.

SUMMARY

Alberta's Gross Domestic Product (GDP) is expected to contract by 3.0 per cent in 2009 and grow by 2.5 per cent in 2010. As world economic growth gathers momentum, the Alberta economy should respond by growing at 3.9 per cent in 2011.

Natural gas prices are expected to remain around \$3/GJ in 2009 and \$4/GJ in 2010, as the combination of unconventional gas supply and Liquefied Natural Gas (LNG) supply is expected to overshadow current and expected demand. North American markets are expected to tighten in 2011 and 2012, with stronger GDP growth, which should restore industrial gas demand to prerecession levels.

Alberta: Gross domestic product growth
(1998 - 2019, per cent)



Source: Statistics Canada; Corporate Economics

Investment³

The major construction projects had a significant impact on overall economic growth in the province, as they accounted for more than two-thirds of the total investment in Alberta. These investments produced significant spin-off benefits on the rest of the economy⁴.

Investment in the energy sector in Alberta should continue to influence the rate of economic growth over the forecast period. Alberta Economic Development Authority (AEDA) announced recently that \$240.2 billion (see table) in major construction projects were either planned or underway in Alberta. The majority of these projects are in oil sands (57 per cent).

Project Sector	Number of Projects	Value of Projects	Projects On Hold	Value Projects On Hold
Agriculture & Related	4	\$63.9	0	
Biofuels	16	\$1,872.0	0	
Chemicals & Petrochemicals	2	\$50.0	0	
Commercial/Retail	80	\$11,149.7	4	\$167.2
Commercial/Retail and Residential	16	\$5,315.5	2	\$761.8
Infrastructure	334	\$20,601.2	5	\$92.4
Institutional	220	\$11,725.3	7	\$221.6
Manufacturing	5	\$676.7	0	
Mining	5	\$4,612.0	1	\$4,500.0
Oil & Gas	10	\$1,239.5	0	
Oilsands	42	\$137,438.3	14	\$76,567.0
Other Industrial	11	\$319.7	0	
Pipelines	31	\$9,338.3	2	\$2,018.0
Power	55	\$19,170.0	4	\$950.0
Residential	96	\$6,533.3	17	\$2,798.9
Telecommunications	1	\$700.0	0	
Tourism/Recreation	125	\$9,376.3	1	\$11.0
Total	1,053	\$240,181.7	57	\$88,087.9

Source: Alberta Economic Development Authority, August 2009

The current economic recession caused a reduction in the demand for commodities and this in turn reduced commodity prices. Lower energy prices cut the industry's cash flow and contributed to the cancellation or postponement of capital spending on several projects in the oil and gas and related sectors. The growth process that was at work in the early part

3 Investment expenditure here includes residential investments (the costs of buildings and renovations of single-family and multi-family units), non-residential investments (construction of non-residential buildings and capital investments) and changes in inventories.

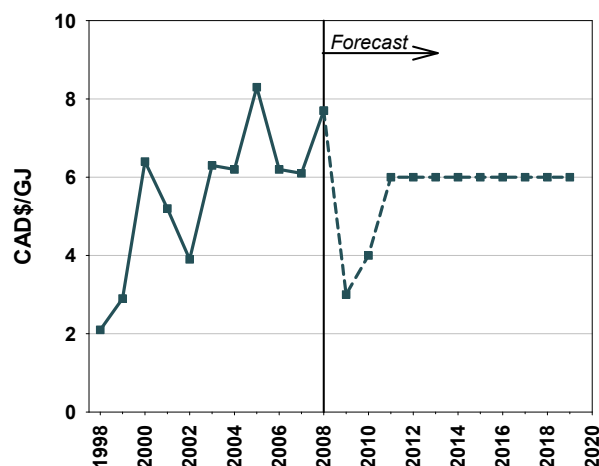
4 \$1 worth of oil sands investment generates approximately \$10 worth of economic activity.

of the current decade was placed in reverse. It is estimated that billions of dollars worth of capital projects were placed on hold. The Scotford upgrader 2 (Shell Canada) leads the way with an estimated investment of \$22 billion, followed by the Voyager oil sands third upgrader (Suncor Energy Inc; \$11.6 billion), the Fort Hills oilsands mine (Fort Hills Energy Corp; \$10 billion) and the Firebag oilsands project stages 3 to 6 (Suncor Energy Inc; \$9 billion).

Residential and commercial demand for natural gas weakened in response to the economic recession. The power sector's use of natural gas increased during this period, but this was offset by reduced demand from the ailing North American automotive industry. Natural gas prices are expected to remain around \$3/GJ in 2009 and \$4/GJ in 2010, as increased supply of natural gas from shale deposits and Liquefied Natural Gas⁵ (LNG) supply is expected to exceed current and expected demand. North American markets are expected to be more balanced in 2011 and 2012, with stronger GDP growth, which should restore industrial gas demand to prerecession levels. Prices are therefore expected to average \$6/GJ in each of those years.

The main driver of recent higher West Texas Intermediate (WTI) crude oil price is the rise in exports to China, Japan, and South Korea arising from strategic buying. Reduced investment spending combined with reasonably high OPEC compliance with production cuts and weaker non-OPEC output, particularly in the North Sea should tighten supply and increase crude oil prices in the near future. WTI prices are expected to average US\$60/bbl in 2009 and increase to US\$68/bbl in 2010.

Alberta: Natural gas price - AECO/NIT
(1998 - 2019, CAD\$/GJ)

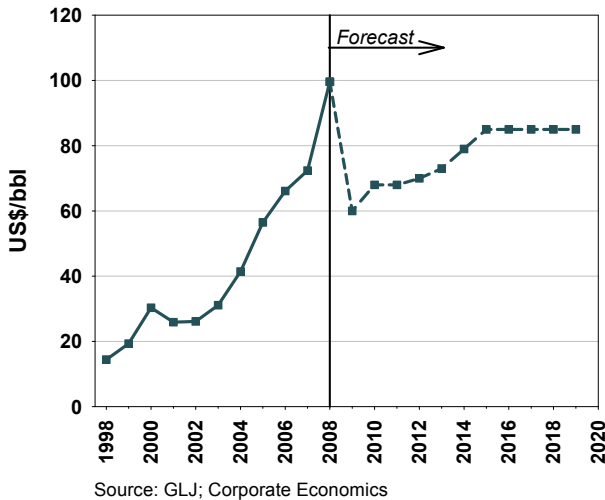


Source: GLJ; Corporate Economics

5 New LNG capacity in Qatar, Russia, Indonesia and Yemen are expected to come on stream this year. From: Confidential forecaster.

The residential investment is anticipated to grow below trend in 2009, driven by higher vacancy rates, slower employment growth, modest growth in labour income and a surplus of completed and unabsorbed units⁶. Housing starts are expected to total 15,000 units in 2009. Economic conditions are expected to strengthen after 2009, as employment growth attracts migrants to the province and consequently, housing starts should total 42,000 in 2012.

Alberta: West Texas Intermediate (WTI) spot oil prices
(1998 - 2019, US\$/bbl)



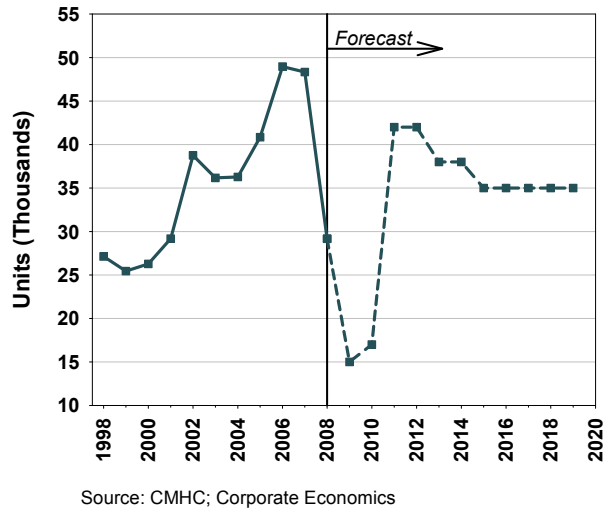
Consumer spending⁷

Consumer spending is expected to show modest growth from 2009 to 2010 in response to falling house prices, relatively high consumer debt levels, rising unemployment rates and stagnant growth in labour incomes. For example, total labour income grew by a mere 3.0 per cent year-over-year in March 2009. Job retrenchment acted as an offset to wage growth causing labour income growth to be modest. Alberta's labour force growth is expected to outpace employment growth and this should push the unemployment rate up to average 6.3 per cent in 2009, up from 3.5 per cent in 2008. Stronger job creation in 2010 and 2011 should buoy consumer spending in each of those years. Also, improved residential construction should boost retail sales. The inflation rate in Alberta is expected to advance by 0.6 per cent in 2009, in response to lower residential house prices.

⁶ Housing starts tend to have an impact on housing-related spending by households, which accounts for almost 20 per cent of consumer spending

⁷ Consumption expenditure accounts for almost 49 per cent of GDP and the data is divided into four categories: durable goods (13 per cent), semi-durable goods (9 per cent), non-durable goods (25 per cent) and services (53 per cent). Factors that have an impact on consumption include disposable income (as disposable income increases, so does potential consumption), household wealth (as a household's assets increase in value, the household has more purchasing power, which is reflected in its consumption spending), interest rates (high interest rates encourage consumers to save more and cut back on consumption and make it harder for consumers to get credit) and expected future income (the more consumers expect a high income, the more current consumption goes up).

Alberta: Housing starts
(1998 - 2019, thousands of units)



Government spending

The sharp reduction in resource prices resulted in Provincial government revenues falling below its expenditures. Given the projected deficit, the Provincial Government has responded by holding the line on spending. Government spending should be a drag on economic growth in 2009 and 2010

Net exports

Net exports is also expected to be drag on economic growth in 2009 and 2010 as the province continues to face weak demand for its exports from the rest of the world. Specifically, the demand for Alberta's energy exports, such as natural gas, to the US and Eastern Canada should remain weak during this period, as these economies continue to experience sub-par economic growth. Demand for oil, however, remains strong and it is likely Alberta's financial future lies in dramatically increasing oil exports beyond margin losses on lower prices.

Alberta's Gross Domestic Product (GDP) is expected to contract by 3.0 per cent in 2009 and grow by 2.5 per cent in 2010. As world economic growth gathers momentum, the Alberta economy should respond by growing at 3.9 per cent in 2011.

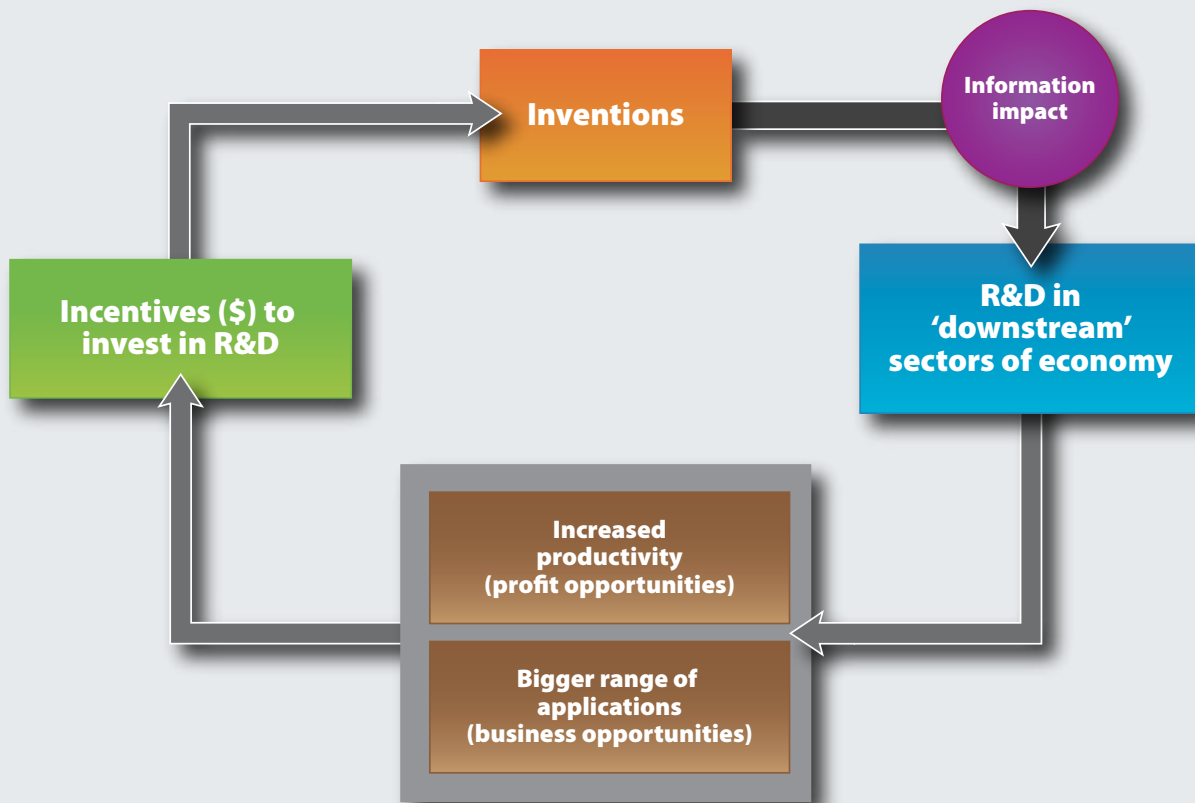
RECESSION = CHANGE: MUTUAL IMPACT BETWEEN TECHNOLOGY AND “BAD” TIMES

In a market economy companies go bankrupt. Overpriced products, lack of prudent financing and/or management and low productivity are all reasons for the failures. What is important when companies fail a void is created in the market which provides an opportunity for new (or refurbished) companies. This creates opportunity for; new organizational concepts, new technology and new products, all with higher productivity. In other words, an economy not only goes through up and down cycles it takes sidesteps when technology or paradigms change. Technology forces the existent economic and social institutional order into new channels.

about their spending and businesses are looking for new profitable opportunities.

Microsoft was founded in 1975, during the great oil shock recession. New generations of web application like Google and E-bay emerged after the dot-com bust. Inevitably a new class of production enhancing technologies should emerge from the current recession.

Research and development is constantly being invested in. New inventions are being patented every day, production tested and market tested. However, full production of the most radical new products and services is usually done in “lean times”, when people are most conscious





CANADIAN ECONOMY

SUMMARY

The Canadian economy should contract in 2009. Economic growth should be positive for 2010 and should accelerate in 2011. With the withdrawal of stimulus policies after recovery, economic growth in Canada should trend down to its long-term potential rate of 2.1 per cent by the end of the forecast period.

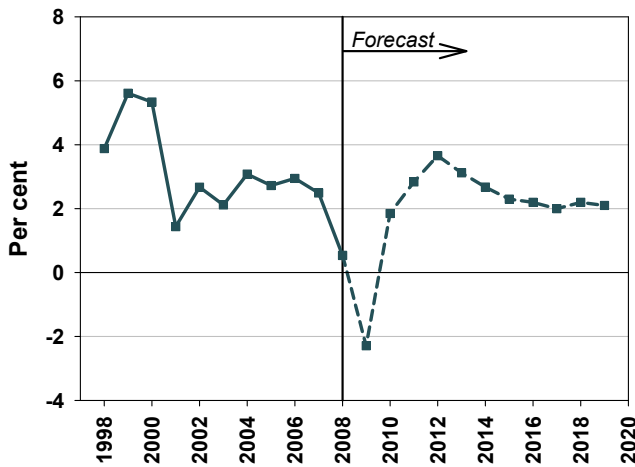
Consumers are burdened by high household debt and also concerned about their job security. Consumers are therefore expected to respond by saving and/or paying down debt.

The Canadian government is committed to stimulating the economy with large amounts of infrastructure investments and transfer payments, even at the expense of running deficits. This action is not sustainable over the long-term.

GDP growth

The Canadian economy should record positive growth by the second half of this year, but the average growth for 2009, as a whole, would be negative. Economic growth should be positive for 2010 and should accelerate in 2011. With the withdrawal of stimulus policies after recovery, economic growth in Canada should trend down to its long-term growth rate of 2.1 per cent by the end of the forecast period.

Canada: GDP growth
(1998 - 2019, per cent)

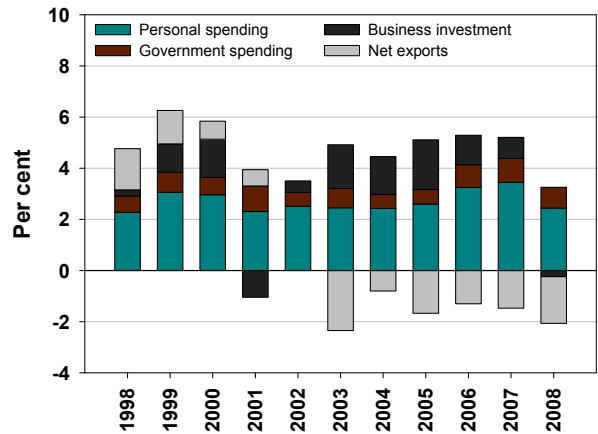


Source: Statistics Canada; Corporate Economics

GDP components

Canadian economic growth is driven by consumer and government spending, business investments, and net exports. Over the years, contributions to GDP growth in Canada were mainly from domestic demand including consumer spending, business investments (except in recession years of 2001 and 2008) and government spending. However, net export has been dragging economic growth since 2008.

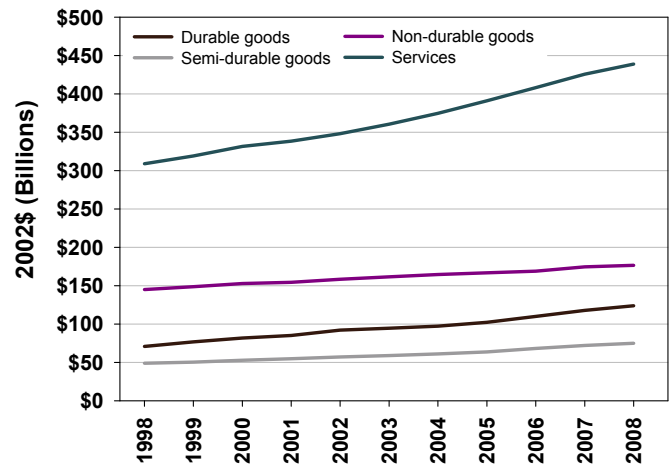
Canada: Contributions to percent change in Canadian real GDP
(1998 - 2009, per cent)



Source: Statistics Canada; Corporate Economics

Consumer spending on services is the largest component in household budgets and has grown the fastest over the last decade. This trend is not expected to hold over the forecast period. Spending on durable and semi-durable goods is expected to slow in the short-term due to the cautiousness of households. Consumers are burdened by high household debt and also concerned about their job security. Consumers are therefore expected to respond by saving and or paying down debt.

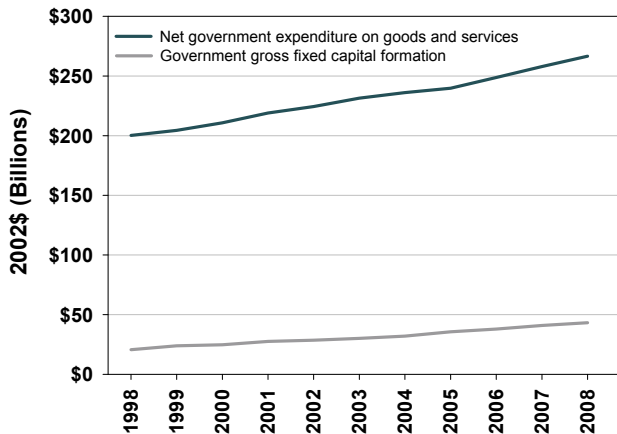
Canada: Real GDP components – personal spending
(1998 - 2008, 2002\$ billions)



Source: Statistics Canada; Corporate Economics

The contribution to economic growth from government spending has been steady for the past decade and is expected to increase over the next few years. The Canadian government is committed to stimulating the economy with large amounts of infrastructure investments and transfer payments, even at the expense of running deficits and increasing the debt. This action is not sustainable over the long-term.

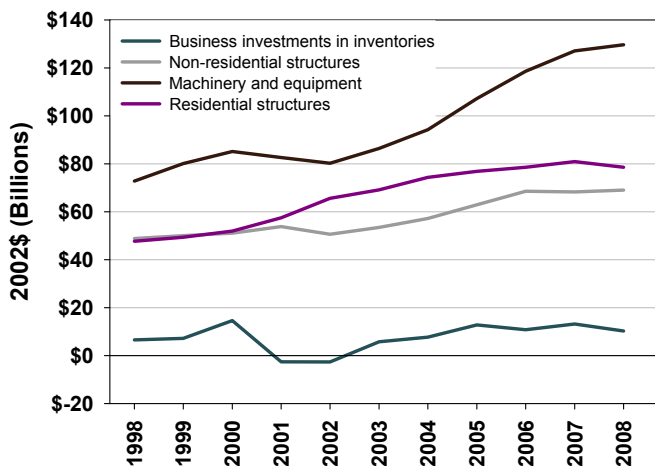
Canada: Real GDP components – government spending
(1998 - 2008, 2002\$ billions)



Source: Statistics Canada; Corporate Economics

Reduced business profits were blamed for companies' cost cutting, job retrenchment and reduced investment spending. In the near-term, business investments should lag overall economic growth in Canada. However, business investments should grow again in 2010 and 2011 as the business sector attempts to rebuild inventory levels.

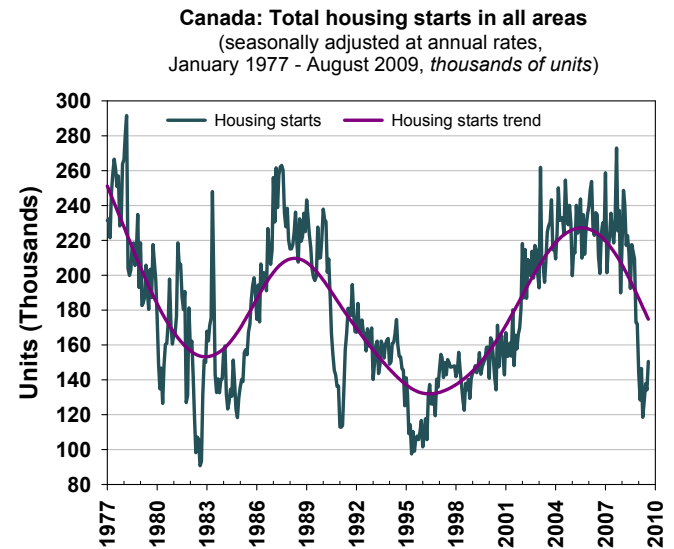
Canada: Real GDP components – business investments
(1998 - 2008, 2002\$ billions)



Source: Statistics Canada; Corporate Economics

Residential investment entered a cyclical downturn after peaking in mid 2007. Housing starts are expected to be low in 2009 and 2010, given high inventories in new and resale housing markets, job retrenchment, stagnant labour incomes

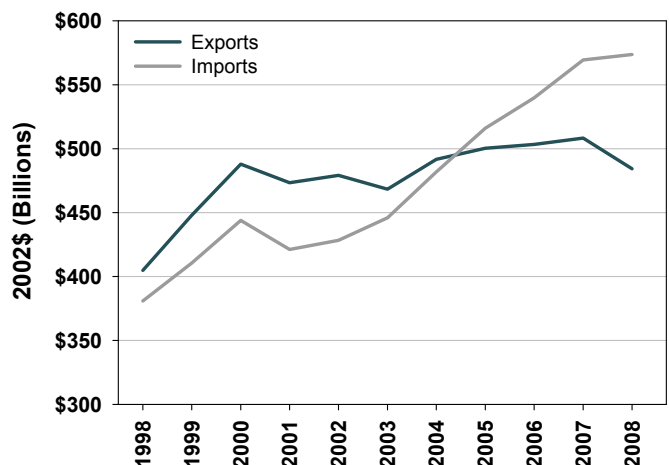
Canada: Total housing starts in all areas
(January 1977 - August 2009, thousands of units)



Source: Statistics Canada; Corporate Economics

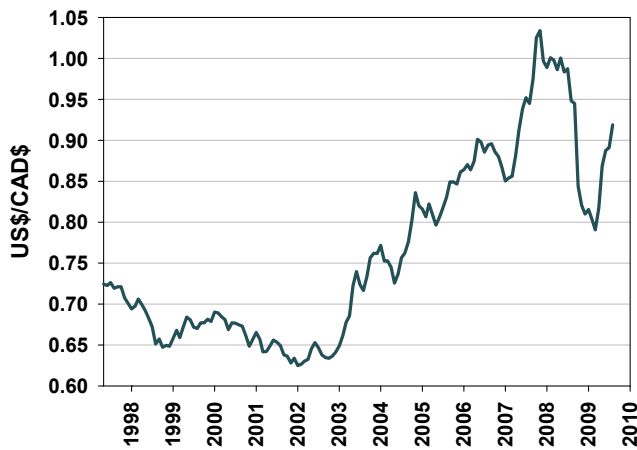
The volume of Canadian exports has grown much slower than imports since 2002, resulting in negative contributions to GDP growth from net exports over the period. This situation was brought on by the combination of the appreciation of Canadian dollar and the below potential growth in the US economy. The strong Canadian dollar reduced the competitiveness of Canadian exports. And, the US recession resulted in a lower demand for Canadian products. The Canadian dollar is expected to retain its strength for most of the forecast period and add to the downside risks in economic recovery.

Canada: Real GDP components, exports and imports
(1990 - 2000, 2002\$ billions)



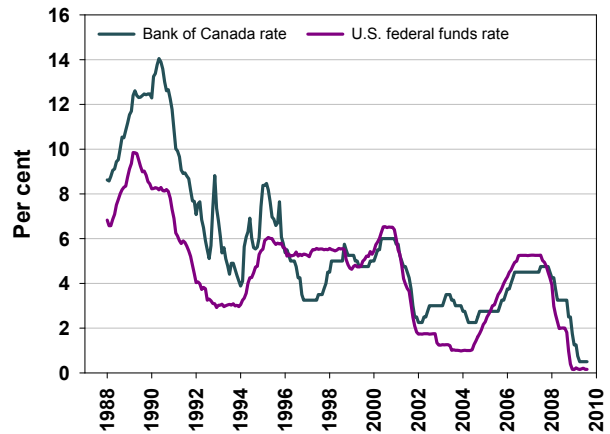
Source: Statistics Canada; Corporate Economics

Canada: Canadian/U.S. dollar exchange rate
(January 1998 - August 2009, US\$/CAD\$)



Source: Statistics Canada; Corporate Economics

Canada: Bank of Canada rate vs. effective U.S. federal funds rate
(January 1998 - August 2009, per cent)



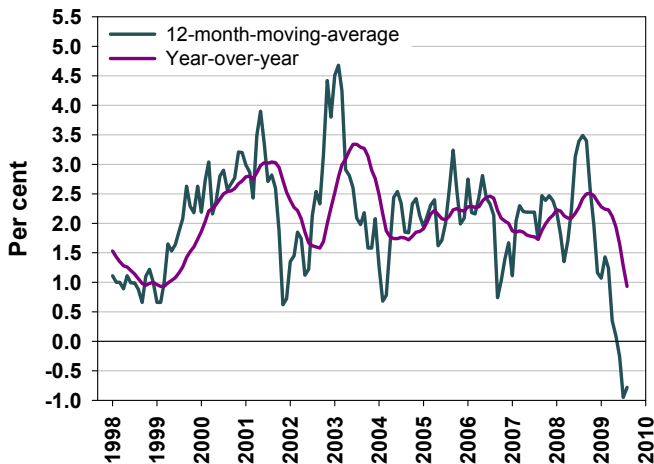
Source: Bank of Canada; U.S. Federal Reserve Banks of St. Louis; Corporate Economics

Inflation and Monetary Policy

Inflation in Canada trended down from the recent peak in 2003 to below zero in June 2009. In the latest Monetary Policy Report, the Bank of Canada projected low inflation rates for the next two years as the economy uses up its excess capacity. As a result, the Bank of Canada is committed to holding its current policy rate until the end of Q2/2010.

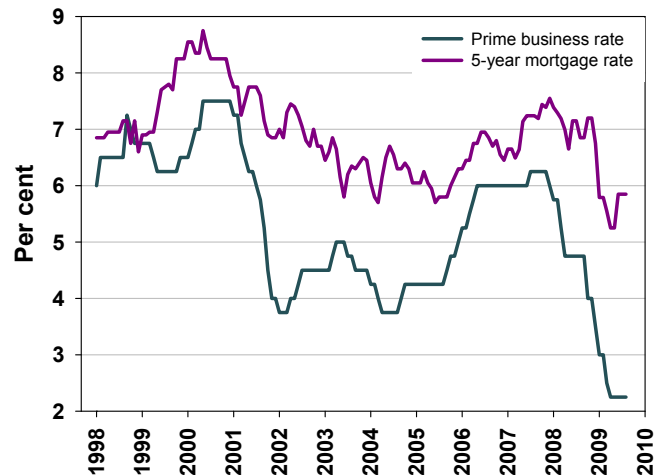
The prime rate and five-year mortgage rate in Canada dropped significantly from their peak in 2007. Low borrowing costs for Canadian businesses and home buyers provide a supportive environment for the recovery of domestic demand.

Canada: Inflation rates
Year-over-year vs. 12-month-moving-average
(January 1998 - August 2009, per cent)



Source: Statistics Canada; Corporate Economics

Canada: Prime business rate vs. 5-Year conventional mortgage rate
(January 1998 - August 2009, per cent)

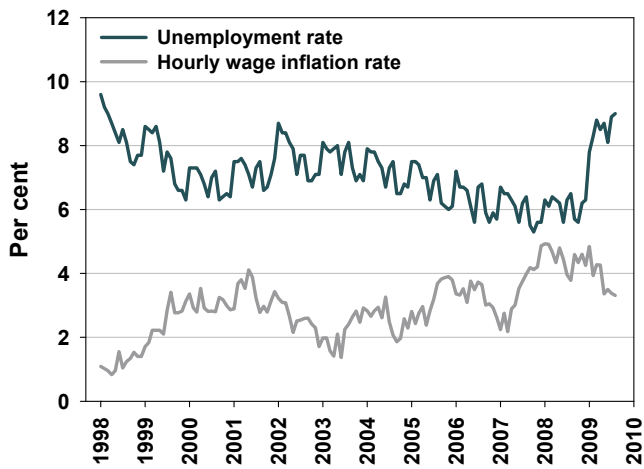


Source: Statistics Canada; Corporate Economics

Job market and income

Total employment in Canada (seasonally adjusted) peaked in October 2008 and has since fallen by 414,000 in July 2009. Youths (-205,000) and men aged 25 to 54 (-201,000) have suffered major losses. The unemployment rate climbed from 5.6 per cent to 8.9 per cent over the same period. Wage gains were much lower in this period than in previous periods. Lower wage inflation is indicative of the weak bargaining power of workers during a recession⁸. This trend is expected to continue until the middle of 2010. Historically, the recovery of the job market has always lagged behind the recovery of the economy.

Canada: Unemployment rate vs. hourly wage inflation
(January 1998 - August 2009, per cent)



Source: Statistics Canada; Corporate Economics

⁸ Unemployment rate and year-over-year wage inflation are un-adjusted by seasonality.

CANADIAN EMPLOYMENT INSURANCE (EI) SYSTEM

The Canadian Employment Insurance (EI) System was designed to provide financial assistance for people who lost their jobs through no fault of their own and are searching for new jobs. The newly unemployed who paid EI premiums and have accumulated the required number of insurable hours during the qualified period⁹ can receive monthly regular benefits of EI for a period of time from nineteen to fifty weeks. The required hours are based on the unemployment rate in the economic region where the unemployed live at the time of filing the claim for benefits (Table 1). Since the start of the current recession, unemployment rates increased dramatically in many regions, which accordingly changed the hours required for EI qualifications (Table 2).

Table 1: Insurable hours required¹⁰

Regional rate of unemployment	Required number of hours of insurable employment in the last 52 weeks
0% to 6%	700 hours
6.1% to 7%	665 hours
7.1% to 8%	630 hours
8.1% to 9%	595 hours
9.1% to 10%	560 hours
10.1% to 11%	525 hours
11.1% to 12%	490 hours
12.1% to 13%	455 hours
13.1% and over	420 hours

⁹ Qualifying period is usually the last 52 weeks before an unemployed submit EI claim
¹⁰ For first time workers or people re-entering the work force after an absence of two years, a minimum of 910 hours in the qualifying period may be needed.

Table 2: Three-month seasonally adjusted unemployment rate by EI region

CODE	EI ECONOMIC NAME	2009	2008	Year-over year
		Aug 9- Sep 5	Aug 10- Sep 6	Change
Nfld.				
01	ST. JOHN'S	8.1	7.8	0.3
02	NFLD -- LABRADOR	21.2	16.6	4.6
P.E.I.				
03	PRINCE EDWARD ISLAND	12.5	10.3	2.2
N.S.				
04	EASTERN NOVA SCOTIA	16.4	13.6	2.8
05	WESTERN NOVA SCOTIA	10.3	7.9	2.4
06	HALIFAX	6.1	5.4	0.7
N.B.				
07	FREDERICTON-MONCTON-SAINTE JOHN	6.4	6	0.4
08	MADAWASKA-CHARLOTTE	11.6	11	0.6
09	RESTIGOUCHE-ALBERT	14.4	14.9	-0.5
Que.				
10	GASPÉSIE--ÎLES-DE-LA-MADELEINE	16.2	18.3	-2.1
11	QUÉBEC	5	5.1	-0.1
12	TROIS-RIVIÈRES	8.5	8.4	0.1
13	SOUTH CENTRAL QUEBEC	6.9	5.3	1.6
14	SHERBROOKE	8.6	5.6	3
15	MONTÉRÉGIE	8.6	7.6	1
16	MONTRÉAL	9.7	7.6	2.1
17	CENTRAL QUEBEC	9.4	7.9	1.5

TEXT BOX 7

CODE	EI ECONOMIC NAME	2009	2008	Year-over year
		Aug 9- Sep 5	Aug 10- Sep 6	Change
18	NORTH WESTERN QUEBEC	11.2	9.4	1.8
19	BAS-SAINT-LAURENT-- CÔTE-NORD	11.4	11.6	-0.2
20	HULL	5.5	4.9	0.6
21	CHICOUTIMI-JONQUIÈRE	9.8	9	0.8
Ont.				
22	OTTAWA	6	5.2	0.8
23	EASTERN ONTARIO	8	6.1	1.9
24	KINGSTON	6.3	5.5	0.8
25	CENTRAL ONTARIO	9.9	6.3	3.6
26	OSHAWA	9.6	6.7	2.9
27	TORONTO	10	7	3
28	HAMILTON	8.2	5.5	2.7
29	ST. CATHARINES	10.5	7	3.5
30	LONDON	10.9	7	3.9
31	NIAGARA	12.2	8.2	4
32	WINDSOR	15.2	8.9	6.3
33	KITCHENER	9.9	6.3	3.6
34	HURON	10.6	7.8	2.8
35	SOUTH CENTRAL ONTARIO	8.4	4.9	3.5
36	SUDBURY	9.6	5.6	4
37	THUNDER BAY	8.5	6.4	2.1
38	NORTHERN ONTARIO	12.3	10.4	1.9
Man.				
39	WINNIPEG	5.2	4.2	1
40	SOUTHERN MANITOBA	5.9	4.8	1.1
41	NORTHERN MANITOBA	27	25.9	1.1
Sask.				

CODE	EI ECONOMIC NAME	2009	2008	Year-over year
		Aug 9- Sep 5	Aug 10- Sep 6	Change
42	REGINA	3.4	3.8	-0.4
43	SASKATOON	4.7	4.4	0.3
44	SOUTHERN SASKATCHEWAN	7.7	5.9	1.8
45	NORTHERN SASKATCHEWAN	16.7	15.8	0.9
Alta.				
46	CALGARY	7	3.3	3.7
47	EDMONTON	7.1	3.8	3.3
48	NORTHERN ALBERTA	10.3	8.7	1.6
49	SOUTHERN ALBERTA	7.8	4.3	3.5
B.C.				
50	SOUTHERN INTERIOR BRITISH COLUMBIA	11.2	6.6	4.6



WALL ST

U.S. ECONOMY

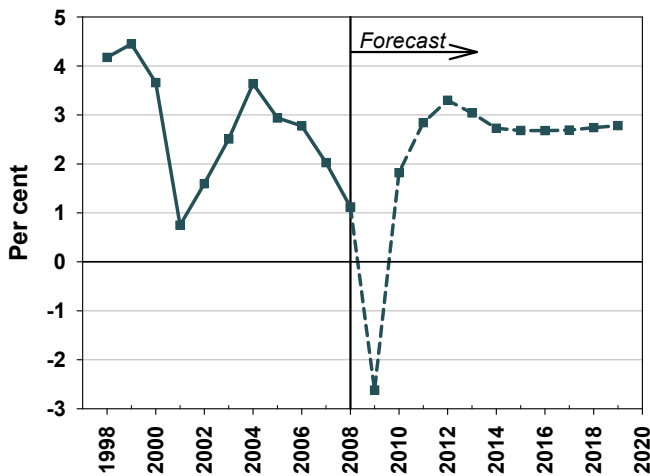
SUMMARY

The recession is believed to have bottomed out in the second half of 2009, bolstered by an accommodative monetary policy, government efforts to stabilize financial markets and the sizable fiscal stimulus. The recovery should be moderate in 2010 and then accelerate in 2011 and 2012, as the economy begins to experience job gains.

GDP growth

After contracting by 6.4 per cent in Q1, 2009, the U.S. economy's real GDP declined by 1.0 per cent in Q2, 2009. This provides more evidence that the strength of the recession is weakening. The recession is believed to have bottomed out in the second half of 2009, bolstered by an accommodative monetary policy, government efforts to stabilize financial markets and the sizable fiscal stimulus. The recovery should be moderate in 2010 and then accelerate in 2011 and 2012, as the economy begins to experience net job gains. Over the forecast period, the long-term U.S. GDP growth is expected to average 2.7 per cent annually.

U.S.: Real GDP growth
(January 1998 - August 2009, per cent)

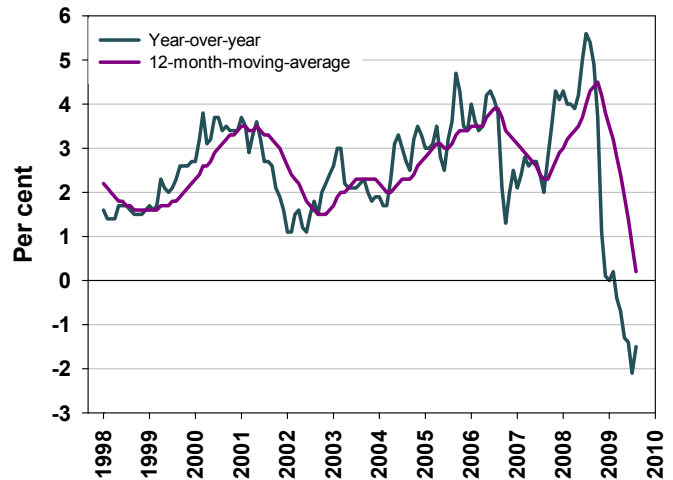


Source: U.S. Federal Bank Reserve of St. Louis: Corporate Economics

Inflation and monetary policy

The US inflation rate has trended downward to -1.5 per cent year-over-year in August 2009. The drop in the average price level reflects the rising unused capacity in the economy and weaknesses in energy and housing sectors. This situation allows the Federal Reserve (Fed) to maintain its Funds rate in the current accommodative range of 0 per cent to 0.25 per cent for an extended period.

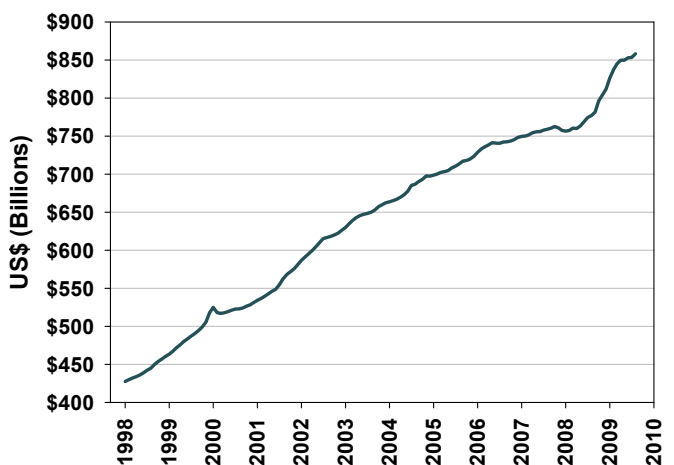
U.S.: Inflation rates
(January 1998 - August 2009, per cent)



Source: U.S. Federal Bank Reserve of St. Louis: Corporate Economics

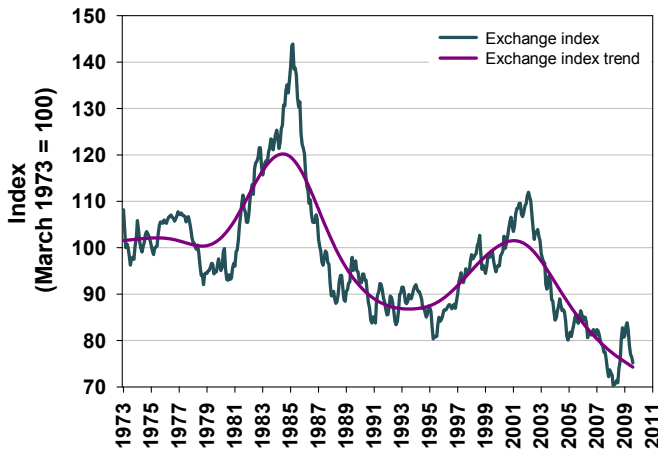
In addition to the historically low interest rate, the Fed has injected huge amounts of money into the economy since the start of the current recession to boost domestic demand. However, this unusually large increase in money supply combined with the U.S. government's increasing borrowings from other countries resulted in the weakening of the U.S. dollar. The trade weighted exchange index shows that the U.S. dollar has depreciated 29 per cent since January 2002, compared to major currencies in the Euro Area, Canada, Japan, United Kingdom, Switzerland, Australia, and Sweden.

U.S.: Money supply - Currency component of M1
(January 1998 - August 2009, thousands of units)



Source: U.S. Federal Bank Reserve of St. Louis: Corporate Economics

U.S.: Trade weighted exchange index - Major currencies
(January 1973-August 2009, index March 1973=100)



Source: U.S. Federal Bank Reserve of St. Louis: Corporate Economics

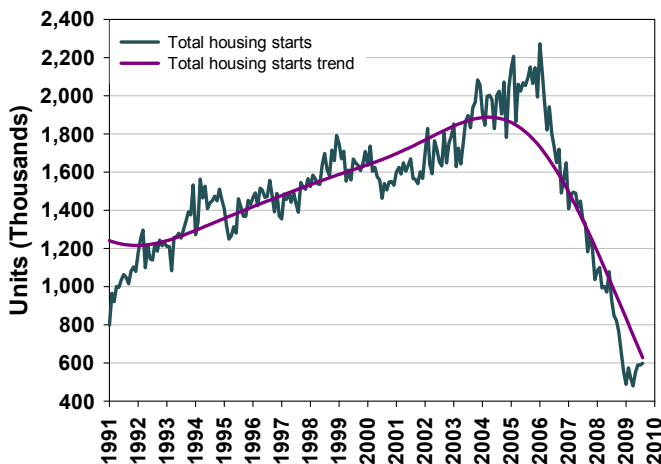
Residential investments

The U.S. housing market appears to be stabilizing in response to a growing demand. The inventory of new homes fell in June as buyers took advantage of falling house prices.

Increased demographic requirements over the forecast period should further reduce inventories to levels where new construction become sustainable. If the increase in housing starts proved sustainable, residential investments should begin to contribute to the economic growth after three years of drag.

U.S.: Total housing starts

(January 1991 - August 2009, thousands of units)



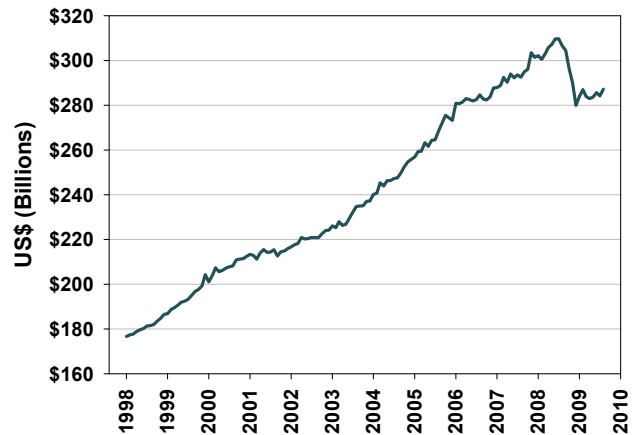
Source: U.S. Federal Bank Reserve of St. Louis: Corporate Economics

Consumer spending

Consumer spending, which represents 70 per cent of U.S. GDP, fell sharply in the second half of 2008 and recently leveled off. Although supported by the boost to household incomes from

the recently enacted fiscal stimulus package, continued job losses and large declines in household wealth (as evidenced by declining house prices and falling equity values) have weighed on consumption. Households are increasingly saving more and paying back debt in order to weather the uncertainties in this recession.

U.S.: Retail sales and food services
- excluding motor vehicles and parts dealers
(seasonally adjusted, January 1988-August 2009, billions of U.S. dollars)

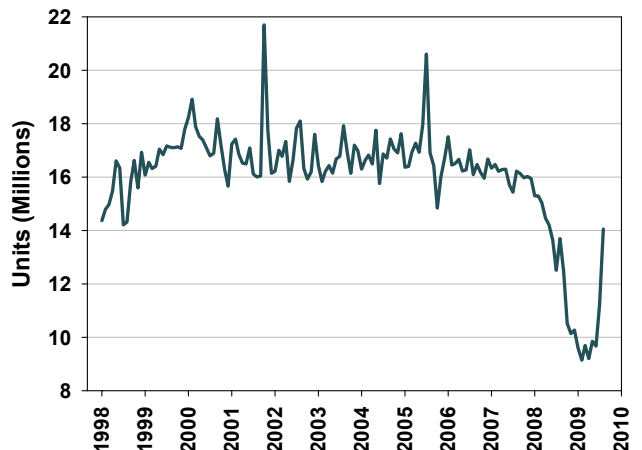


Source: U.S. Federal Bank Reserve of St. Louis: Corporate Economics

New vehicle sales in the U.S. leveled off in recent months after a steady decline since the beginning of current recession. Sales jumped in July, thanks to the U.S. government US\$1 billion Car Allowance Rebate System (CARS) or Cash for Clunkers program. Viewing it as a big success, the U.S. Senate approved a US\$2 billion extension of the program on August 7. The program is expected to stimulate the sales of new cars and increase the production of the domestic U.S. car manufacturers. In the end, consumers have limited disposable income and can only choose to pay for select purchases.

U.S.: Light weight vehicle sales

(seasonally adjusted annual rate, January 1988-August 2009, millions of units)



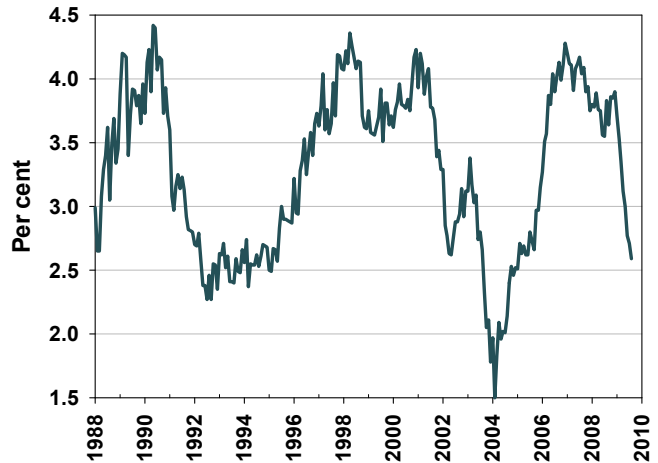
Source: U.S. Federal Bank Reserve of St. Louis: Corporate Economics

Job market and wage income

The job cuts in the U.S. labour market slowed in August with unemployment rate unexpectedly declining to 9.7 per cent from 9.5 per cent a month ago. However, the decline in unemployment rate might be a sign of more discouraged workers dropping out of the labour force.

In August 2009, there were about five million U.S. civilians unemployed for 27 or more weeks, the highest level on record. With job cuts still broad-based and job growth not expected this year, wage inflation continued to decline, presenting little support for an increase in consumer spending in the near-term.

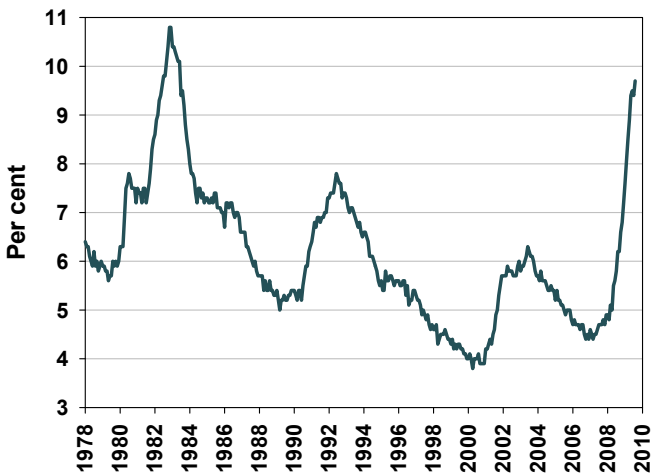
U.S.: Average hourly earning changes - private industries
(seasonally adjusted, January 1988-August 2009, year-over-year percentage change)



Source: U.S. Federal Bank Reserve of St. Louis; Corporate Economics

U.S.: Civilian unemployed rate

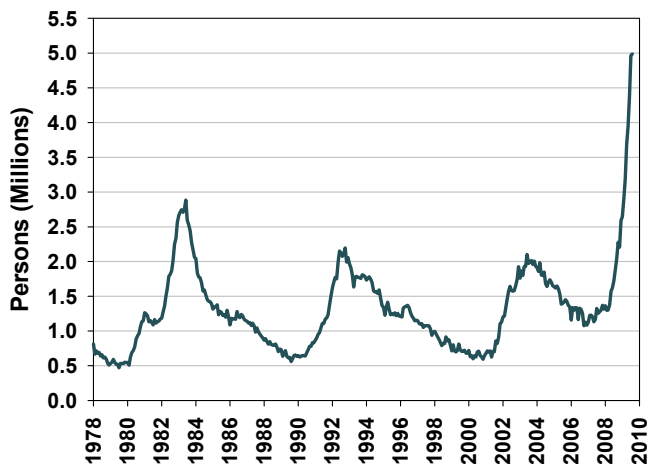
(seasonally adjusted, January 1978-August 2009, per cent)



Source: U.S. Federal Bank Reserve of St. Louis; Corporate Economics

U.S.: Civilian unemployed for 27 weeks and over

(seasonally adjusted, January 1978-August 2009, millions of person)



Source: U.S. Federal Bank Reserve of St. Louis; Corporate Economics

INFLATION OR DEFLATION: TWO POSSIBILITIES

Macroeconomic policy makers have succeeded in saving the world economy from a 1929 style depression. This was done through injection of large amounts of monetary and fiscal stimulus in various advanced countries. The challenge for policy makers now is to decide on, what is the optimal time for withdrawing this stimulus? Two distasteful outcomes are likely to result from a wrong decision: (a) if stimulus is withdrawn too soon, the economy is likely to be plunged back into a double dip recession and deflation may result, or (b) too late and the economy may be over-stimulated and inflation may result.

The possibility of deflation exists if the stimulus plan is terminated too early to pull the economy out of recession. We have seen the inflation rates in many countries hit all-time lows in 2009 for the first time since World War II, as demanded collapsed in the industrial economies. The decline in consumer prices this year has been an outcome of the worldwide financial crisis, falling asset values, and collapse in business and consumer confidence, in both developed and developing economies which has not happened since 1950s.

Compared to inflation, deflation is usually more harmful to the economy and more difficult to deal with for policymakers. When deflation happens, prices of goods and services drop, and consumers have an incentive to delay purchases until prices fall further, which in turn reduces aggregate demand and overall economic activity. Therefore, producers have to cut wages which further reduce consumers' demand. This will lead to a deflationary spiral. To make the situation worse, deflation increases real debts over nominal terms and deteriorates debt burdens for debtors who borrow from credit cards, mortgages and so on. The dangerous part is that central banks can do nothing about deflation, because they cannot cut nominal interest rates below zero.

However, important improvements in fiscal and monetary policies today in most of the economies make prolonged deflation less likely. After several decades of development in macroeconomics, there are well established social safety nets, deposit insurance, and frameworks for

banking crisis resolution in many countries. The debt-deflation mechanisms, and the role of macroeconomic policies in averting deflation, are now better understood. Furthermore, core inflation rates remain above 1.5 percent in most countries so far, which is still in the health range compared to 19th and 20th centuries which saw overall a period of price level decline. Nonetheless, the experience of Japan indicates that advanced economies cannot be considered immune to costly deflation.

At the same time, if the policy makers withdraw the stimulus too late, there exists the possibility of inflation caused by huge government deficits in the medium term. Central banks all over the world have taken vigorous response including cutting their policy rates to counter the increased credit risk premiums and implementing fiscal stimulus to support aggregate demand. This has simultaneously dragged the economy to the other vulnerability of inflation.

Rising prices hurt consumer spending power. Because nominal wages are sticky, usually prices rise faster than incomes, thus households can purchase fewer goods and services. High or unpredictable inflation rates also add inefficiencies in the market, and make it difficult for companies to budget or plan long-term. Inflation is regarded as harmful to an overall economy especially when it is too high and unexpected. Central banks can raise interest rates to suppress inflation.

The current situation in much of the industrialized world is similar to some extent to those deflation episodes that were accompanied with substantial output losses. In advanced economies, output is forecast to contract in 2009 for the first time since World War II. In emerging and developing countries, growth is expected to either slow sharply or turn negative. Now the central problem facing policymakers is how to find the optimal timing and amount of monetary and fiscal stimulus. This is the key variable which determines whether the world economy will have inflation or deflation later this year.



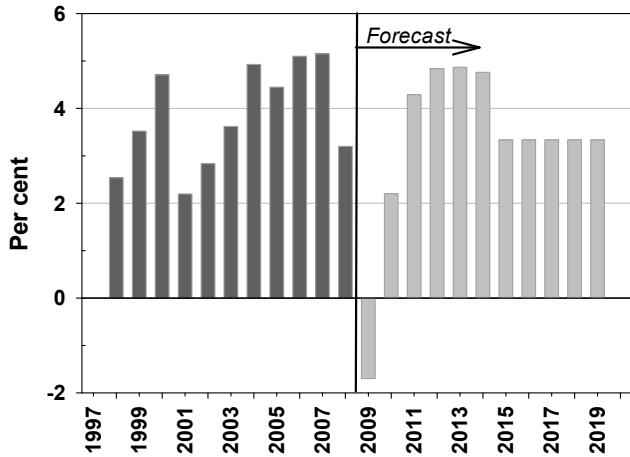
GLOBAL ECONOMY

SUMMARY

World output is expected to decline by 1.7 percent in 2009 as a whole. With a growth rate of 2.2 per cent in 2010, the recovery should be anemic. Higher growth rates will follow from 2011 to 2014 as the recovery gains momentum before falling back to its long-term trend.

The global economy is on the road to recovery from the worst financial and economic crisis since the Great Depression. Economic indicators provide tangible signs of improvement in the outlook for both the OECD countries and the emerging economies. World output is expected to decline by 1.7 percent in 2009 as a whole. With a growth rate of 2.2 per cent in 2010, the recovery should be anemic. Higher growth rates will follow from 2011 to 2014 as the recovery gains momentum before falling back to its long-term trend.

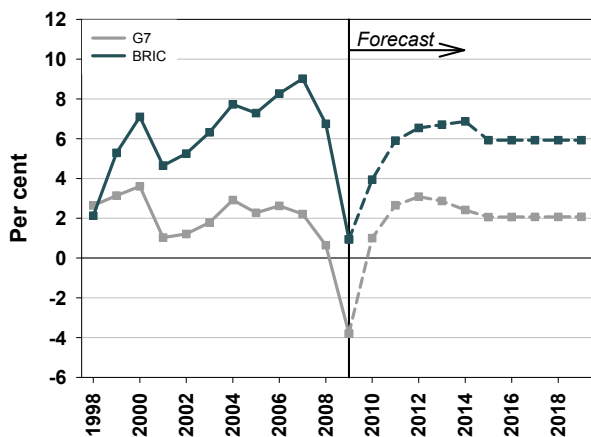
Wood: Economic growth rates
(1998-2019, per cent)



Source: International Money Fund (World Economy Outlook); Consensus Forecasts; World Bank; Corporate Economics

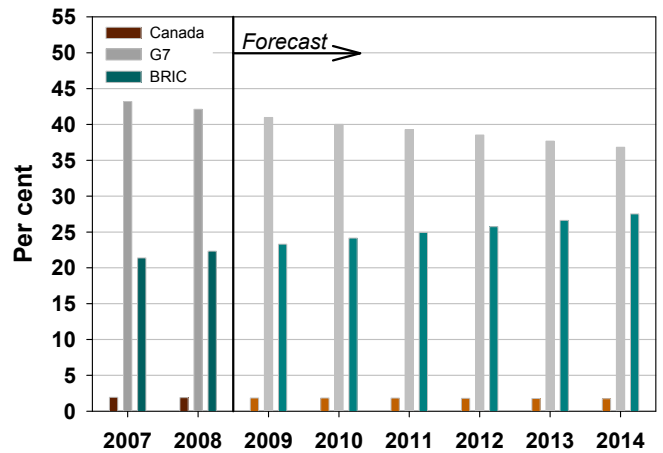
The major advanced economies are projected to suffer more in 2009. Within the G7, the most severe annual decline this year will be Japan, down by 6.2%. The emerging and developing economies would avoid a contraction in GDP but experience slower growth during the current crisis. China and India have grown by 6.5% and 4.5% respectively in Q1, 2009, in response to reduced exports to the developed economies.

G7 and BRIC: GDP growth rates
(1998-2019, per cent)



Source: International Money Fund (World Economy Outlook); Consensus Forecasts; Corporate Economics

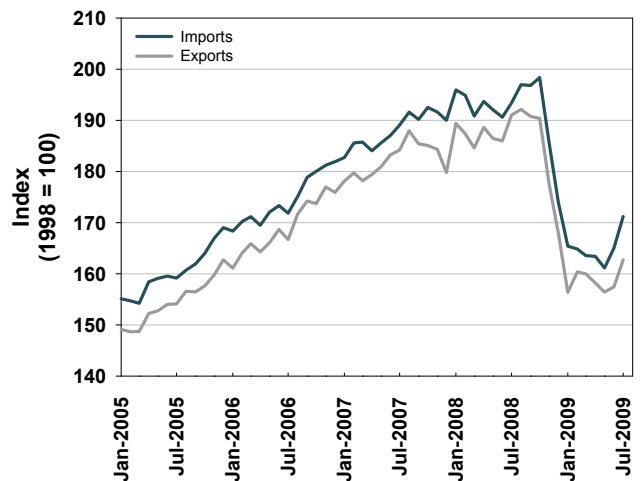
Selected economies: Shares of world total GDP
(2007-2014, per cent)



Source: International Money Fund (World Economy Outlook); Corporate Economics

The global contraction caused a sharp reduction in world trade volumes. For example, trade volumes plunged by 17% since its peak in October 2008, with the total imports dropping by 18% and exports by 16.2% respectively. The rate of decline in trade has slowed, but a sustainable recovery depends on the strengthening of demand in the advanced economies.

Wood: Exports and imports
(January 2005 - July 2009, index 1998=100)



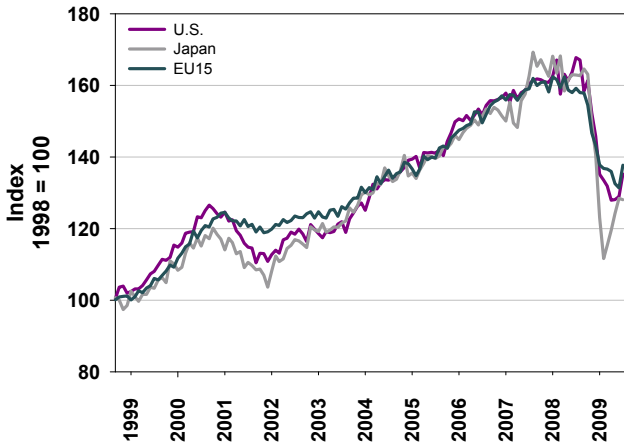
Source: Central Plan Bureau Netherlands; Corporate Economics

Note: World imports and exports may not balance due to difference in local marketing years and to time lags between reported exports and imports.

Canada's major trading partners experienced severe contractions both in exports and in imports. Compared to their own peaks last year, the trade volumes in US, EU15 countries and Japan decreased significantly from Q3 2008 to Q2 2009.

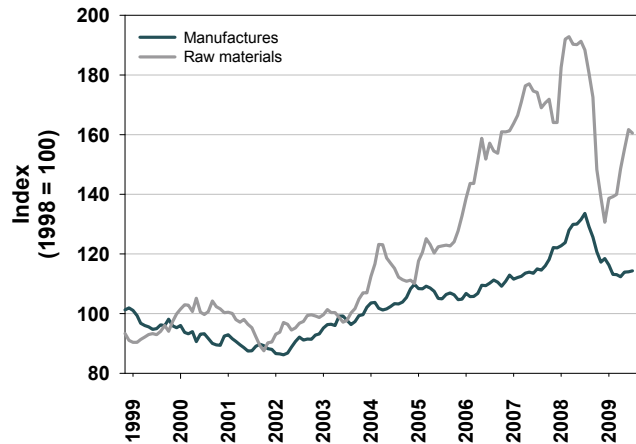
The economic recession reduced the demand and price for manufactured goods, and this had a negative effect on export oriented economies. Commodity prices, in 2009, fell sharply from the high levels of 2008, but have partly recovered since early this year.

U.S., Japan and EU15 countries: Total trade volumes
(1998-2019, index 1998=100)



Source: Central Plan Bureau Netherlands; Corporate Economics

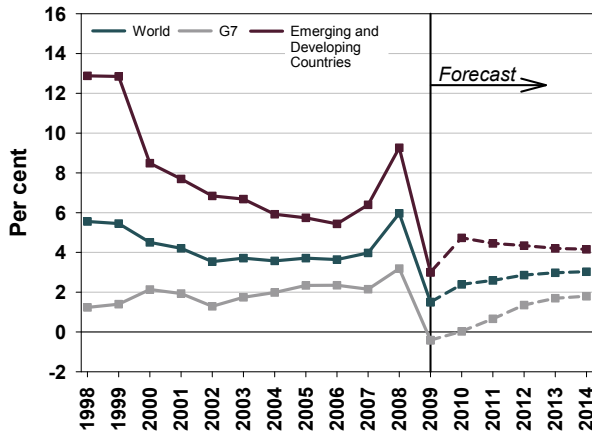
Wood: Commodity prices
(1998-2019, index 1998=100)



Source: Central Plan Bureau Netherlands; Corporate Economics

Inflationary pressures eased with the build up of unused capacity in the global economy. The headline inflation rates turned negative in 2009 in several economies. Core inflation is averaging around 1.5 per cent. It is expected that the inflation rate would average -0.4 per cent in the G7 countries, and around 3 per cent in emerging and developing countries in 2009. This is a sharp decline from the high inflation rates in 2008 and should stay at moderate levels in 2010.

World: Inflation rates
(1998 - 2014, per cent)



Source: International Money Fund (World Economy Outlook); Corporate Economics

WORLD ECONOMIC RECESSION AND GLOBALIZATION

The global crisis has attacked many economies all over the world, triggering a slump in world trade and putting globalization on hold. Global trade in 2009 is expected to contract for the first time since 1980s and the most since World War II. The possible causes for this sharp slump are:

- ▶ The growth contraction in developed economies and the sharp slowdown in emerging markets are pulling down global manufacturing activity and export demand due to declining consumer spending and low consumer confidence.
- ▶ Credit conditions become tighter which also affect trade and shipping finance negatively through; stringent lending standards, guarantee requirements, and higher costs for trades' access to credit.

The current world economic recession has started to affect the drivers behind the rapid growth of globalization in recent years, including private ownership, globally integrated business, integrated financial systems, and open markets.

- ▶ Since the start of the crisis, public participation in private sectors has increased significantly. Many economies including the United States and the European Union have put public stimulus injections in their banking sectors, automobile, insurance and other industries.
- ▶ National responses to crisis can lead to economic and financial fragmentation. Banks were required to continue domestic lending and reduce their overall balance sheets, which implies credit was being rationed disproportionately against foreign markets.

Usually during a recession, countries are tempted to restrict trade liberalization by reducing imports, exporting unemployment, and requiring domestic lending. In a globalized market, production of many input products has been sourced around the world so there is a multiplier effect, as demand falls, trade falls even further.

The depleted availability of funds for trade finance has further contributed to the significant decline in trade flows, in particular in developing countries. The mechanism of globalization indicates that with the recovery of global demand, trade will grow faster than world output.



COMMODITY PRICES

SUMMARY

Commodity prices, in 2009, fell sharply from the high levels of 2008, but have partly recovered since early this year.

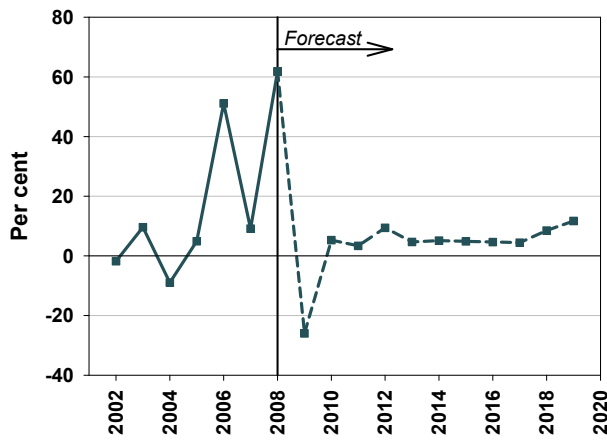
Asphalt prices are expected to moderate over the near term as the balance between roofing and roadwork shifts back to historical norms in the 2012 time frame.

Diesel fuel prices are expected to grow steadily over the forecast period as world economic growth returns to positive territory.

Asphalt

Asphalt is used for roofing and for road construction in Canada. Increased road construction financed with stimulus funding is offsetting decreased roofing demand caused by reduced housing construction activity. Prices are expected to moderate over the near-term as the balance between roofing and roadwork shifts back to historical norms in the 2012 time-frame. There is an upside risk; if the recovery happens too quickly, and oil prices spike due to increased demand while supply is slow to catch up, asphalt prices will follow the rise in oil price.

Asphalt price inflation
(1998-2019, per cent)

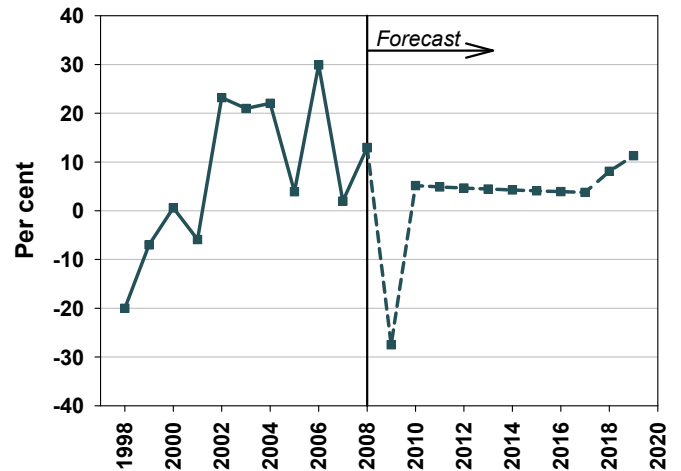


Source: Ontario Ministry of Transportation; Corporate Economics

Rubber

Chinese, German and French stimulus packages appear to be working much better than the US stimulus program resulting in increased demand for rubber in 2009. General Motors and Chrysler early return to production, along with the U.S. "Cash for clunkers" program, is contributing to greater global demand than was previously expected. The outlook is for price declines in 2009 and reasonable increases until 2018. Around this time, global demand will necessitate increased synthetic rubber production which will bring the price of rubber more closely in line with the price of oil.

Rubber price inflation
(1998-2019, per cent)

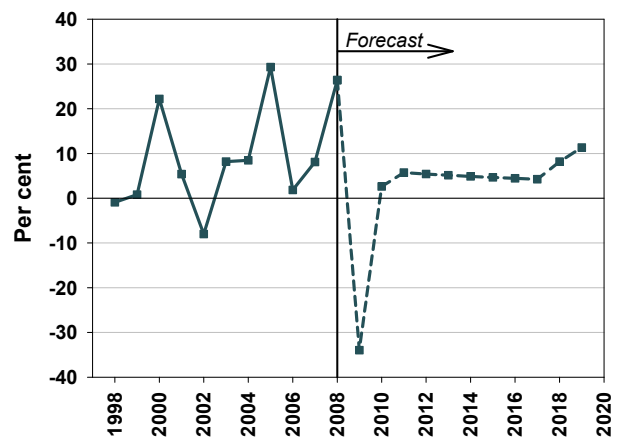


Source: Statistics Canada; Corporate Economics

Diesel

A wind storm during the summer of 2009 in Edmonton damaged local refining capacity driving the local price of diesel up slightly higher than expected for 2009. The outlook for the price of oil and diesel remains unchanged with more normal demand expected in 2011 - 2012 as unemployment eases generating increased consumer spending on shipped goods while residential construction accelerates.

Diesel oil price inflation
(1998 - 2019, per cent)

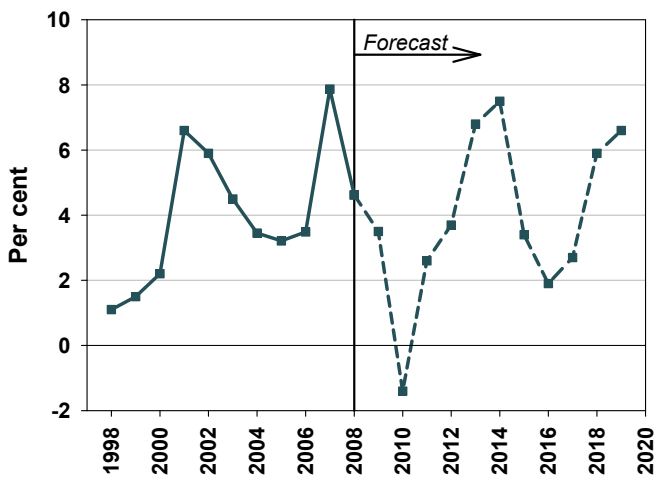


Source: Statistics Canada; Corporate Economics

Vehicle parts

U.S. auto makers are currently focused on building more fuel efficient vehicles. This new direction combined with the cash for clunkers program, shortens the expected lifespan of the existing vehicle fleet. This shortens the shelf life of existing auto parts driving prices down for now but driving future prices up as design, re-tooling and manufacturing of new parts are accelerated. Short life-cycles for existing vehicle inventory will mean less mechanical labour is required further decelerating the cost of vehicle parts in the short-term.

Vehicle parts price inflation
(1998-2019, per cent)

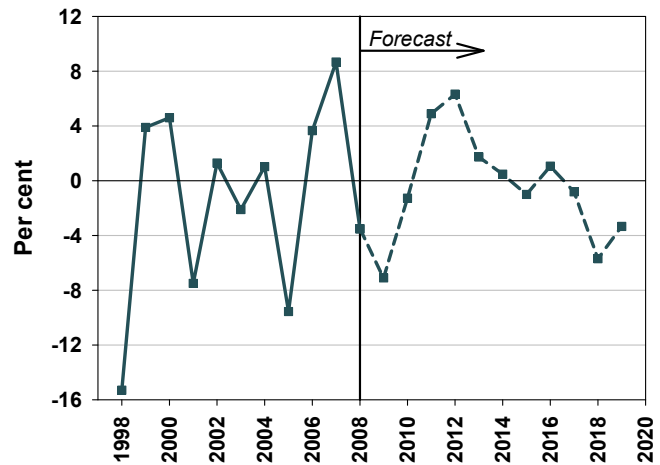


Source: Statistics Canada; Corporate Economics

Wood

Wood prices are falling in the short term due to decreased housing construction in Canada and the US. Increased international competition and the replacement of some wood building materials with metals place longer term pressures on prices. Trade agreements with the US will likely be re-written resulting in the US imposing duties on Canadian exports. Canadian prices are expected to be in the \$225 per 1000 board foot range for 2010/2011 and rise to \$257 by 2015 on increased construction activity before falling back to the mid \$230 range by the end of the forecast period.

Wood price inflation
(1998-2019, per cent)

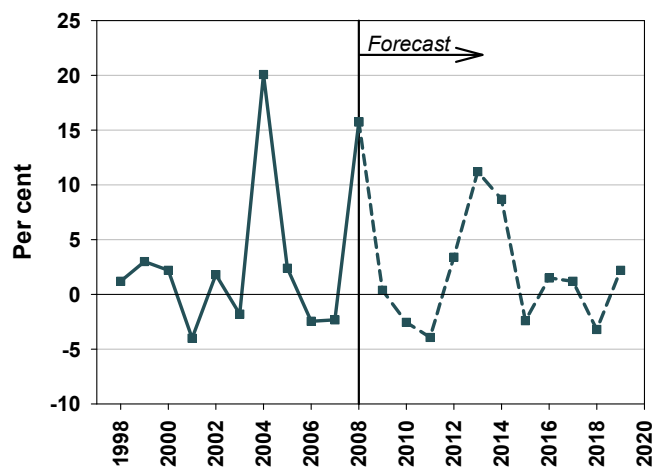


Source: Statistics Canada; Corporate Economics

Steel

Chinese demand for steel remained strong in the first half of 2009 which offset decreased global demand from auto manufacturers. The GM and Chrysler return to production began just as Chinese demand began to wane. This resulted in stable 2009 steel prices. Reduced commercial construction in the near term and lower car production than normal will keep steel prices low until 2012/2013 when the US should produce its second generation of hybrid electric vehicles at more affordable prices.

Iron and steel price inflation
(1998-2019, per cent)

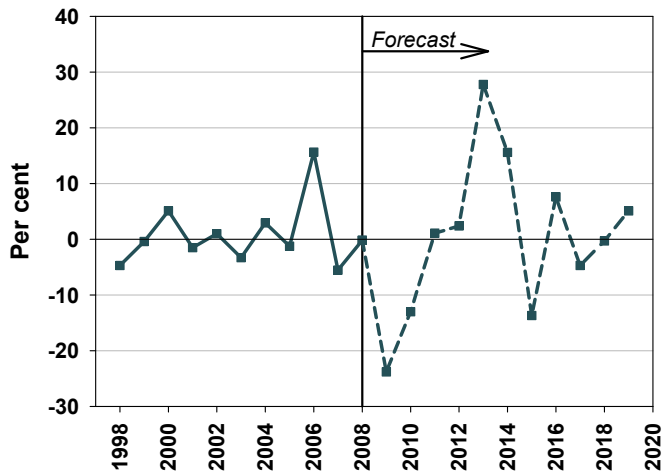


Source: Statistics Canada; Corporate Economics

Aluminum

Electricity demand in North America was dramatically affected in the first half of 2009 as businesses closed and foreclosures mounted. Decreased electric demand meant previously scheduled expansion to the electrical transmission facilities were placed on hold. Because these facilities are predominantly made of aluminum, this has temporarily depressed global prices for this metal. When the recovery kicks in and businesses begin to re-open electric demand will return. Adding to this, Hybrid electric vehicles are expected to hit the mass market around 2013 with a double impact on Aluminum markets. Not only is Aluminum a major component of these lighter vehicles but recharging requirements will further necessitate electric transmission system upgrades.

Aluminum price inflation
(1998-2019, per cent)



Source: Statistics Canada; Corporate Economics

PROTECTIONISM

By specializing in certain sectors countries have been able to produce more products. With matched increases in international trade employment was maintained and the wealth of citizens enhanced. However, increased international trade exposed countries to economic downturns that started in other countries. This caused significantly less international trade, lost jobs and an overall lowering of domestic wealth.

Protectionism raises the prices of imports so domestic manufacturers that face higher cost structures can compete. This stabilizes employment domestically, and can increase employment when international trade falls off, but the cost is relatively more expensive and less variety of consumer goods.

With the global recession of 2009-2010 global demand for finished products and services is down. International trade is down significantly. To boost the demand developed and developing nations have announced "stimulus packages". However, there are strong political undercurrents attached to that government spending. Governments wish to create jobs in their own countries with that money but production of many products needed for the public projects are produced in other countries. Spending in one country means some jobs are created in another.

The G-20 Countries met in November 2008 to address this issue. They resolved to support the globalized economy by encouraging international trade and not to enact protectionist policies that limit or prevent countries from exporting to them. However, most G-20 nations have responded to the need to support employment in their own countries by enacting policies which favor their own domestic production.

The most publicized of these is America's "Buy American" clause in its stimulus package but most G-20 nations now have similar policies and programs. Indeed, even the Chinese have recently enacted a "Buy Chinese" policy and the Federation of Canadian Municipalities has adopted a motion encouraging Canadian Municipalities to not buy from nations that have a policy disfavoring

Canadian exports.

Additionally, the US Congress has passed the American Clean Energy and Security Act of 2009, H.R. 2454. This Act has a provision that allows the US to institute a "border adjustment", which is a new tariff or tax on imported goods, supposedly to be imposed on goods from countries that do not have a greenhouse gas reduction strategy. However, the stated goal of this measure is to protect American jobs, not necessarily to see global greenhouse gas emissions decrease. India has already voiced its' disapproval of the measure and the Canadian government is moving on creating it's own cap-and-trade greenhouse gas rules in hopes that Canadian exports will not suffer these "border adjustments". Meanwhile, Chinese tire exports may be the first test of this legislation as the U.S. has imposed significant duties on this export for the purpose of protecting American jobs, not for the purpose of reducing greenhouse emissions.

However there is one fundamental problem with protectionism today, one problem that dooms the recent protectionism movement. That problem is population. By the time significant production facilities can be built to serve domestic desires for diverse products the baby boom generation will be entering their retirement years and developed countries will face labour shortages. Demand for products, caused by rising wages of the remaining workers, will necessitate increased international trade and the shortage of workers in the developed world will eliminate the need to protect local jobs.

The latest wave of protectionism will thus be short lived and can only be used to protect domestic industries that already exist so that they survive the recession intact and are able to serve the global economy tomorrow.

FORECAST RISKS

Forecasts are always subjected to both upside and downside risks. The risks for this forecast are as follows:

Downside risk

- ▶ Household spending is not expected to be a major force in boosting domestic demand in the very near term even if the consumer sector accounts for about 70 per cent of GDP in North America.
 - North American households have suffered major losses of wealth and jobs in the current economic crisis and they are also heavily indebted.
 - A prolonged (and deeper) recession would create situations where people run out of employment benefits.
- ▶ Even though the global credit crisis has eased the U.S. banking system is still burdened with bad debts.
- ▶ The possibility of a delayed worldwide recovery exists if the stimulus plans are terminated too early.
- ▶ Protectionism is generally an outcome of a steep recession where governments try to stimulate demand in their countries at the expense of foreign countries. These actions generally result in a reduction in trade volumes and in the end, every one suffers by paying higher prices.
- ▶ Alberta's royalty revenues from natural gas are significantly reduced due to sharp drop of natural gas prices and volumes sold, in response to increased gas supplies from the drilling of shale reserves in the US and the collapse of US demand. This has caused the provincial budget to move into a deficit position. Given, the province's resolve to hold the line on spending, its stakeholders should expect very little increase in transfer payments.
- ▶ Uncertainties around U.S. clean energy bill could delay investments in Alberta's tarsands.

Upside risk

- ▶ The possibility of a rapid worldwide recovery exists if the stimulus plans are kept in place for an extended period of time.

- ▶ Through the purchase of foreign assets, China is attempting to diversify its investments portfolio. Such cash infusion into commercial real estate in the U.S. may stabilize that sector.
- ▶ Canada's stable banking system may lure more foreign investors to do business in Canada (for example: China investing in Canadian resources such as uranium, conventional oil and tarsands.)
- ▶ Alberta, known as the 'wealthy' province in Canada, with relatively low taxes, can lure more newcomers. Their spending would support the province's retail sector.
- ▶ Alberta as an energy producer would benefit from higher energy prices and lower input costs.
 - Oil prices after bottoming out, at \$US39 (per barrel) in February 2009, have staged a strong rebound and have traded around \$US70 as of September 2009.
 - Higher unemployment rates in all Canadian provinces have exerted downward pressure on wage inflation rates.
 - The world recession has reduced the demand for building materials and prices for these commodities have fallen as a result.
- ▶ The combination of higher prices and reduced input costs should lead to improved profitability for the various investment projects and therefore induce investments in tarsands facilities. Oilsands companies are re-examining the economics of their stalled projects in view of rising prices and falling input costs. Increased investment spending in the tarsands should rebound in the early stages of the forecast period.
- ▶ The need for energy security should drive the search for a secure North American energy source. Consequently, this should boost investment in the province's and country's transportation infrastructure that is geared at delivering the tarsands output to markets in the U.S.

FORECAST IMPACTS

Variable	Direction of Change	Impacts/Implications		
		The City of Calgary	Community	Other Orders of Government
Gross Domestic Product (%) - World	World economic activity is expected to expand in 2010 and grow faster in 2011	Inflation rates for commodities purchased by The City should be higher. In 2010 and 2011.	Businesses should experience increased demand for commodities. The prices for oil should increase in 2010 and 2011 as the demand for this commodity increases in the developed and developing world.	Resource and income tax revenues should increase.
Gross Domestic Product (%) - Canada	The Canadian economy would recover in 2010 but growth would be sub-par as: consumers are burdened with debt; corporate profits grow below trend; governments are faced with increased deficits and debt; and net exports remain weak as the US economy grows below its potential.	A GDP drop means lower tax revenues for province and feds, which signals lower transfers to municipalities over the forecast horizon as well as an increased risk of downloading responsibilities to local municipalities	The market for goods and services in the rest of Canada from the Calgary Economic Region would grow at a slower pace. Jobs would increase at a slower rate than the growth in the labour force and cause the unemployment rate to be higher in the next couple of years.	The demand for Income support programs would increase in the 2010. Also, budget deficits are likely to increase.
Prime Business Loan Rate (%)	The Bank of Canada has pledged to maintain short-term interest rates at current levels until late 2010.	Lower Interest service charges should not have a direct effect on The City. However, the impacts would be indirect as services providers pass on lower charges as lower fees to The City	This should lower the cost of credit and therefore stimulate consumers' purchase of big ticket items. Businesses are expected to take advantage of lower capital costs by boosting spending on capital goods.	Eases the burden of financing new national debt as new borrowings don't have to be offered a high return.
Crude Oil Price - WTI (US\$/bbl)	Higher oil prices in 2010 and 2011	Consumers disposable incomes should be reduced and transit gains a relative costs advantage over the automobile. Higher gasoline and diesel fuel prices should result in higher City operating costs.	Alberta is a net exporter of crude oil and therefore should benefit from higher revenues. This results in increased economic activity for the provincial and local economies.	Higher oil prices and increased economic activity should result in an increase in provincial resource revenues
Alberta Natural Gas Price - AECO/NIT (Can\$/GJ)	Remains flat	Modest growth in franchise fees as growth would come mainly from market expansion and not from price increases. Municipalities may receive less in transfer payments from the provincial government.	Drilling in the natural gas sector would be adversely affected by historically low prices. This would have a negative impact on related sectors of the local economy. The economic effects of lower natural gas prices should neutralize the benefits from higher oil prices.	Natural gas is a major revenue source for the provincial treasury and consequently, the provincial budget would be adversely affected. The province is expected to respond in its 2010/2011 budget by attempting to control spending.

FORECAST IMPACTS

Variable	Direction of Change	Impacts/Implications		
		The City of Calgary	Community	Other Orders of Government
Gross Domestic Product (%) - CER	Moderates due to lower rates of investment in residential and non-residential space.	Reduces growth rate for new space; residential and non-residential Slower growth in revenue base; assessment and non-assessment from taxes and fees	Economic growth should result in increased employment and population in the community. Jobs would increase at a slower rate than the growth in the labour force and cause the Calgary unemployment rate to be higher. The number of personal and business bankruptcies are likely to increase in 2010 and plateau in 2011 before declining for the rest of the forecast period.	
Employment	Moderate growth from 2010 to end of the forecast period.	The demand for non-residential space should increase and consequently, the non-residential tax base should grow.	Labour income should increase. This should provide support for the growth of consumer spending.	
Population Growth	Continued growth Population aging Increase in number of retirees Increase in youngest cohorts Decrease in first time labour market entrants Population growth would continue to be dependent on positive net migration levels.	Growth in demand for city services would be shaped by changing demographics. Population growth between 2009 and 2011 should result in an additional 28,000 households and by 2019 this figure should increase to 82,000. This implies an increase in the overall demand for municipal services.	The statistics imply that employers would encounter greater difficulties in hiring younger workers as the Baby-Boom generation enters its retirement years. Businesses and non-profit organizations would experience an expanding market for goods and services that are favored by an older population.	
Building Permits (\$billion)	Return to 2000 to 2003 levels. The markets for residential and non-residential real estate are in over supply situation.	Smaller levels of revenues that are tied to building permits should be expected over the 2010 – 2011 period.	Employment in the construction industry would be below the 2000 – 2008 levels.	
Housing Starts ('000 Units) CMA	Housing starts would grow below demographic requirements in 2009 and 2010.	Growth rate of residential tax base will be reduced	Average household sizes will increased pressure for parents as young adults stay to help children get a start by at home longer before venturing on their own, contributing to down payments.	
House price	Moderate increase due to a more balanced market	Housing affordability may deteriorate over this period if house prices grow at a faster rate than wages,.	Increased need for affordable housing options.	
Non-Residential Building Price Inflation (%)	Rate of growth should moderate as some commodity prices fall on world markets	The trend in cost increases should break from recent past and grow at slower rates. Costs over runs should be reduced		

FORECAST IMPACTS

Variable	Direction of Change	Impacts/Implications		
		The City of Calgary	Community	Other Orders of Government
Consumer price inflation	Modest inflation rates are expected in 2010 and 2011, as the region tries to adjust to excess capacity.	The City may experience lower rates of inflation, compared, to the recent past for those services that are linked to the consumer price index.	Household income should depreciate at a reduced rate.	
Median Income	Stagnant	Reduced demand / revenue generation for fee-based services	Reduced disposable income constraining consumer spending on goods and services.	Reduced tax revenue growth
Low-income Rate	Increasing	Increased demand for fee subsidies (Recreation, Transit)	Increased demand for social services, particularly basic needs and crisis services.	Increased demand for support services, including Social Assistance.
Average Rent	Moderating	Possibly moderating shelter and affordable housing demand.	Household financial stress may be partially alleviated.	Possibly moderating shelter and affordable housing demand.
Immigration	Increasing	Increased attention to issues of diversity in program and service delivery.	Increased attention to issues of diversity in program and service delivery. Increased demand for settlement services.	Increased attention to issues of diversity in program and service delivery.
Charitable Donations	Decreasing	Increased demand for funding support through City funding programs such as FCSS.	Reduced financial capacity among social service, arts, culture and leisure organizations.	Increased demand for funding support through funding programs.
Crime Rate	Decreasing	Reduced strain on police services.	Increasing sense of safety among citizens.	Reduced strain on justice services.
Suburban Population Growth	Slowing	Moderating demands for new physical and social infrastructure in developing areas.		
CPI	Flat	The cost of goods and services that are linked to CPI would grow at a slower rate.	Low rate of inflation will ease financial stress on lower-income households.	
Unemployment	Increases in 2010.	Major employer would find it relatively easier to hire the required skills.	Continued high unemployment will suppress wage growth and create financial strain on unemployed workers. Slacker labour market may benefit voluntary sector that has been struggling with HR issues due to labour shortage.	Increased demand for income supplements.

Table 1: Selected Economic Indicators

Rest of the World, United States, Canada, Alberta, Calgary Economic Region & Calgary CMA

	BASE FORECAST																						
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
ASSUMPTIONS																							
Global Economy																							
World Gross Domestic Product (annual % change)	2.5	3.5	4.7	2.2	2.8	3.6	4.9	4.4	5.1	5.2	3.4	-1.7	2.2	4.2	4.8	4.9	4.8	3.3	3.3	3.3	3.3	3.3	3.3
The United States																							
U.S. Real Gross Domestic Product growth (chained 2000 dollar)(%)	4.2	4.4	3.7	0.8	1.6	2.5	3.6	2.9	2.8	2.0	1.1	-2.6	1.8	2.8	3.3	3.0	2.7	2.7	2.7	2.7	2.7	2.7	2.8
Canada																							
Real Canada Gross Domestic Product growth, (chained 2002 dollar)(%)	3.9	5.6	5.3	1.4	2.7	2.1	3.1	2.7	2.9	2.5	0.5	-2.3	1.9	2.8	3.7	3.1	2.7	2.3	2.2	2.0	2.2	2.2	2.1
Prime Business Loan Rate (%)	6.6	6.4	7.3	5.8	4.2	4.7	4.0	4.4	5.8	6.1	4.7	2.3	2.5	5.5	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Canadian/US. Exchange Rate (US\$/Cdn\$)	0.67	0.67	0.67	0.65	0.64	0.72	0.77	0.83	0.88	0.94	0.94	0.88	0.90	0.91	0.92	0.93	0.94	0.95	0.95	0.95	0.95	0.95	0.95
Alberta																							
Gross Domestic Product (%)	4.7	2.1	6.5	2.0	1.7	3.2	5.5	4.7	5.8	2.9	0.6	-3.0	2.5	3.9	3.5	3.0	2.5	2.4	2.3	2.0	2.0	2.0	1.5
Total Employment Growth (%)	4.2	2.3	2.5	3.0	2.3	2.8	2.5	1.5	4.8	4.7	2.9	-1.5	1.0	2.3	1.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Unemployment Rate (%)	5.6	5.8	5.0	4.6	5.3	5.1	4.6	4.0	3.5	3.5	3.5	6.3	7.0	5.5	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Crude Oil Price - WTI (US\$/bbl)	14.4	19.3	30.3	25.9	26.1	31.1	41.4	56.5	66.1	72.4	99.6	60.0	68.0	68.0	70.0	73.0	79.0	85.0	85.0	85.0	85.0	85.0	85.0
Housing Starts ('000 Units)	27.1	25.4	26.3	29.2	38.8	36.2	36.3	40.8	49.0	48.3	29.2	15.0	17.0	42.0	42.0	38.0	38.0	35.0	35.0	35	35	35	35
Alberta Power Pool Prices (\$/MWh)	NA	NA	133.0	71.5	43.7	63.1	54.9	70.2	80.5	66.9	87.4												
Inflation Rate (%)	1.2	2.5	3.5	2.3	3.4	4.4	1.4	2.1	3.9	4.9	3.2	-0.6	1.7	2.1	2.2	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Alberta Natural Gas Price - AECO/NIT (Cdn\$/GJ)	2.10	2.90	6.40	5.20	3.90	6.3	6.2	8.3	6.2	6.1	7.7	3	4	6	6	6	6	6	6	6	6	6	6

FORECAST RISKS

FORECAST COMPLETED: June, 2009

FORECAST	BASE FORECAST																						
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Calgary Economic Region (CER)																							
Gross Domestic Product (%)	4.3	1.9	8.7	1.3	2.6	1.6	4.5	4.9	10.9	14.9	9.4	-2.5	2.2	3.7	3.3	2.9	2.5	2.2	1.8	1.4	1.0	0.6	
Total population*	988	996	1,022	1,048	1,076	1,096	1,119	1,152	1,188	1,230	1,251	1,296	1,328	1,351	1,380	1,405	1,433	1,453	1,475	1,498	1,520	1,542	
Total Employment ('000 Persons)	533	549	576	598	611	623	643	649	700	735	756	745	755	781	794	809	819	832	841	853	861	870	
Total Employment Growth (%)	6.9	3.1	4.7	3.8	2.1	1.9	3.1	1.0	7.5	4.9	2.7	-1.4	1.3	3.5	1.6	1.9	1.3	1.5	1.1	1.4	0.9	1.2	
Unemployment Rate (%)	5.1	5.5	4.7	4.5	5.6	5.3	5.0	3.9	3.4	3.2	3.3	6.5	7.0	6.0	5.5	4.5	4.0	3.5	3.0	3.0	3.0	3.0	
Inflation Rate (%)	1.5	2.6	3.7	2.4	3.7	3.5	1.7	2.0	4.6	5.0	3.2	-1.0	1.5	2.0	2.5	3.0	3.0	2.5	2.0	2.0	2.0	2.0	
Building Permits (\$billion)	2.8	2.1	2.5	2.5	2.9	3.0	3.1	4.3	6.0	7.1	5.1												
Low Forecast	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.8	3.0	3.1	4.3	4.6	4.9	4.9	4.9	4.9	4.9	4.9	
High Forecast	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.4	4.8	5.1	6.3	6.9	7.0	7.0	7.0	7.0	7.0	7.0	
Housing Starts ('000 Units) CMA	12.5	10.6	11.1	11.3	14.3	13.6	14.0	13.7	17.0	13.5	11.4	4.9	6.8	12.3	11.9	12.8	10.6	10.4	9.8	9.1	8.6	8.5	
Non-Residential Building Price Inflation	2.8	2.1	4.5	3.3	2.2	3.1	6.7	6.9	12.8	17.7	17.3	-4.3	-2.0	7.6	5.0	3.1	1.8	-0.7	2.4	2.2	-0.8	-0.6	

Numbers may not add up due to rounding

* Total population, census divisions and census metropolitan areas, 2001 Census boundaries

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Table 2: Selected Indicators

City of Calgary

FORECAST COMPLETED: June, 2009

	BASE FORECAST																						
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Municipal price index (as of June, 2009)											5.5	2.8	4.5	3.5	NA	NA							
DEMOGRAPHY																							
Total Population ('000 Persons)	819	842	861	877	905	922	933	956	992	1,020	1,043	1,065	1,093	1,113	1,139	1,160	1,184	1,202	1,222	1,241	1,260	1,278	
Total Population Growth (%)	3.7	2.8	2.2	1.8	3.2	1.9	1.2	2.4	3.7	2.9	2.2	2.2	2.6	1.9	2.3	1.9	2.1	1.5	1.6	1.6	1.5	1.5	
Net Migration ('000 Persons)	21.7	15.6	11.3	8.0	21.0	9.0	2.3	13.7	25.6	17.6	12.4	12.9	18.0	11.0	16.0	12.0	15.0	9.0	11.0	11.0	11.0	11.0	
REAL ESTATE																							
Residential Market																							
Housing Starts ('000 units)	10.7	9.3	9.6	9.9	12.4	11.9	12.2	11.7	14.1	10.9	9.6	3.9	5.4	9.8	9.5	10.2	8.5	8.3	7.8	7.3	6.9	6.8	
New House Price Inflation (%)	7.6	4.7	2.4	2.5	5.2	5.2	5.5	7.0	43.6	16.2	2.1	-5.0	5.0	8.0	6.5	6.5	5.6	5.2	4.3	4.2	2.6	1.7	
Total Building Permits mid point (\$billions)	2.4	1.8	2.1	2.0	2.3	2.4	2.4	3.6	4.9	5.6	4.2	2.9	3.1	3.3	4.2	4.6	4.8	4.8	4.8	4.8	4.8	4.8	
Low Forecast												2.2	2.4	2.5	3.4	3.7	3.9	3.9	3.9	3.9	3.9	3.9	
High Forecast												3.5	3.8	4.1	5.0	5.5	5.6	5.6	5.6	5.6	5.6	5.6	

Numbers may not add up due to rounding

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Table 3: City of Calgary Population Projection

City of Calgary

FORECAST COMPLETED: June, 2009

FORECAST

(Persons except rates)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total population	1,065,455	1,093,000	1,113,000	1,139,000	1,160,000	1,184,000	1,202,000	1,222,000	1,241,000	1,260,000	1,278,000
Total net migration	18,000	11,000	16,000	12,000	15,000	9,000	11,000	11,000	11,000	11,000	11,000
Total natural increase	9,457	9,000	9,000	9,000	9,000	9,000	9,000	8,000	8,000	8,000	7,000
Total deaths	5,583	6,000	6,000	6,000	6,000	7,000	7,000	7,000	7,000	8,000	8,000
Total births	15,040	15,000	15,000	15,000	16,000	16,000	15,000	15,000	15,000	15,000	15,000
Total women in childbearing age	320,805	326,000	328,000	331,000	334,000	337,000	338,000	340,000	341,000	342,000	344,000
Total Population growth rate	2.2%	2.6%	1.9%	2.3%	1.9%	2.1%	1.5%	1.6%	1.6%	1.5%	1.5%

Population by five-year cohort

(Ages)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
0-4	65,274	69,000	71,000	74,000	76,000	78,000	78,000	78,000	78,000	78,000	78,000
5-9	60,618	62,000	63,000	64,000	66,000	68,000	71,000	74,000	76,000	78,000	80,000
10-14	62,385	63,000	63,000	65,000	65,000	66,000	67,000	68,000	69,000	70,000	72,000
15-19	66,767	67,000	67,000	67,000	67,000	68,000	68,000	68,000	69,000	70,000	70,000
20-24	80,731	80,000	78,000	77,000	75,000	73,000	73,000	73,000	73,000	73,000	73,000
25-29	89,112	89,000	89,000	90,000	89,000	89,000	88,000	86,000	84,000	82,000	80,000
30-34	94,279	95,000	94,000	95,000	95,000	96,000	96,000	95,000	96,000	95,000	95,000
35-39	91,212	94,000	96,000	98,000	99,000	101,000	101,000	100,000	100,000	101,000	101,000
40-44	88,553	90,000	92,000	94,000	96,000	97,000	99,000	101,000	102,000	104,000	105,000
45-49	86,418	88,000	89,000	90,000	91,000	93,000	94,000	96,000	98,000	99,000	100,000
50-54	81,000	84,000	87,000	88,000	89,000	90,000	91,000	92,000	93,000	94,000	95,000

(Ages)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
55-59	57,565	63,000	68,000	73,000	78,000	82,000	85,000	88,000	89,000	90,000	90,000
60-64	42,969	46,000	49,000	51,000	54,000	58,000	62,000	67,000	73,000	77,000	81,000
65-69	31,260	33,000	34,000	38,000	40,000	42,000	45,000	48,000	50,000	53,000	56,000
70-74	23,496	24,000	25,000	27,000	28,000	30,000	32,000	33,000	36,000	38,000	40,000
75-79	19,055	20,000	20,000	20,000	21,000	22,000	22,000	23,000	24,000	26,000	27,000
80-84	13,569	14,000	15,000	15,000	16,000	16,000	16,000	17,000	17,000	17,000	18,000
85-89	7,722	8,000	8,000	9,000	9,000	10,000	10,000	10,000	11,000	11,000	11,000
90+	3,470	3,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Total	1,065,455	1,093,000	1,113,000	1,139,000	1,160,000	1,184,000	1,202,000	1,222,000	1,241,000	1,260,000	1,278,000

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Table 4: Calgary Economic Region Population Projection

City of Calgary

	FORECAST										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
(Persons except rates)											
Total population	1,296,000	1,328,000	1,351,000	1,380,000	1,405,000	1,433,000	1,453,000	1,475,000	1,498,000	1,520,000	1,542,000
Total net migration	23,000	14,000	20,000	15,000	19,000	11,000	14,000	14,000	14,000	14,000	14,000
Total natural increase	9,000	9,000	9,000	9,000	9,000	9,000	9,000	8,000	8,000	8,000	7,000
Total deaths	7,000	6,000	6,000	6,000	6,000	7,000	7,000	7,000	7,000	8,000	8,000
Total births	17,000	15,000	15,000	15,000	16,000	16,000	15,000	15,000	15,000	15,000	15,000
Total women in childbearing age	379,000	385,000	387,000	391,000	394,000	397,000	398,000	400,000	403,000	405,000	408,000
Total Population growth rate	3.6%	2.5%	1.7%	2.1%	1.8%	2.0%	1.4%	1.5%	1.6%	1.5%	1.4%

FORECAST RISKS

Population by five-year cohort

(Ages)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
0-4	77,000	80,000	82,000	84,000	86,000	88,000	89,000	89,000	90,000	91,000	91,000
5-9	78,000	78,000	78,000	79,000	79,000	81,000	83,000	85,000	87,000	89,000	90,000
10-14	80,000	81,000	81,000	83,000	84,000	85,000	84,000	84,000	84,000	85,000	86,000
15-19	85,000	85,000	86,000	86,000	86,000	87,000	87,000	88,000	89,000	89,000	90,000
20-24	93,000	95,000	94,000	94,000	94,000	94,000	92,000	93,000	93,000	93,000	93,000
25-29	94,000	96,000	98,000	101,000	102,000	104,000	104,000	103,000	103,000	103,000	102,000
30-34	100,000	100,000	100,000	101,000	102,000	103,000	104,000	106,000	108,000	109,000	110,000
35-39	104,000	106,000	106,000	107,000	107,000	108,000	108,000	108,000	108,000	108,000	109,000
40-44	101,000	102,000	105,000	108,000	110,000	111,000	112,000	113,000	113,000	113,000	113,000
45-49	110,000	110,000	108,000	107,000	106,000	106,000	107,000	110,000	112,000	114,000	115,000
50-54	103,000	107,000	110,000	112,000	114,000	114,000	114,000	112,000	111,000	109,000	109,000
55-59	81,000	86,000	91,000	96,000	101,000	105,000	109,000	111,000	113,000	115,000	115,000
60-64	60,000	65,000	69,000	72,000	75,000	80,000	85,000	90,000	95,000	100,000	104,000
65-69	41,000	44,000	47,000	51,000	56,000	59,000	63,000	67,000	70,000	73,000	78,000
70-74	31,000	32,000	33,000	35,000	37,000	40,000	42,000	45,000	49,000	53,000	56,000
75-79	25,000	26,000	26,000	27,000	28,000	28,000	29,000	30,000	32,000	34,000	36,000
80-84	18,000	19,000	20,000	21,000	21,000	21,000	22,000	22,000	22,000	23,000	23,000
85-89	10,000	11,000	11,000	12,000	12,000	13,000	13,000	14,000	14,000	14,000	15,000
90+	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	6,000	6,000	6,000
Total	1,296,000	1,328,000	1,351,000	1,380,000	1,405,000	1,433,000	1,453,000	1,475,000	1,498,000	1,520,000	1,542,000

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Table 5: Selected Commodity Prices

City of Calgary

FORECAST COMPLETED: June, 2009

	FORECAST																							
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Commodities																								
Construction Commodities																								
<i>Iron and steel products</i>	1.2	-3.0	2.2	-4.0	1.8	-1.8	20.1	2.4	-2.5	-2.3	15.8	0.4	-2.6	-3.9	3.4	11.2	8.7	-2.4	1.5	1.2	-3.2	2.2		
<i>Aluminium products</i>	-4.7	-0.3	5.1	-1.5	1.0	-3.3	2.9	-1.3	15.7	-5.5	-0.2	-23.8	-13.0	1.1	2.4	27.8	15.6	-13.7	7.6	-4.7	-0.3	5.1		
<i>Wood</i>	-15.4	3.9	4.6	-7.5	-1.3	-2.1	1.0	-9.6	3.7	8.7	-3.5	-7.1	-1.3	4.9	6.3	1.7	0.5	-1.0	1.1	-0.8	-5.7	-3.3		
<i>Asphalt**</i>	N/A	N/A	N/A	N/A	1.4	9.6	-9.0	4.9	51.1	9.1	61.8	-26.0	5.3	3.4	9.4	4.7	5.1	4.9	4.6	4.4	8.5	11.7		
Operational Commodities																								
<i>Rubber</i>	-20.0	-7.0	0.6	-5.8	23.2	21.0	22.0	3.9	29.9	2.0	13.0	-27.5	5.2	4.9	4.7	4.5	4.3	4.1	3.9	3.8	8.1	11.3		
<i>Diesel Oil</i>	-0.9	0.8	22.2	5.3	-8.1	8.2	8.5	29.3	1.9	8.1	26.4	-33.9	2.6	5.7	5.4	5.1	4.9	4.7	4.5	4.3	8.2	11.4		
<i>Vehicle Parts</i>	1.1	1.5	2.2	6.6	5.9	4.5	3.5	3.2	3.5	7.9	4.6	3.5	-1.4	2.6	3.7	6.8	7.5	3.4	1.9	2.7	5.9	6.6		

Numbers may not add up due to rounding

** Based on Ontario Ministry of Transportation Asphalt Price Index

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Table 6: Survey of Forecasters Natural Gas

AECO-NIT (CANS\$/GJ)	Date	FORECAST										
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
GLJ Energy Publications	Jul-09	4.38	5.99	6.79	7.17	7.52	8.03	8.30	8.48	8.66	8.85	
EDC & Associates	Sep-09	3.87	5.31	6.35	7.10	7.53	7.82	8.06	8.25	8.42	8.60	
CFERA	Aug-09	3.43	3.37	5.81	5.89	6.03	5.91					
Sproule Associates Ltd.	Aug-09	3.87	5.11	5.87	6.06	6.56	6.58	6.60	6.62	6.64	6.66	
City of Calgary	Sep-09	3.00	4.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
maximum		4.38	5.99	6.79	7.17	7.53	8.03	8.30	8.48	8.66	8.85	
minimum		3.43	3.37	5.81	5.89	6.03	5.91	6.60	6.62	6.64	6.66	

Corporate Economics: September 2009

APPENDICES



APPENDIX A: CALGARY ECONOMIC REGION ECONOMIC BASE ANALYSIS (1998 – 2008)

Purpose

This appendix provides a statistical analysis of the local economy for the period 1998 – 2008. The geography for the local economy is the area represented by the Calgary Economic Region (CER). The appendix attempts to identify areas of strength in the local economy

Method

The analysis uses two techniques to assess the strengths of the local economy: location quotients and shift share analysis. In both of these techniques the local economy is compared against the Canadian economy as a whole. The first method, the location quotient, is a static form of analysis. It attempts to identify the industries that the local economy is specialized in. It examines the distribution of total employment across several industries and compares this distribution against that of the Canadian economy. A higher percentage of employment in a given industry compared to the reference economy would indicate that the local economy is specialized in that industry. This analysis is based on data for a given period of time and does not consider how the economy has changed over time. The second approach considers how a given industry changes over time. This change is broken down into three distinct parts: national trend, local industry mix and local factors. The national trend estimates the size of change that would occur in a given industry if that industry grows at the same rate as the overall national average growth rate. The industry mix component computes, at the national level, the growth rate differential between each industry and the overall national average. The final category, the local industry mix, compares the growth rate of each industry at the local level against that for its national counterpart. The results from the location quotient and the shift/share analysis methods are then combined to draw inferences on the strengths of the local economy. The rule is as follows: if an industry has a positive score in the industry mix, a positive score in the local factors and a location quotient that is greater than one, that industry would be classified as a strong industry.

Results

Location Quotients (LQ)¹¹

During the 1998–2008 period, the labour market was specialized in a number of sectors. The region is said to specialize in an industry if that industry had a location quotient greater than one¹². These industries are generally referred to as the basic industries or the region's export industries. These industries are assumed to sell goods and services abroad and therefore inject new funds into the local economy. The remainder of the industries are regarded as the non-basic industries. The non-basic industries cater to local needs and do not export¹³.

The average of the ratio should be greater than one for the period 1998 to 2008.

The basic industries are critical to the survival of the local economy. They represent the comparative advantage of the area in these industries relative to the same industries in other geographic areas. They provide the area with its reasons to be.

This industry includes professions such as law, architecture, engineering, computer design and science.)

In the section that follows a selected number of industries that have a location quotient of greater than one are described. The detailed LQ results are shown in an appendix to this report.

Mining, oil and gas

In 2008, mining and oil and gas extraction employed 55,700 persons and this accounted for 7.4 per cent of the Calgary Economic Region's employment. A comparison of this share of employment against the similar statistic for Canada shows CER's share of employment in this sector is more than 3.8 times the Canadian equivalent. This is expected as Calgary is home to a significant portion of the Canadian energy sector.

¹¹ Location quotient is a ratio of the percent of total employment in an industry in the region compared to percentage employed in the same industry for the nation. A ratio that is equal to one indicates that the region has the same employment distribution as Canada; while a ratio greater than one would indicate that employment is more concentrated in that industry in the region than in the nation.

¹² The average of the ratio should be greater than one for the period 1998 to 2008.

¹³ The basic industries are critical to the survival of the local economy. They represent the comparative advantage of the area in these industries relative to the same industries in other geographic areas. They provide the area with its reasons to be.

Construction

The construction industry employed 75,300 persons in 2008, up from 38,900 persons in 1998. Construction's share of total employment in the Calgary Economic Region was estimated at 10 per cent in 2008, which was 39 per cent greater than its Canadian equivalent. This specialization in construction is explained in part, by the region's relatively strong economic and demographic growth over this period that resulted in an increased need for both residential and non-residential space.

Professional, scientific and technical services

In 2008, the professional, scientific and technical services' industry employed 89,900 persons and its share¹⁴ of total employment was estimated at 11.9 per cent, which is roughly 70 percent higher than its Canadian equivalent. The Calgary Economic Region's specialization in this sector is explained by the city's role as a major head office location. This sector includes professions such as law; architecture, engineering and design services; computer system design services; and other professional services.

Shift share analysis

The shift share analysis provides a dynamic view of the CER economy over the period 1998 – 2008. It calculates the change in employment over this period for each industry.

In this period, total employment increased by 223,000 jobs. Assuming that the local economy grew at the national rate, employment growth would have been 118,000 instead of 223,000. The remainder of the job growth is explained by local factors. The analyses showed 105,000 of jobs created were due to local factors. The aggregate data masks the changes that have occurred at the industry level.

The table that follows disaggregates the employment change for each industry into national, industry mix and local. A positive result for the local category shows that the local industry grew at a faster rate than its national counterpart while a negative value indicates the opposite result and a zero value indicates that the local industry grew at the same rate as the national industry. In the case of the industry mix, the results show that at the national level industries grow at differential rates. A positive result therefore indicates that a particular industry at the national level is contributing to growth at the local level

¹⁴ This industry includes professions such as law, architecture, engineering, computer design and science.

or that overall growth at the local level could be significantly influenced by the areas industrial mix.

The result shows that of the 24 groupings only 12 grew at a faster rate than the national average and consequently, the local economy benefited from the presents of these industries in the region. The detailed shift-share results are listed in the Appendix. Some sectors that out performed the national average were:

- Mining and oil and gas extraction
- Construction
- Retail trade
- Wholesale trade
- Finance, insurance and real estate
- Architectural, engineering and design
- Computer design services
- Management, scientific and technical services
- Other professional services
- Business, building and other support services
- Educational services
- Health care and social assistance

The shift-share analysis also showed that 15 industries had growth rates that were greater than those of their national counterparts. This may indicate that the local economy enjoys some form of comparative advantage in the production and delivery of these goods and services.

The industries are as follows:

- Agriculture
- Mining and oil and gas extraction
- Utilities
- Construction
- Manufacturing
- Wholesale trade
- Retail trade
- Wholesale trade

- Finance, insurance and real estate
- Architectural, engineering and design
- Computer design services
- Management, scientific and technical services
- Other professional services
- Business, building and other support services
- Health care and social assistance

Identification of economic drivers

The analysis further shows that 10 industries had the following features:

- location quotients greater than one
- a positive score in the local factors
- a positive score in the industrial mix

These industries are listed in the matrix below:

They could be labeled as the economic drivers of the local economy. These are the industries that the local economy is concentrated in plus they grow at rates that exceed those of their national equivalent and they all have rates of growth that are in excess of the national average growth rate.

Calgary Economic Region LQ - employment by industry

Description	CER Emp. Dist1998	CER Emp. Dist2008	Average 1998 - 2008
	Per cent	Per cent	Ratio
All Industries:	1.00	1.00	1.00
Agriculture:	0.38	0.96	0.39
Forestry, Fishing, Mining, Oil and Gas:	2.96	3.72	3.22
Mining and Oil and Gas Extraction:	4.73	4.80	4.82
Utilities:	0.64	0.85	0.99
Construction:	1.40	1.39	1.43
Manufacturing:	0.64	0.60	0.59
Machinery Manufacturing:	0.83	1.40	1.03
Computer and Electronic Product Manufacturing:	1.23	0.88	1.06
Trade:	0.93	0.92	0.94
Wholesale Trade:	0.95	1.06	1.07
Retail Trade:	0.92	0.87	0.89
Transportation and Warehousing:	1.29	0.98	1.27
Finance, Insurance, Real Estate and Leasing:	0.87	1.05	0.98
Professional, Scientific and Technical Services:	1.50	1.70	1.65
Legal Services:	1.02	0.95	1.28
Architectural, Engineering and Design Services:	2.28	2.56	2.67
Computer System Design Services:	1.26	1.27	1.25
Management, Scientific and Technical Services:	1.66	1.96	1.31
Other Professional Services:	0.84	1.30	1.18
Business, Building and Other Support Services:	1.14	0.91	1.05
Educational Services:	0.93	0.74	0.86
Health Care and Social Assistance:	0.81	0.81	0.82
Information, Culture and Recreation:	1.25	0.95	1.12
Accommodation and Food Services:	1.10	0.87	1.01
Other Services:	0.96	0.99	0.96
Public Administration:	0.76	0.64	0.59

Source: Statistics Canada, CANSIM; Corporate Economics

Shift Share Analysis: CER 1998 - 2008

Description	1998	2008	Change	%CH	National	Mix	Local
All Industries:	532.6	755.5	223	41.9	118	0	105
Goods-Producing Sector:	132.7	203.6	71	53.4	29	-16	57
Agriculture:	6.2	13.9	8	124.2	1	-3	9
Forestry, Fishing, Mining, Oil and Gas:	33.1	55.9	23	68.9	7	-2	18
Mining and Oil and Gas Extraction:	32.4	55.7	23	71.9	7	8	8
Utilities:	2.8	5.7	3	103.6	1	0	2
Construction:	38.9	75.3	36	93.6	9	18	10
Manufacturing:	50.5	52.7	2	4.4	11	-14	5
Service-Producing Sector:	399.8	552.0	152	38.1	88	17	47
Trade:	75.2	108.8	34	44.7	17	3	14
Wholesale Trade:	16.4	29.6	13	80.5	4	3	7
Retail Trade:	58.4	78.6	20	34.6	13	1	7
Transportation and Warehousing:	34.8	37.0	2	6.3	8	-1	-5
Finance, Insurance, Real Estate and Leasing:	28.1	49.9	22	77.6	6	1	14
Professional, Scientific and Technical Services:	48.0	89.9	42	87.3	11	9	22
Legal Services:	4.5	5.6	1	24.4	1	0	0
Architectural, Engineering and Design Services:	17.0	35.3	18	107.6	4	6	8
Computer System Design Services:	8.5	15.8	7	85.9	2	3	2
Management, Scientific and Technical Services:	8.2	15.2	7	85.4	2	1	4
Other Professional Services:	7.1	16.8	10	136.6	2	1	7
Business, Building and Other Support Services:	20.7	27.6	7	33.3	5	5	-2
Educational Services:	32.9	38.8	6	17.9	7	2	-4
Health Care and Social Assistance:	43.8	67.7	24	54.6	10	5	9
Information, Culture and Recreation:	29.2	32.1	3	9.9	6	0	-4
Accommodation and Food Services:	38.2	41.2	3	7.9	8	-2	-4
Other Services:	25.8	32.6	7	26.4	6	-4	5
Public Administration:	22.5	25.9	3	15.1	5	-1	-1

Economic Base - Calgary Economic Region

Description	LQ	Mix	Local
Mining and Oil and Gas Extraction:	4.82	8	8
Wholesale Trade:	1.43	18	10
Architectural, Engineering and Design Services:	2.67	6	8
Computer System Design Services:	1.25	3	2
Management, Scientific and Technical Services:	1.31	1	4
Other Professional Services:	1.18	1	7
Other Management and Administrative Services:	1.14	1	2
Ambulatory Health Care Services:	1.02	3	4

Source: Statistics Canada, CANSIM; Corporate Economics

APPENDIX B: CANADA RECESSION METRO WATCH

Overview

Around 50 per cent of the world's population lives in urban centres, and Canada is not an exception. The actual impact of the current global recession, which hit Canada later than other countries, is mostly visible in cities.

Subsequently, on the following pages, Canada Recession Metro Watch is being presented. It is a set of economic indicators for the chosen Census Metropolitan Areas (CMAs). The main criterion for the inclusion of the CMA was the size of its population. Half a million was set as a population benchmark and eleven CMAs had such (or bigger) population in 2008. The table below shows a list of these CMAs and their populations during Census 2006. At that time, all these cities hosted 54 per cent of Canada's population.

CMAs chosen for comparison	Population as per Census 2006
Vancouver CMA	2,116,581
Edmonton CMA	1,034,945
Calgary CMA	1,079,310
Winnipeg CMA	694,668
Kitchener CMA	451,235
London CMA	457,720
Hamilton CMA	692,911
Toronto CMA	5,113,149
Ottawa CMA	1,130,761
Montreal CMA	3,635,571
Quebec CMA	715,515
Canada total	31,612,897

List of indicators

Nineteen indicators have been chosen to compare specific economic conditions in the selected cities. Each indicator is compared at two points in time: 2009 against 2008. (Choice of time was dictated by data availability for all cities¹ and the time periods are indicated above the map on each page.)

The objective of Metro Watch is to observe the economic change by focusing on a variety of measures – hence these measurements are divided into four groups of indicators:

- ▶ **General employment data:** number of people in the labour force, number of people employed, unemployment rate, number of self-employed full time, number of self-employed part-time, and participation rate;
- ▶ **General financial well-being:** indicator of business bankruptcies and indicator of personal bankruptcies (both at the provincial levels as there is no data at CMA level), full-time weekly earnings, part-time hourly earnings, personal disposable income per capita, cost of rent for 2-bedroom apartment, and apartment vacancy rate;
- ▶ **General housing market information:** total number of housing starts for the first half of the year (January-June), new house price index, and total number of sales on MLS for the first half of the year (January-June);
- ▶ **Business in general:** GDP at basic prices (2002 constant dollars), total value of residential building permits for the first half of the year (January-June), and office vacancy rate.

Indicators are presented in a table located on a Canada's map to allow simple comparison of urban areas from West to East. Wherever it is appropriate, Canada-Average for specific indicator for both years and/or percentage change over a year is provided.

The analysis shows the effects of the recession were not confined to one geographic area of Canada; all cities were affected to some extent. Calgary enjoyed job gains in part-time employment but this was not enough to compensate for the loss of full-time jobs.

¹ For example: CMHC provides information about rent and apartment vacancies twice a year (April and October). For our data presentation, the latest April 2009 data is compared with April 2008. For unemployment rate, it has been decided that the fairest comparison among cities would be the monthly average for first six months of each year in question.

Ranking Calgary among eleven CMAs in Canada

As per population count from 2006, Calgary was # 5 among the eleven chosen CMAs in Canada.

General Employment Data:

Name of the indicator	In 2009, for this indicator...	Rank for Calgary's PERCENTAGE CHANGE from 2008 to 2009 (out of 11 cities)
Number of people in the labour force	Calgary had fourth biggest labour force in Canada	...and the percentage change in the labour force was (positive) and ranked fourth for Calgary over a year.
Number of people employed	Calgary had fourth biggest number of employed in Canada	...and over a year, the percentage change in employment was negative and ranked sixth in the country.
Unemployment rate	Six other cities had higher unemployment rate than Calgary, which was ranked seventh.	N/A
Number of self-employed full-time	Three other cities had more full time self-employed than Calgary, which ranked fourth	...and the percentage change was smallest negative - ranking fourth in the country.
Number of self-employed part-time	Three other cities had more part time self-employed than Calgary, which ranked fourth	...and the percentage change was positive - third highest in the country.
Participation rate	Calgary had the highest participation rate in Canada, (ranked #1)	N/A

General Financial Well-being:

Name of the indicator	In 2009, for this indicator...	Rank for Calgary's PERCENTAGE CHANGE from 2008 to 2009 (out of 11 cities)
Indicator of business bankruptcies per 1,000 employees <i>(provincial level only – ranking out of 9)</i>	Alberta ranks 8	N/A
Indicator of personal bankruptcies per 1,000 people aged 15-65 <i>(provincial level only – ranking out of 9)</i>	Alberta ranks 6	N/A
Full-time weekly earnings	Calgary had the highest full time weekly earnings in Canada (ranked #1)	...and the percentage change over a year for those earnings was positive and the second highest in the country.
Part-time hourly earnings	Calgary had the highest part time weekly earnings in Canada (ranked #1)	...and the percentage change over a year for those earnings was positive - fourth highest in the country.
Personal disposable income per capita <i>(ranking out of 8)</i>	Calgary had the highest personal disposable income per capita (ranked #1)	...but the percentage change over a year was the smallest positive in the country (ranked #7)
Cost of rent for 2-bedroom apartment	Calgary had the second highest cost of renting apartment in Canada	...but the percentage change over a year was the tiniest in the country (ranked 11)
Apartment vacancy rate	Calgary had the second highest apartment vacancy rate in Canada	N/A

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General Housing Market Information:

Name of the indicator	In 2009, for this indicator...	Rank for Calgary's PERCENTAGE CHANGE from 2008 to 2009 (out of 11 cities)
Total number of housing starts for the first half of the year (January to June)	Five other cities had higher number of housing starts over first half of the year than Calgary (ranked #6)	...but the percentage change over a year was the highest negative number in the country (ranked #11)
New house price index	Calgary had the highest new house price index in the country (ranked #1)	...but the percentage change over a year was third highest negative in the country (ranked #9)
Total number of sales on MLS for the first half of the year (January to June)	Calgary had the highest part time weekly earnings in Canada (ranked #1)	...and the percentage change over a year for those earnings was positive - fourth highest in the country.

Business in General:

Name of the indicator	In 2009, for this indicator...	Rank for Calgary's PERCENTAGE CHANGE from 2008 to 2009 (out of 11 cities)
GDP at basic prices (2002 constant dollars) <i>(ranking out of 8)</i>	Three other cities had higher GDP at basic prices than Calgary (ranked #4 out of 8)	...but the percentage change over a year was negative (ranked #5 out of 8)
Total value of residential building permits for the first half of the year (January to June)	Four other cities had higher total value of residential building permits for first half of the year than Calgary (ranked #5)	...but the percentage change over a year was fourth highest negative in the country (ranked #8)
Office vacancy rate <i>(ranking out of 9: London and Hamilton not included)</i>	Calgary had the highest office vacancy rate downtown and on the suburbs	N/A

CANADA RECESSION

Metro Watch 2009 vs. 2008

Labour force (LF) seasonally adjusted (August) and Y/Y percentage change



LF ('000 persons)	% change	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
		2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
1,295	1,334	639	666	731	747	413	421	271	280	262	258	399	405	3,123	3,189	711	701	2,044	2,079	410	405	18,224	18,397
	2.96		4.24		2.16		1.84		3.47		(1.56)		1.38		2.12		(1.28)		1.69		(1.27)		0.95%

Statistics Canada, Corporate Economics

Employment seasonally adjusted (August) and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Emp ('000 persons)	1,241	1,237	618	617	704	694	396	397	256	252	244	230	377	370	2,904	2,866	675	664	1,892	1,880	391	384
% change	(0.31)		0.13		(1.53)		0.25		(1.45)		(6.10)		(2.02)		(1.32)		(1.65)		(0.66)		(1.84)	

Statistics Canada, Corporate Economics

Total number of full-time self-employed (January - June) and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
FT ('000 persons)	940.3	984.3	374.2	329.7	519.1	515.5	199.8	182.2	161.5	114	144.8	139.7	178.8	237.4	2,294.7	2,158	259.1	279.2	1,313.6	1,158.4	190.6	186.1
% change	4.68		(11.89)		(0.69)		(8.81)		(29.41)		(3.52)		32.77		(5.96)		7.76		(11.81)		(2.36)	

Statistics Canada, Corporate Economics

Total number of part-time self-employed (January - June) and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
PT ('000 persons)	287.2	285.9	91.4	104.2	123.9	152.4	54.5	49	42	37.2	34.6	46.5	75.9	57.9	553.4	593.9	97.8	88.6	356.9	366.7	52.3	74.1
% change	(0.45)		14.00	23.00			(10.09)		(11.43)		34.39		(23.72)		7.32		(9.41)		2.75		41.68	

Statistics Canada, Corporate Economics

Participation rate (PR) seasonally adjusted monthly average (January - June)



PR (%)	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
67.3	66.4	73.4	73.2	77.3	71.3	70.5	70.3	72.2	68.4	68.0	67.4	67.4	68.9	73.0	71.5	67.2	66.6	67.3	67.8			

Statistics Canada, Corporate Economics

Indicators of bankruptcies by province 2009 vs. 2008

Business Bankruptcies (IBB) - June

Personal Bankruptcies (IPB) - June



Bankruptcies June	British Columbia		Alberta		Saskatchewan		Manitoba		Ontario		Quebec		New Brunswick		Nova Scotia		Newfoundland/Labrador	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Business (IBB)	0.016	0.026	0.031	0.021	0.023	0.049	0.018	0.015	0.032	0.036	0.045	0.055	0.041	0.024	0.033	0.053	0.022	0.028
Personal (IPB)	0.28	0.48	0.29	0.56	0.24	0.47	0.33	0.43	0.56	0.86	0.59	0.84	0.59	0.89	0.8	0.93	0.69	0.97

IBB=# of bankruptcies per 1000 employees
IPB=# of bankruptcies per 1000 labour force

Weekly full-time (FT) earnings calculated average (January - June) and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
FT (\$) - Q1	894.44	946.47	974.58	1,036.24	1,054.27	1,107.93	816.85	837.90	901.34	942.96	887.29	955.49	941.90	949.08	943.37	970.45	1,042.21	1,084.49	810.97	860.44	840.21	871.88
% change	5.82		6.33		5.09		2.58		4.62		6.49		0.76		2.87		4.06		6.10		3.77	

Office of the Superintendent of Bankruptcy Canada: Insolvency Statistics: Corporate Economics

Hourly part-time (PT) earnings calculated average (January - June) and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec		
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	
PT (\$) - Q1	15.97	17.35	16.16	17.45	18.00	17.90	14.47	14.23	15.19	16.59	14.26	15.43	15.69	14.11	14.49	15.32	14.88	14.59	14.96	14.65	14.60	14.65	14.60
% change	8.64		8.00		(0.59)		(1.61)		9.24		8.23		(10.11)		5.75		6.23		2.54		(0.32)		

Statistics Canada, Corporate Economics

Personal disposable income (PDI) per capita Q2 2009 vs. Q2 2008 and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
PDI (\$)	29,261	29,762	33,897	34,323	41,537	41,706	28,561	28,778	no data	no data	no data	no data	28,328	28,762	30,242	29,904	no data	no data	26,240	26,368	27,817	28,639
% change	1.71		1.26		0.41		0.76						1.53		(1.12)				0.49		2.96	

Conference Board of Canada, Corporate Economics

Apartment rental market (April)

- Cost of rent for 2-bedroom (C) and Y/Y percentage change
- Vacancy rate (VR)



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
C (\$)	1,071	1,154	1,000	1,059	1,096	1,106	746	774	838	853	814	849	815	860	1,075	1,093	957	995	643	656	641	664
% change	7.7		5.9		0.9		3.8		1.8		4.3		5.5		1.7		4.0		2.0		3.6	
VR (%)	0.9	1.9	3.4	4.7	2.0	4.3	1.0	0.9	2.0	2.9	3.0	4.2	4.7	3.6	2.8	2.4	2.2	2.7	2.8	2.7	1.1	0.6

CMHC, Corporate Economics

Total number of housing starts (HS) (January - June) and Y/Y percentage change



HS (units)	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
10,178	3,342	4,140	1,912	1,981	1,500	799	1,309	831	1,424	952	1,827	885	19,152	11,543	4,450	3,591	11,619	8,621	3,023	2,153		
% change	(67.16)	(53.82)	(74.66)	(46.73)	(36.52)	(33.15)	(51.56)	(39.73)	(19.30)	(25.80)	(28.78)											

CMHC, Corporate Economics

New house price index (NHI) (June) and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
NHI	129	109	219	195	252	224	166	169	154	155	155	157	166	161	166	163	183	184	165	169	147	151
% change	(15.43)		(10.90)		(10.81)		2.24		0.39		0.97		(3.07)		(1.93)		0.60		2.36		2.37	

Statistics Canada, Corporate Economics

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Total number of MLS sales - not seasonally adjusted (January - June) and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
MLS (units)	16,494	15,465	9,567	9,740	13,525	12,015	6,357	5,795	3,619	3,230	4,771	4,162	6,979	6,230	44,490	41,604	10,521	10,375	25,207	22,793	4,633	4,343
% change	(6.24)		1.81		(11.16)		(8.84)		(10.75)		(12.76)		(10.73)		(6.49)		(1.39)		(9.58)		(6.26)	

CREA, OFREB, CMHC, Corporate Economics

GDP at basic prices (constant dollar 2002) Q2 2009 vs. Q2 2008 and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
GDP (\$2002) millions	80,727	77,975	51,111	50,000	62,767	61,308	25,273	25,595	no data	no data	no data	no data	27,525	26,133	222,493	214,871	no data	no data	121,419	119,978	24,638	24,722
% change	(3.41)		(2.17)		(2.32)		1.27						(5.06)		(3.43)				(1.19)		0.34	

Conference Board of Canada, Corporate Economics

Total value of residential building permits (RBP) (January - June) and Y/Y percentage change



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec		
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	
RBP (\$Mill.)	1,774	604	826	615	1,201	580	248	177	229	159	123	290	404	126	3,309	2,388	683	549	1,725	1,246	387	391	
% change	(65.93)		(25.57)		(51.70)		(28.43)		(30.55)		(57.49)		(68.76)		(27.85)		(19.62)		(27.76)				1.17

Statistics Canada, Corporate Economics

Office vacancy rates mid-2009 vs. mid-2008

- downtown/core and
- suburban



	Vancouver		Edmonton		Calgary		Winnipeg		Kitchener		London		Hamilton		Toronto		Ottawa		Montreal		Quebec	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Downtown/Core (%)	2.5	5.0	4.5	5.9	2.9	7.8	5.2	4.4	7.1	7.1	13.6	13.5			4.2	7.6	3.5	2.7	5.2	7.3	2.7	2.6
Suburban (%)	7.2	9.1	6.9	10.5	5.0	11.8	6.8	5.5	6.3	10.0	13.6	13.5	no data	8.4	11.1	8.2	10.2	10.6	10.5	3.0	5.2	

Avison & Young, CB Richard/Ellis, Corporate Economics

Methodology and data source

Name of Indicator	Definition	Point/method of comparison	Data Source	Comments
Labour Force (LF)	Total number of people aged 15-64, Seasonally adjusted (SA)	August 2009 vs. August 2008	Statistics Canada: Table 282-0090 LFS estimates by census metropolitan area, 3-month moving average (SA): V2067359, V2067357, V2067356, V2067355, V2067352, V2067350, V2067348, V2067346, V2067345, V2067342, V2067341, V2067338	The latest revised data, including percentage change Y/Y
Employment (EMP)	Total number of people working either full-time or part-time (SA)	August 2009 vs. August 2008	Statistics Canada: Table 282-0090 LFS estimates by census metropolitan area, 3-month moving average (SA): V2067395, V2067393, V2067392, V2067391, V2067388, V2067386, V2067384, V2067382, V2067381, V2067378, V2067377, V2067374	The latest revised data, including percentage change Y/Y
Unemployment Rate (UR)	Percentage of currently unemployed labour force (SA)	Monthly average for January to June 2009 vs. 2008	Statistics Canada: Calculation from Labour Force (LF) and Employment (EMP)	The latest revised data
Number of self-employed full-time (FT)	Total number of people spending all working time earning livelihood directly from own trade or business rather than as an employee of another	Total number of full time self-employed January to June 2009 vs. 2008	Special tabulation by Statistics Canada	The latest revised data provided, including percentage change Y/Y
Number of self-employed part-time (PT)	Total number of people spending part of working time earning livelihood directly from own trade or business. (These people sometimes can work part-time as employees.)	Total number of part time self-employed January to June 2009 vs. 2008	Special tabulation by Statistics Canada	The latest revised data provided, including percentage change Y/Y
Participation Rate (PR)	Percentage of labour force that is currently employed or actively seeking employment (SA)	August 2009 vs. 2008	Statistics Canada: Table 282-0090 LFS estimates by census metropolitan area, 3-month moving, (SA): V2067503, V2067501, V2067500, V2067499, V2067496, V2067494, V2067492, V2067490, V2067489, V2067486, V2067485, V2067482	The latest revised data
Indicator of Business Bankruptcies (IBB) (per 1,000 employees)	Total number of business bankruptcies (filed by businesses and proposed) in the province divided by total number of employed in the province *1,000	June 2009 vs. 2008	Office of the Superintendent of Bankruptcy Canada: Insolvency Statistics, Corporate Economics calculations	Vector of business bankruptcies is only available at the provincial level – no data at CMA level.
Indicator of Personal Bankruptcies (IPB) (per 1,000 labour force)	Total number of personal bankruptcies (filed by consumers and proposed) in the province divided by total labour force in the province *1,000	June 2009 vs. 2008	Office of the Superintendent of Bankruptcy Canada: Insolvency Statistics, Corporate Economics calculations	Vector of personal bankruptcies is only available at the provincial level – no data at CMA level
Weekly Earnings full-time (WE-FT)	Average usual weekly earnings of full time employees before taxes (all occupations)	Monthly average for January to June 2009 vs. 2008	Special tabulation by Statistics Canada	Half year data converted to monthly average and percentage change Y/Y
Hourly Earnings – part-time (HE-PT)	Average compensation (per hour) for part time job: various number of hours, fixed or variable, but fewer than those specified as standard hours (all occupations)	Monthly average for January to June 2009 vs. 2008	Special tabulation by Statistics Canada	Half year data converted to monthly average and percentage change Y/Y

APPENDICES

Name of Indicator	Definition	Point/method of comparison	Data Source	Comments
Personal disposable income (PDI) per capita	Total of PDI for the area divided by the total population. (PDI is calculated by subtracting direct income taxes as well as the various other contributions paid (employment insurance, CPP, etc.) from personal income.	Q2 2009 vs. Q2 2008	Conference Board of Canada, data as of August 2009	No data for the following cities: Kitchener, London, Ottawa.
Cost of rent for 2-Bedroom (C)	Average cost of rent for 2-BDR apartment as defined and quoted by CMHC	April 2009 vs. 2008	CMHC publications: Rental Market Statistics	The latest revised data, including percentage change Y/Y
Apartment vacancy rate (VR)	Percent of apartments that are ready to rent and vacant at specific point of time.	April 2009 vs. April 2008	CMHC publications: Rental Market Statistics	The latest revised data
Total number of housing starts, <i>all units</i> (HS)	Monthly housing starts are defined as a number of new single or multi-family housing units on which construction has been started in a given month. Total refers to the sum of monthly housing starts.	Total number of housing starts between January and June 2009 vs. 2008	CMHC publications: Housing Now	Summary of half year data and percentage change Y/Y
New House Price Index (NHI)	The New Housing Price Index (NHPI) is a monthly series that measures changes over time in the contractors' selling prices of new residential houses, where detailed specifications pertaining to each house remain the same between two consecutive periods.	June 2009 vs. June 2008	Statistics Canada: Table 327-0005 V21148161, V21148170, V21148173, V21148179, V21148182, V21148185, V21148191, V21148197, V21148212, V21148230, V21148233, V21148239	The latest revised data, including percentage change Y/Y
Total number of sales (MLS)	Monthly housing MLS sales are defined as a number of sales of all housing units in a given month. Total refers to the sum of monthly housing sales (not SA)	Sum of January to June monthly MLS sales for 2009 vs. sum of January to June monthly MLS sales for 2008	CMHC publications: Housing Now, Canadian Real Estate Association (CREA), Quebec Federation of Real Estate Boards (QFREB)	Summary of half year data and percentage change Y/Y
GDP at basic prices (constant dollar 2002)	The total market value of all the goods and services produced within the defined borders during a specified period excluding taxes and subsidies on products for this period. Constant dollar means that all amounts that have been adjusted by means of price and cost indices to eliminate inflationary factors and allow direct comparison across years.	Q2 2009 vs. Q2 2008	Conference Board of Canada, data as of August 2009	No data for the following cities: Kitchener, London, Ottawa.
Total value of residential building permits (RBP)	Dollar value of granted permits for residential buildings per given month. Total refers to the sum of monthly building permits.	Sum of January to June monthly residential building permits for 2009 vs. 2008	Statistics Canada: Table 026-0001 V41651, V41750, V41792, V41659, V41771, V41820, V41827, V41806, V41743, V21608946, V41834, V41680	Summary of half year data and percentage change Y/Y
Office vacancy rates (downtown/core and suburban)	Total number of sq. foot office area ready for rent and empty divided by total sq. foot office area in the city	mid-2009 vs. mid-2008	Avison & Young: National Office Market Report Mid-Year 2009. Also data collected by CB Richard Ellis and for London shared by Kapil Lakhota London Economic Corporation, and for Waterloo shared by Janette MacDonald, Kitchener Economic Development.	Waterloo data was used as a proxy for Kitchener. London lacked split core and suburban vacancy rate. CE did not obtain any data for Hamilton

BIOGRAPHIES

Patrick Walters

City Economist

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Patrick Walters has an interest in applying quantitative methods to solve operational questions. He is experienced in building forecasting and simulation models and has presented to professional bodies such as the System Dynamics Society.

Before joining The City of Calgary, he served as Senior Economist and Economist with The City of Edmonton, the Alberta Government and Environment Canada. Patrick earned a Master's degree in Economics from York University with specializations in Labor Economics, Industrial Relations and International Economics. He has a bachelor's degree from the University of Toronto.

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Clyde's current focus is on econometric modeling, financial and public policy analysis. He has held various positions at The City including; Associate Economist, Regulatory Analyst, Student-at-Law, Energy Specialist and Senior Corporate Economist. Over the years he has represented The City at courts, government bodies, tribunals and before external stakeholders as analyst, prosecutor, counsel, negotiator, and as official representative of The Corporation. He has provided analysis to various City business units to assist them with their budgeting needs and has overseen various intervention matters and projects.

Before joining The City, Clyde served as an economist in the electricity industry and Agriculture and Agri-Food Canada and other organizations. Clyde holds a Masters degree in Economics from the University of Calgary with a specialization in Industrial Organization, Regulatory Economics. He also has bachelors degrees in economics and law. He is a member of the Alberta Law Society in addition to being an economist.

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Stanley's main responsibilities include analyzing and forecasting the Alberta economy and energy prices. He maintains the population projection model and contributes to the section's various publications such as the Calgary and Region Economic Outlook and Calgary's Quarterly Economic Outlook.

Before joining Corporate Economics, Stanley was a Mass Appraisal Market Analyst with the Assessment business unit at The City of Calgary. Prior to this, he worked in the mining industry in Suriname, South America. Stanley earned a Bachelors degree in Business Economics from the Anton de Kom University in Suriname and a Masters degree in Mineral Economics and Operations Research from Colorado School of Mines.

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Jolanta's current focus is on building tools and methods for problem solving in the area of policy analysis including MDP/CTP review. Jolanta contributes to various business unit publications, including the Calgary and Region Socio-Economic Outlook covering analysis of the real estate (residential and non-residential) markets in Calgary and Alberta. Her other interest is modeling and environmental economics. She set up the methodology for carbon dioxide (CO₂) data collection for The City of Calgary and the Calgary Community. The methodology for The City of Calgary included an economic analysis of CO₂ Abatement Costs and this method was used to build an automated IT system for data collection for The City.

Before joining The City of Calgary, Jolanta worked for private consulting companies in Calgary and prior to that she engaged in teaching, research and a consulting career at the Faculty of Economic Sciences, at the University of Warsaw, Poland.

Jolanta has an MA and Ph.D. in economics from the University of Warsaw, Poland.

Ivy Zhang

Corporate Economist

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Ivy's current focus is on monitoring national and regional economic conditions and assessing the impacts of current recession on the local economy and The City of Calgary. She is responsible for the monthly publications: Current Economic Analysis, Calgary's Monthly Labour Market Review, and Calgary's Monthly Inflation Review. She has contributed to the Calgary Social-Economic Outlook for several years. Since joining The City of Calgary, Ivy has provided analyses to various business units in broad areas such as municipal finance, budgeting, regional planning, real estate markets (new and resale housing markets and non-residential markets) monitoring, and energy markets (crude oil, natural gas and electricity) monitoring. She has coauthored several economic studies in municipal finance and economic growth areas, including a discussion paper Alberta's Competitive Advantage: Empowering Municipalities with New Municipal Revenue Sources, and an empirical study Growth Convergence and Strategic Investment: An Alberta Case Study.

Before joining The City of Calgary, Ivy held the position of Marketing Manager with a large South Korean & Chinese joint venture in Beijing. Prior to that, she worked as a research engineer in the electrical light source industry in Beijing.

Originally trained as an electrical engineer, Ivy changed her career path to business administration and economic analysis through upgrading her education. She holds a MA degree in Economics from the University of Calgary with specialization in Econometrics. She also has a MBA degree from the Tsinghua University and a B.Sc degree in Physics from the Fudan University in China.

Wendy Fan

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Wendy's current focus is public policy analysis, econometric estimation and simulation, and theoretical modelling. Her responsibilities include analyzing and forecasting world economy, inflation rate and global trade. Wendy maintains Calgary's Monthly Inflation Review. She also contributes to several municipal research projects including Importance of Cities and Brownfield Redevelopment.

Before joining The City of Calgary, Wendy worked as a research assistant during her Ph.D. study at the University of British Columbia. She also worked as a researcher for the International Finance Corporation of the World Bank.

Wendy is a Ph.D. candidate of the University of British Columbia with specialization in International Trade, Economic Development and Growth, and Resource Economics. She earned her MA in Economics from Peking University in China.

Estella Chan

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Estella's role involves researching, collecting and summarizing information for the Corporate Economists and also in planning, developing and maintaining a number of business unit publications and presentations. She is excited about the upcoming projects that will include economic modelling and analysis.

After obtaining a Bachelor of Science degree in Electrical Engineering at the University of Calgary, Estella gained a greater experience in research by diligently working as an International Journal Publisher for an engineering journal company. While managing the publication of journals, she also enhanced her interest in graphic designing and web development.

Estella started her career with The City of Calgary as a Digital Media Designer. One of her recognizable contributions was her work in the first annual State of Centre City 2008 report which was published in April 2009.

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GLOSSARY

AECO C

Is the central natural gas spot market price for Alberta, measured in CAN\$/gigajoule. Joule is the international measure of energy. One gigajoule corresponds to one billion joules.

Account surplus

Occurs when a nation's total exports of goods, services, and transfers exceed its total imports of these items.

Advanced economies

Currently composed of 31 developed countries: Australia, Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Greece, Hong Kong SAR, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Malta, Netherlands, New Zealand, Norway, Portugal, Singapore, Slovenia, Spain, Sweden, Switzerland, Taiwan Province of China, United Kingdom, and the United States.

Aggregate demand

The sum of consumer, government and business spending and net exports.

Commodities

Goods usually produced and/or sold by many different companies. It is uniform in quality between companies that produce/sell it in the sense that we cannot tell the difference between one firm's product and another. Examples of commodities include: oil, electricity, metals, cement, agricultural products such as wheat, corn, rice.

Consumer Price index (CPI)

The Consumer Price Index (CPI) is an indicator of the consumer prices encountered by consumers. It is obtained by calculating, on a monthly basis, the cost of a fixed "basket" of goods purchased by a typical consumer during a given month. The basket contains products from various categories, including shelter, food, entertainment, fuel and transportation. Since the contents of the basket remain constant in terms of quantity and quality, the changes in the index reflect price changes. The CPI is a widely used indicator of inflation (or deflation) and indicates the changing purchasing power of money in Canada.

Core rate

Rate of inflation in the Consumer Price Index excluding food and energy.

Economic region

The area generally correspondent to a region used by the province for administrative and statistical purposes.

Economy

The term economy refers to the institutional structures, rules and arrangements by which people and society choose to employ scarce productive resources that have alternative uses, in order to produce various goods over time and to distribute them for consumption, now and in the future, among various people and groups in society. In a free-market economy such as Canada's the laws of supply and demand determine what, how and where goods and services should be produced, who should consume them and when. A "strong" or "healthy" economy is usually one that is growing at a good pace.

Employment rate

The number of employed persons expressed as a percentage of the working age population.

Euro area

Denomination given to the European Union members that adopt the Euro as their currency. As of 2007 there were 15 countries in the Euro Area: Belgium, Germany, Ireland, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, The Netherlands, Austria, Portugal, Slovenia and Finland.

European Union or European Economic Community

Initially conceived as a way of avoiding war among European countries, it is currently the most sophisticated and advanced form of economic integration, encompassing free movement of people, goods and services among its members which is presently at 27. Note that membership in the European Union does not automatically lead to adoption of the Euro.

Eurostat (Statistical Office of the European Community)

It produces data for the European Union and promotes harmonization of statistical methods across the member states of the European Union.

Emerging economies

This is a reference to countries that due to growth performance are considered in transition between developing and developed countries. The most important emerging economies are Brazil, China, India and Russia, sometimes referred to as BRIC.

Fiscal policy

Also called budgetary policy, the overall program for directing government spending and taxation for the purpose of keeping the actual Gross Domestic Product (GDP) close to the potential full employment GDP, but without overreaching that potential and causing inflation.

Goods-producing industry

Includes agriculture, forestry, fishing, mining, oil and gas extraction, utilities (electric, gas and power), construction, and manufacturing.

Gross Domestic Product (GDP)

GDP is a measure of the value of all goods and services produced by the economy. Unlike Gross National Product (GNP), GDP only includes the values of goods and services earned by a region or nation within its boundaries.

Home market value

An indicator to compare houses across the country. This indicator is based on an 1,800 sq. ft., seven rooms, three-bedroom, two-bath home in suburban community where middle income Canadian families of four reside

Housing markets

Consists of two markets: new house and re-sale markets referred to as MLS (multiple Listing Services). Each is described by different parameters and followed closely by different statistical bodies – The Planning and Building Department with The City of Calgary and Statistics Canada for new houses, and The Canadian Real Estate Association for the re-sale market.

Housing units

A general term that refers to single-family houses, townhouses, mobile homes and/or condominiums.

Index

An economic tool that allows for data comparison over time. An index number is used to indicate change in magnitude (cost or price) as compared with the magnitude at some specified time.

Inflation rate

A measure of the percentage change in the Consumer Price Index for a specific period of time.

In-migrants

Persons currently living within a census metropolitan area (CMA), that five years earlier lived elsewhere in Canada or abroad.

Labour force

The working age population which includes employed and unemployed people.

Labour force participation rate

The total labour force expressed as a percentage of the working age population.

Major advanced economies (G7)

Composed of seven countries: Canada, France, Germany, Italy, Japan, United Kingdom, United States

Migrants

Persons who lived in a different census subdivision (CSD) than the one they lived in five years earlier (internal migrants) or who lived outside Canada (external migrants or immigrants)

Monetary policy

Refers to government measures undertaken to affect financial markets and credit conditions with the ultimate objective of influencing the overall behaviour of the economy. Monetary policy is usually the responsibility of the Central Banks., such as the Bank of Canada.

OECD

It is the acronym for Organization of Economic Cooperation and Development. It currently has 30 members all from developed economies in Europe, North America, Asia and Oceania. It was created in 1961 aiming to foster prosperity and fight poverty through economic growth and financial stability.

Service-producing industries

Includes trade, transportation and warehousing, finance, insurance and real estate, professional, scientific and technical services, management administrative and other support, educational services, health care and social assistance, information, culture and recreation, accommodation and food services, other services, and public administration

Unemployment rate

The number of unemployed persons expressed as a percentage of the labour force.

West Texas Intermediate

Also Known as Texas Sweet Light, is a type of crude oil used as a benchmark in oil pricing and the underlying commodity of New York Mercantile Exchange's oil futures contracts. This oil type is often referenced in North American news reports about oil prices, alongside North Sea Brent Crude

Working age population

Corresponds to all persons aged 15 years and over, with exception of the following: persons living on Indian reserves, full time members of the regular armed forces, and persons living in institutions.

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