



**Calgary
& Region**
Volume 2

Economic Outlook

2011-2021



Purpose

The City of Calgary monitors and reports on the local economy on a continuous basis. The economic outlook is an outcome of this process and is updated four times annually.

The Calgary Economic Outlook has the following purposes:

1. This publication is a reference document created to support The City of Calgary in the financial and physical planning of the city.
2. This 10-year outlook can help readers understand and adapt to change in the world outside and inside of Calgary.

The economy plays an important part in The City's financial well being. 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.

3. This report fills an important information gap on the economics end as no other publication currently provides a comprehensive analysis of the local economy. Several Canadian research institutions restrict their analyses to the Alberta economy, and very few analyses and forecasts are available for the urban areas within the province. This report attempts to answer the following questions:

- ♦ What would be the overall rate of growth of the local economy?
- ♦ What would be the drivers of the local economy?
- ♦ How many jobs would be created?
- ♦ What would be the size of the city and region populations?
- ♦ What would be the inflation rate?
- ♦ What are the implications for municipal finance?

Table of Contents

Executive Summary	2
Forecast Preamble	7
City of Calgary	8
Calgary Economic Region (CER)	17
Assumptions:	
Alberta Economy	26
Canadian Economy	30
U.S. Economy	35
Global Economy	39
Forecast Tables	44
Biographies	52
Glossary	54

Executive Summary

Forecast

City of Calgary

The city of Calgary's population was established at 1.091 million by the April 2011 Civic Census. Calgary's population is expected to reach 1.110 million in 2012 and 1.143 million in 2014 before climbing to 1.256 million in 2021. Calgary's population is projected to increase by 164,839 persons between 2011 and 2021 or by 16,484 persons annually. The annual growth rate is estimated at 1.4 per cent over the period.

Housing starts are expected to total 6,400 units in 2011, down 900 units from 2010 as consumers were adversely affected by tighter mortgage borrowing rules. Over the forecast period, housing starts in the city of Calgary are expected to total 7,500 units in 2012 and trend upwards to 8,000 units by 2016.

The total value of building permits is expected to range between \$3.0 and \$4.5 billion over the forecast period. Employment growth, decreasing vacancy rates for downtown offices and population growth should support demand for new non-residential and residential space.

Calgary Economic Region

The Calgary Economic Region (CER) is expected to grow by 3 per cent in 2011, up from 2.7 per cent in 2010 and -4.7 per cent in 2009. Increased economic activity in the rest of Alberta should create an increased demand for goods and services from the CER.

Total employment is expected to reach 802,000 in 2012 and 838,000 by 2014, up from 776,000 in 2011. Employment growth should be driven by increased economic activity.

The unemployment rate is expected to average 6 per cent in 2012 and 5.0 per cent in 2014, down from 7 per cent in 2010.

The consumer inflation rate is expected to average 2.4 per cent in 2012, 2.6 per cent in 2013 and 2.2 per cent in 2014. Higher energy prices and increased accommodation costs are expected to increase consumer prices over the forecast period.

Assumptions

The Alberta economy is expected to grow by 2.9 per cent in 2011, down from 3.6 per cent in 2010. A strong Canadian currency and slow economic growth in the U.S. combined to constrain the rate of export growth. This constrained export sector is expected to reduce the overall growth rate in the short-term (2011-2012).

Oil prices are expected to average US\$90/bbl in 2011 and increase to US\$97/bbl by 2014. Crude oil prices are expected to grow in response to increased demand for oil from emerging economies.

Natural gas prices should increase modestly in response to slow growth in the U.S. economy and an abundant supply of natural gas from shale formation.

Canada's real GDP is expected to grow at 2.2 per cent in 2011 and 2 per cent in 2012, before returning to 2.2 per cent by 2015.

U.S. real GDP is expected to grow by 1.5 per cent this year and 1.6 per cent next year, improving to 2.3 per cent in 2013 and 2.5 per cent in 2015.

The world GDP is expected to grow at 3.7 per cent in 2011, and 3.6 per cent in 2012.

Forecast risks

Forecasts are always subject to both upside and downside risks. In this forecast, the key risks to the Calgary economy are external, and heavily weighted to the downside. Government policies to boost demand and pull the world out of economic recession had the unintended consequence of reducing the policy tools available to deal with slower growth or recession in the near-term.

In the U.S., macroeconomic data has been weak, reflected by insignificant job creation, disappointing GDP growth, flat consumer spending and a depressed housing market. More importantly, severe fiscal problems at the federal and local levels are leading to a serious retrenchment. The anaemic U.S. recovery, following the 2008/2009 recession, has contributed to the global weakness in demand for both Alberta and Calgary exports.

In contrast to most advanced economies, several emerging economies, such as China, India and Brazil, have external surpluses and enjoy excellent public finances. Their challenge is to control the outbreak of inflation by way of tighter monetary policy. In addition, the risk of slower growth in developed economies would have negative effects on emerging economies that rely on exports to those economies. This in turn would result in weaker demand for Alberta's and Calgary's commodities and services.

Forecast risks



Forecast implication

Variable	Direction of change	Implications for The City of Calgary
Canada		
Gross Domestic Product (%)	2012 should increase over 2010. Canada's economic growth would be constrained by an anaemic U.S. economic performance, a strong Canadian Dollar, slower growth in government and weak consumer spending.	The market for goods and services, in the rest of Canada, from the CER would increase at a modest pace.
Prime Business Loan Rate (%)	2012-2014 should increase over 2011. The Bank of Canada placed short-term interest rates at extremely low levels in order to boost domestic demand. These rates should increase over the forecast period as the Bank of Canada unwinds the monetary stimulus.	Higher interest service charges should not have a direct effect on The City. However, service providers may pass on higher charges/fees to The City.
Government spending	Decrease for several years. Increased government spending was used to counter the recession's negative effects at both the provincial and national levels. Economic stability was incurred at the cost of deficits and increasing debt levels.	The federal and provincial governments have publicly committed to balance their budgets and reduce debt levels through stringent expenditure restraint. Consequently, municipal governments should not expect increases in transfer payments. In fact, reductions in transfer payments may be a distinct possibility.
Alberta		
Crude oil price – WTI (US\$/bbl)	World crude oil prices are projected to remain at high levels over time in response to increased demand from emerging economies.	Producing economies such as Alberta would benefit from high prices which would lead to increased investment. The Calgary economy would benefit from the economic spinoff. Higher prices should improve Calgary Transit's relative price competitiveness. Prices for petroleum-based commodities such as diesel fuel and bitumen should increase and this should add to The City's operating and capital costs.
Alberta natural gas price – AECO/NIT (CAN\$/GJ)	Natural gas markets have moved into a period of over-supply since the beginning of the 2008/2009 recession. The U.S. recession has resulted in a significant reduction in the rate of growth in the demand for natural gas particularly in the industrial sector. In addition, the production of shale gas in North America has substantially increased supply.	The net effect of a \$1 GJ price decrease for natural gas should decrease GDP by \$1.8 billion. In addition, a \$1 GJ decrease in natural gas prices should cause provincial royalty revenues to decrease by roughly \$1 billion. Also, this price decrease results in a decrease in City of Calgary profits of roughly \$250 million. Low natural gas prices would cause City revenue growth from franchise fees to remain weak assuming all other things are equal.

Forecast implication (continued)

Variable	Direction of change	Implications for The City of Calgary
Alberta (continued)		
Government spending	Decrease for several years	The provincial government has publicly committed to balance its budgets and reduce debt levels through stringent expenditure restraint. Consequently, municipal governments should not expect increases in transfer payments. In fact, reductions in transfer payments may be a distinct possibility.
Calgary		
Employment growth (%)	Positive GDP growth in 2012 and beyond should create an increasing demand for labour.	Increased employment should result in an increased demand for non-residential space and this should push the office market vacancy rate down to a more sustainable level by 2020.
Population growth	Total population is expected to increase by 165,000 over the next 10 years.	Growth in demand for City services would be shaped by changing demographics. Population projections imply that employers would encounter greater difficulties in hiring younger workers towards the end of the forecast. Pricing of public goods and services may have implications for retired citizens assuming that they have lower income levels.
Unemployment rate	The unemployment rate would trend downwards over time as labour force growth lags employment growth.	Lower unemployment rates from 2012 and beyond should lead to higher wage inflation and this should increase The City's operating costs.
Building permits (\$billion)	Building permit values would be driven by growth in the non-residential market. Lower vacancy rates in the non-residential market should support the building of new space.	Growth revenues associated with total building permit values should return to their pre-2007 values in the early stages of the forecast. Building permit values should be boosted by higher employment levels towards the end of the forecast period.
Housings starts ('000 units)	Grow in line with population change. The level of housing starts is expected to be lower than what was recorded in the 2003–2008 period.	There should be continued demand for serviced land for residential development. However, growth rates should be slower than in the past 10 years.
Non-residential building price inflation (%)	The inflation rate should increase as labour supply tightens and growth in emerging economies drives the demand for commodities.	Inflation rates increase over the 2012–2014 period.

Forecast Preamble

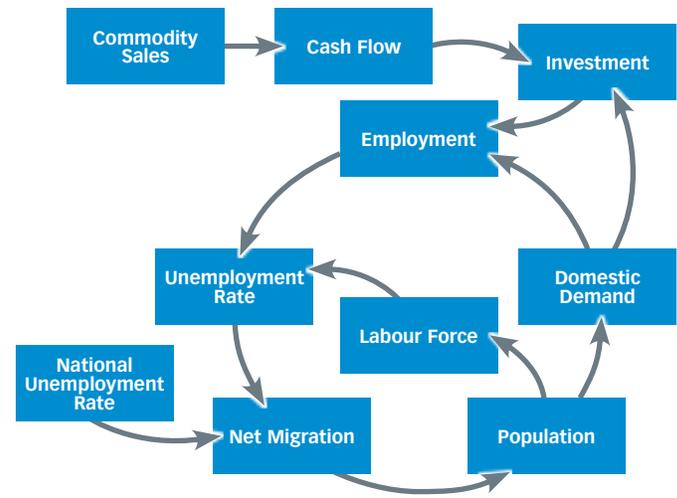
The public policy measures taken to aid in the recovery from the 2008/2009 economic recession had the unintended consequences of leaving developed world economies with worse public finances than before the recession and emerging economies with higher inflation rates.

The current policy approach to address the deterioration of public finances and higher inflation rates among the developed and emerging economies is to reduce fiscal and monetary stimulus from the economy. In the case of developed countries, governments have responded by imposing austerity measures aimed at reducing expenditures and raising revenues. In the case of the emerging economies, tighter monetary policy, with higher interest rates, is used as a weapon against higher inflation rates. Higher interest rates are expected to reduce expenditures on interest sensitive items such as the purchase of big ticket items like automobiles and houses. The net effect of tighter fiscal and monetary policies has resulted in a reduction in world economic growth. The unintended consequences of the fight against the 2008/2009 recession have left the world economies with fewer policy instruments to fight the current economic slowdown.

This forecast is built on the assumption that changes outside of Calgary have a significant impact on the local economy. Specifically, businesses and individuals are unable to set prices for the goods that they trade on world markets. In fact, they are price takers and not price setters. This forecast is also based on the assumption that the world economy would expand over the next 10 years but at a slower pace than what was experienced in the previous 10 years. Consequently, local businesses that sell goods and services outside of Calgary should experience an expanding

but slower growing market for their products. It should be noted that our baseline analysis is based on the assumption of no disorderly default in the Eurozone.

Regional growth dynamics



External shocks are transmitted to the local economy mainly through two channels: (a) trade and (b) credit arrangements. First, statistical analysis shows that Calgary's economy is not insulated from global market shocks and is sensitive to international energy prices movements, especially, crude oil price (WTI). WTI price changes have a significant impact on employment in Calgary. Specifically, oil price changes tend to affect the local economy with a four to five month time-lag. This implies that slower global growth would inevitably translate into slower growth in Calgary. Second, economic uncertainty abroad is transmitted to the local economy through the financial system imposing stricter borrowing and credit requirements on businesses and individuals.

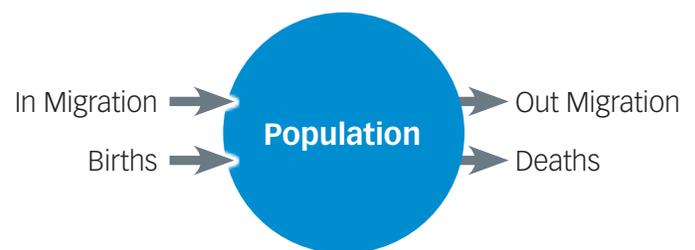
City of Calgary



Population

Population projections for the city of Calgary are based on a cohort-survival model. The model projects the components of population growth; births, deaths and net migration each year. These components are then added to the previous year's population to derive estimates for each projection year. Estimates for the base-year (2011) are drawn from the April 2011 Civic Census.

$$\text{Net Migration} = \text{In Migration} - \text{Out Migration}$$

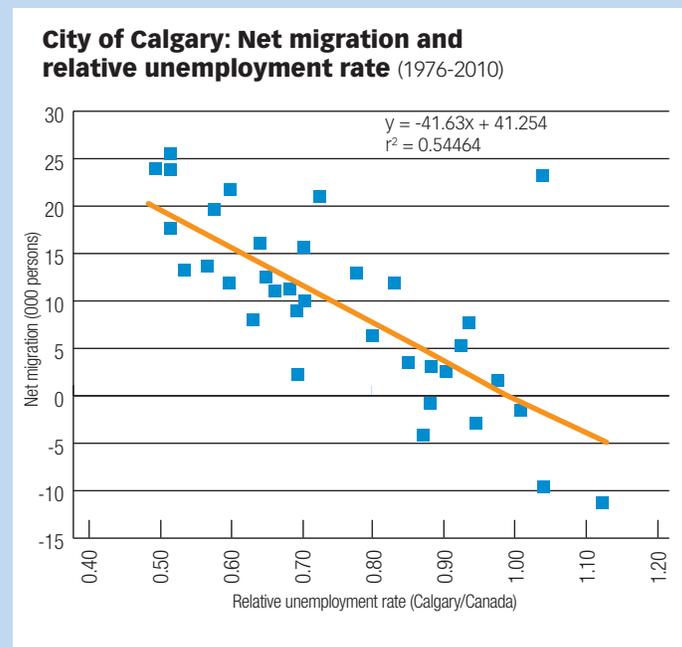


$$\text{Natural Increase} = \text{Births} - \text{Deaths}$$

NET MIGRATION

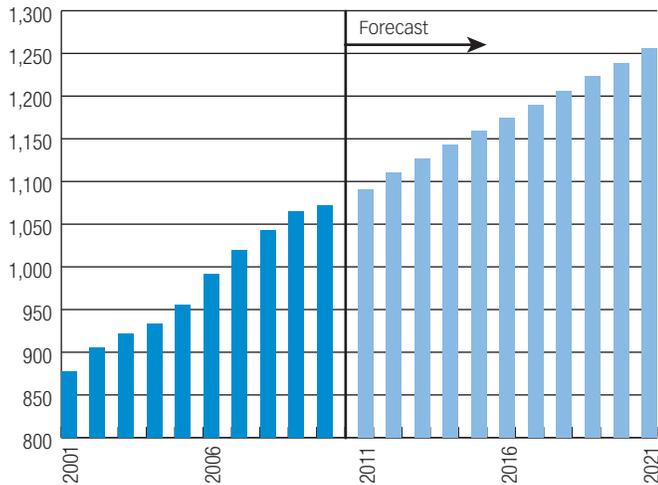
Net migration is the most volatile component of population growth in Calgary. Statistical analysis shows net migration tends to be higher in good economic times and lower in depressed circumstances. Net migration is explained by a combination of “push” and “pull” factors. Push factors refer to those conditions that potential migrants face at their origination point. The more adverse conditions are, the more incentive individuals would have to migrate. While, pull factors refer to conditions at the intended destination. The better those conditions, the more inviting the destination would be for potential migrants.

The scatter plot below sketches out this hypothesis. The unemployment rate in Canada is used to represent push factors outside of Calgary and the local unemployment rate is used as a proxy for pull factors to Calgary. The figure below plots the relationship between net migration to Calgary and the relative unemployment rate (Calgary/Canada). The analysis shows that relatively higher unemployment rates in Calgary are generally accompanied by lower levels of net migration and higher levels of net migration are associated with relatively lower unemployment rates.



The population projection is based on the assumption of positive net migration in Calgary throughout the forecast period. The economic forecast for the CER calls for the local unemployment rate to fall below five per cent by 2021. In addition, the local unemployment rate should be lower than the national unemployment rate throughout the entire forecast period. The relatively lower unemployment rate in Calgary should act as a magnet for job seekers from outside Calgary.

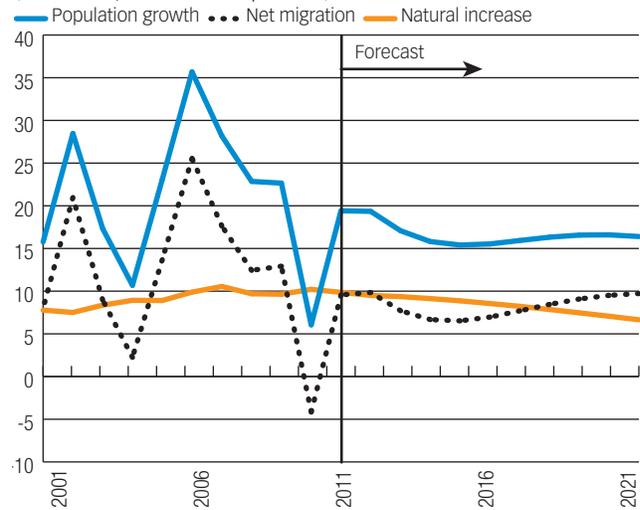
City of Calgary: Total population
(2001-2021, thousands of persons)



The city of Calgary’s population was established at 1.091 million by the April 2011 Civic Census. Calgary’s population is expected to reach 1.110 million in 2012 and 1.143 million in 2014 before climbing to 1.256 million in 2021. Calgary’s population is projected to increase by 164,839 persons between 2011 and 2021 or by 16,484 persons annually. The annual growth rate is estimated at 1.4 per cent in this period.

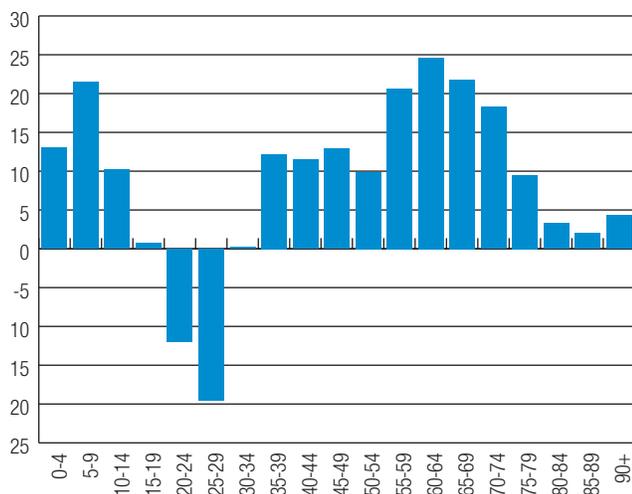
Projections show natural increase in population declining over time as births grow at a slower rate than deaths. Births per 1,000 Calgarians are projected to fall from 15 in 2011 to 12 in 2021, This is expected as the total number of women of childbearing age is expected to decrease to 271,000 over the projection period, while, deaths per 1,000 Calgarians should rise from six in 2011 to seven in 2021. This increase is a result of an aging population.

City of Calgary: Sources of population growth
(2001-2021, thousands of persons)



The graph below shows expected shifts in the different age groups over the 2011-2021 period as a result of aging, natural increase and net migration over time. Shifts in population distribution from 2012-2021 are most evident in the 55 to 74 age cohort, or those individuals born between 1947 and 1966. This population group is commonly referred to as the baby boom generation.

City of Calgary: Population change
(2001-2021, thousands of persons)



The age groups listed below are expected to show large increases in population.

Age	Population change
	Persons
60-64	25,000
65-69	22,000
05-09	22,000
55-59	21,000
70-74	18,000

Whereas, the age groups listed here should experience minimal increases or decreases in population.

Age	Population change
	Persons
25-29	-20,000
20-24	-12,000
30-34	0
15-19	1,000

These population distribution shifts would affect the market size for various goods and services. For example, the zero to 14 cohort is expected to grow above average over the next 10 years and should increase the need for child-based services. Within that group, the five to nine age group is expected to grow by 2.9 per cent annually increasing the demand for primary school space.

The labour force replacement rate is defined as the ratio of population aged 15 to 24 relative to population aged 55 to 64. The population that is aged 15 to 24 is a proxy for first-time labour market entrants, while the population cohort 55 to 64 is a proxy for pre-retirees.

The labour force replacement rate was estimated at 679 per 1,000 persons. This statistic implies that, for every 1,000 persons who are of pre-retirement age there are only 679 persons who could potentially enter the work force. Projections show that this ratio will decline steadily over time reaching 382 by 2021. This once again highlights the impact the aging baby boom generation has on the population distribution and on the functioning of the economy.

The median Multiple Listing Service (MLS) price for a re-sale house in Calgary was estimated at \$360,000 in August 2011, up from \$350,000 a year earlier, but below the March 2010 peak of \$375,000. Re-sale house prices increased steadily between 2001 and 2007 in response to a growing demand driven by population increase and relatively low financing costs. The sharp increase in house prices between 2005 and 2007 made housing less affordable. Increased house prices led to increased supply with an above average inventory. This subsequently placed downward pressure on the house inflation rate. From 2007 to the present, house price inflation has been on a downward trend and this resulted in improved housing affordability.

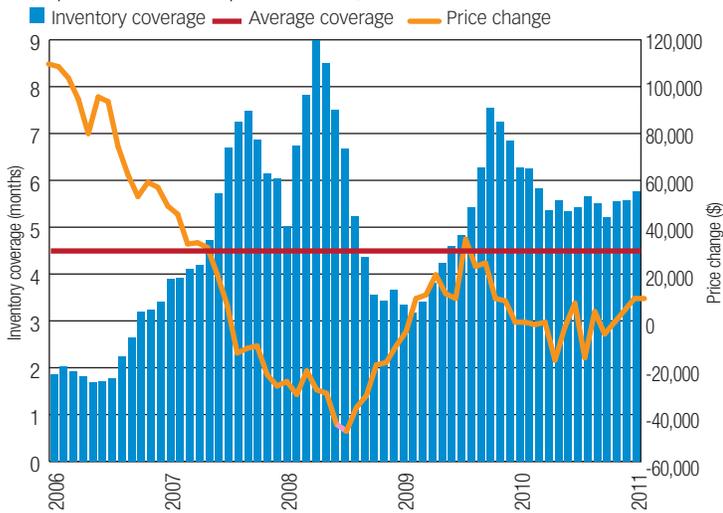
The pace of housing starts exceeded demographic requirements from 2002 to 2008 and the significant pent-up demand that accumulated over the 1990s was therefore satisfied. Total housing starts in

Calgary for 2010 were estimated at 7,300 units, up from 5,000 units in 2009. Housing starts are expected to total 6,400 units in 2011, down 900 units from 2010 as consumers were adversely affected by tighter mortgage borrowing rules. Increased employment and improved housing affordability should combine to support new house construction. Over the forecast period, housing starts in the City of Calgary are expected to total 7,500 units in 2012 and trend upwards to 8,000 units by 2016. Housing starts should grow in line with economic and demographic activity towards the end of the forecast period.

Office space inventory in Calgary was estimated at 60.6 million square feet in Q3 2011, up from 58.6 million in Q3 2010. The vacancy rate for office space declined from 10.4 per cent in Q3 2010 to 7.1 per cent in Q3 2011. The demand for office space is driven by employment levels. Employment growth over the forecast period should push the office vacancy rate lower.

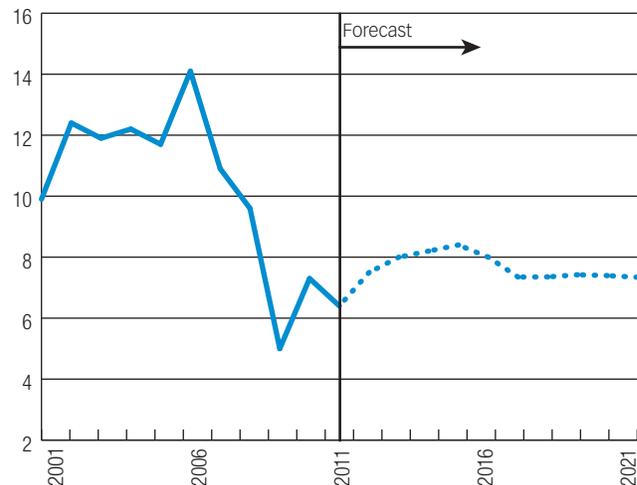
City of Calgary: Inventory coverage and median MLS price change

(September 2006 – September 2011)



City of Calgary: Housing starts

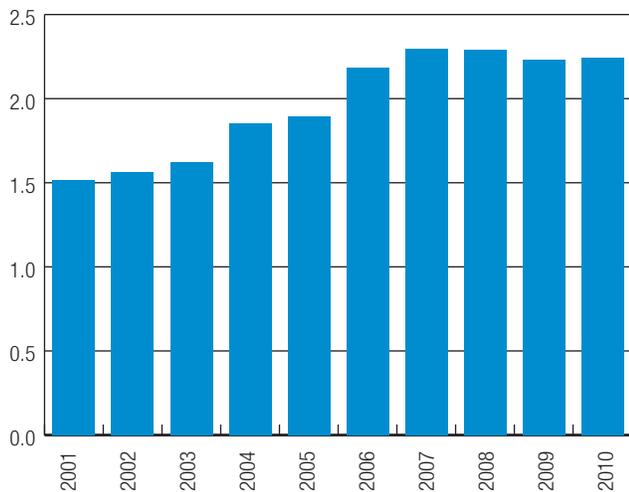
(2001-2021, thousands of units)



Source: Calgary Real Estate Board; Corporate Economics

City of Calgary: Housing unaffordability index

(2001-2010, index 1980 = 1)



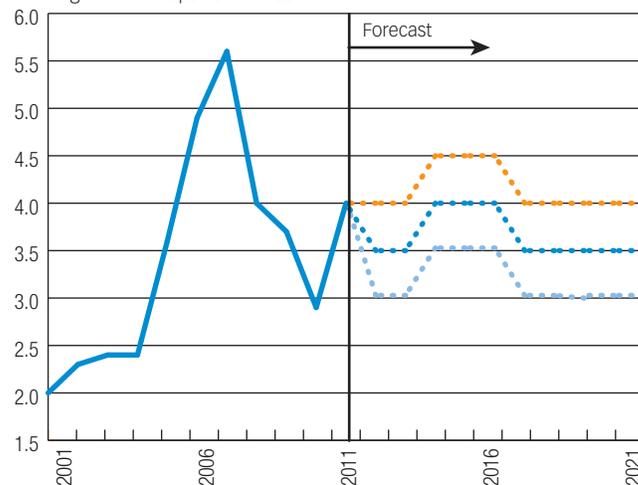
Residential permit values grew by 20 per cent to \$1.4 billion from \$1.2 billion in the first eight months of 2011, compared to the same period in 2010. During this period, non-residential permit values surged by 89 per cent to \$1.636 billion, up from \$0.867 billion in 2010.

The total value of building permits is expected to range between \$3.0 and \$4.5 billion over the forecast period. Employment growth, decreasing vacancy rates for downtown offices and population growth should support demand for new non-residential and residential space. Increased interest rates and tighter credit conditions, arising from the world economic volatility, should partly offset investment intentions.

City of Calgary: Building permit values

(2001-2021, billions of dollars)

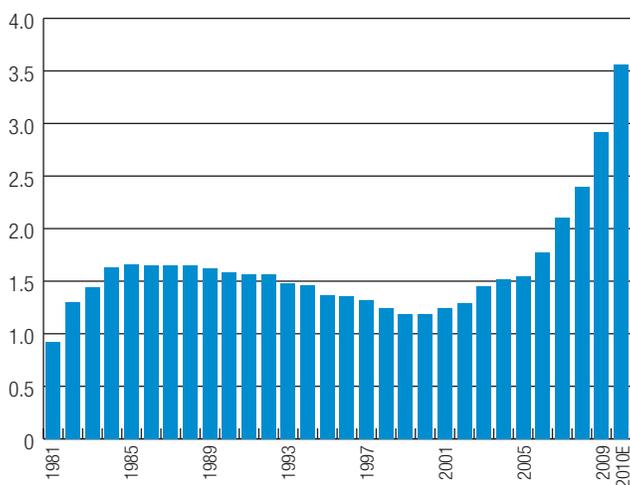
● High ● Midpoint ● Low



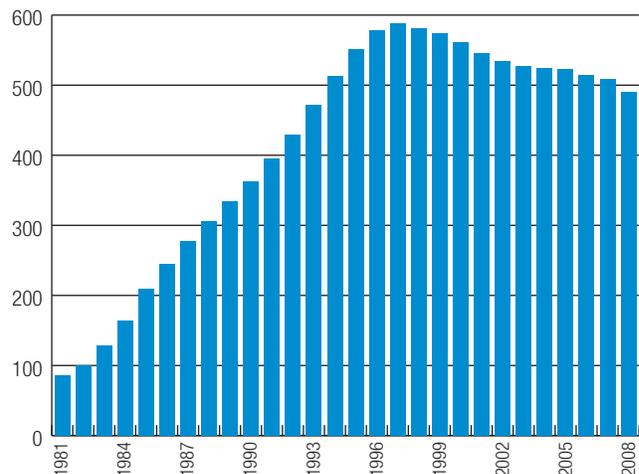
A CASE OF FISCAL IMBALANCE: THE CALGARY EXPERIENCE

The first decade of the 21st century was one of increased prosperity for the Alberta economy in general and Calgary in particular. Before the boom ended in the summer of 2008, Calgary's economy reaped the benefits of strong demand for commodities from emerging world economies. During this period, The City of Calgary experienced increased fiscal stress and budgetary pressures as the need for funding to keep up with increased demand for municipal services and infrastructure from a growing population far exceeded its financial ability. Calgary's municipal government debt increased substantially from \$1.6 billion in 1988 to \$2.1 billion in 2007 and \$3.6 billion in 2010. This is in sharp contrast to the federal or provincial government situations. In contrast the federal government has experienced declining debt balances since 1999, and the Alberta government paid off all sovereign debt in 2000 and managed to accumulate a surplus of \$35 billion by the end of 2007.

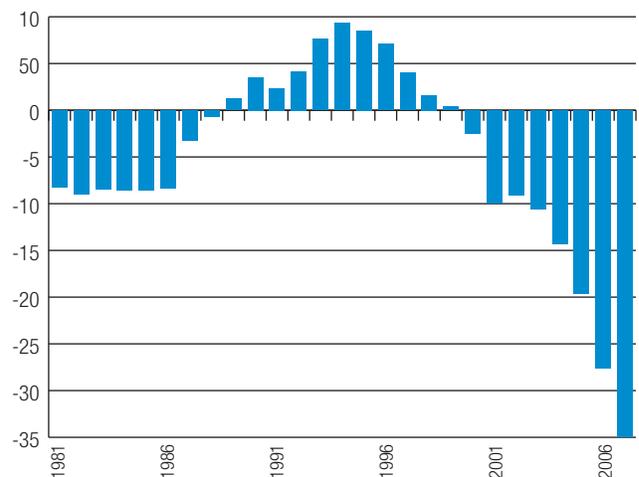
The City of Calgary: Total long-term debt
(1981-2010, billions of dollars)



Federal government: Net financial debt in Canada
(1981-2008, billions of dollars)



Provincial government: Net financial debt in Alberta
(1981-2007, billions of dollars)

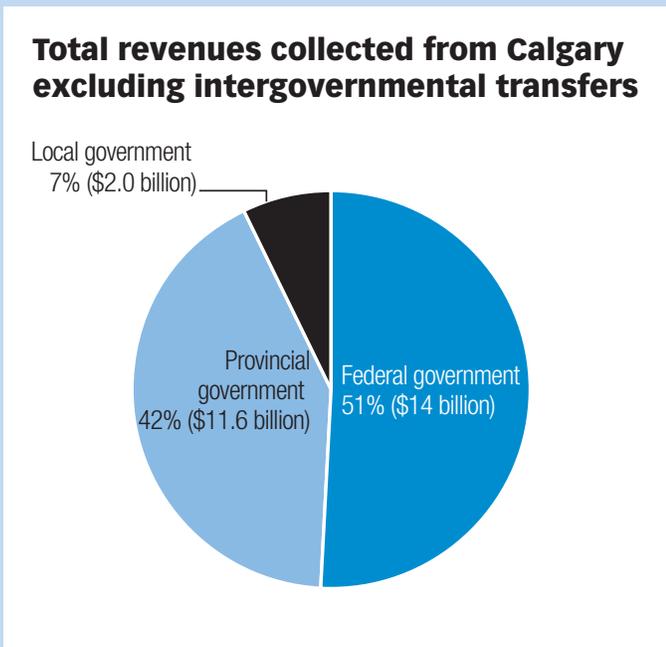


This naturally begs the question; “Why, even in good economic times, does the The City of Calgary financially struggle to provide services to Calgarians?” One explanation is that Calgary over-contributes to the balance sheets of the federal and provincial governments, leaving the local government with less than adequate revenue to fund its spending responsibilities. Only after adding intergovernmental transfer payment revenues from the other orders of government (mainly from the Alberta Government), was the local government able to bridge the funding gaps over the years.

There are several reasons for The City of Calgary’s over-contribution to the provincial and federal government budgets including:

- ♦ The provincial and federal governments have revenue sources that are closely related to economic growth, such as income and sales taxes.
- ♦ The City does not have access to growth related taxes. The main source of tax revenue, the property tax, is not growth sensitive which constrains the ability of the local government to raise revenues.
- ♦ Among the three orders of government in Canada there is a misalignment between revenue sources and roles/responsibilities.

Big cities like Calgary are not only the leaders of economic and employment growth in Canada, but also the places where knowledge economies expand and highly educated and skilled workers locate. Over-contribution in Calgary is not sustainable in the long-run. It hurts not only the local economy, but also Alberta and Canada as a whole.



PASS-THROUGH IMPACT OF WTI CRUDE OIL PRICE ON CALGARY'S LABOUR MARKET

Calgary's economy is not insulated from global market shocks and is sensitive to international energy price movements, especially, crude oil price (WTI). This analysis shows that, WTI price changes have a significant effect on Calgary's employment scenario. Specifically, oil price changes tend to affect the local economy with a time-lag of four to five months.

As can be seen in the first chart, the recognizable pattern of pass-through effects from WTI movement to the local job growth is evident. The two curves are closely correlated and have similar shapes during both booms and busts. The second chart indicates the monthly changes of the two variables, which captures a clearer picture of the lagged effect on employment in Calgary from the international market.

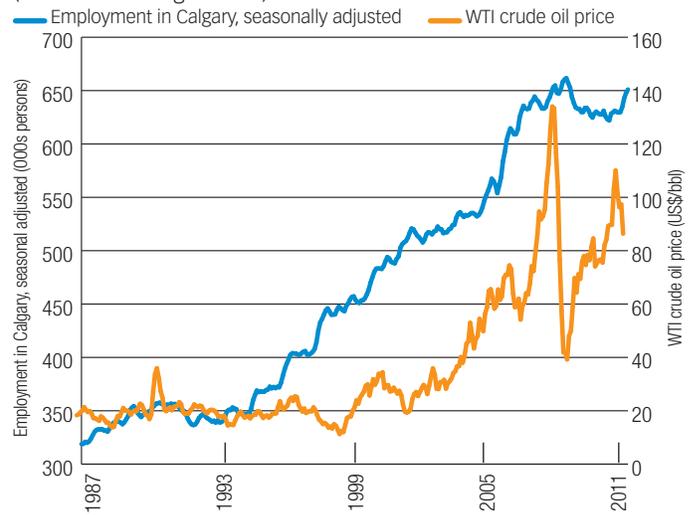
This analysis is based on Statistics Canada's monthly employment data for all industries in Calgary from March 1987 to August 2011 and WTI crude oil spot price data from the U.S. Energy Information Administration. Investigation of the time series properties of the price data was performed in order to specify the form of the empirical model. Estimates show that a change in WTI crude oil price should cause a movement in the same direction for employment in Calgary after a four to five month delay. The results are robust for different econometric specifications.

Slower economic growth and continued deterioration of sovereign debt situations in the world's advanced economies (Europe and the U.S.) would impose an exceptional degree of risk to the near-term global outlook. Crude oil price has been slowing since the second quarter of this year, with the risk premiums caused by the Middle East and North Africa (MENA) political turmoil diminishing, and the global demand

weakening. Given the link between global market and our local economy, we should be aware that the downside risks to Calgary's labour market have significantly increased, though with a time-lag.

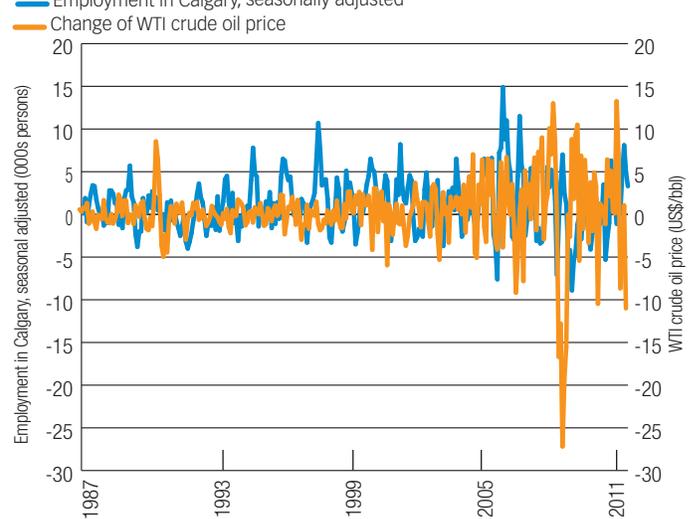
WTI crude oil price vs. employment in Calgary

(March 1987 – August 2011)



Changes of WTI crude oil price and employment in Calgary

(March 1987 – August 2011)



INTERPROVINCIAL AND INTERNATIONAL MIGRATION TRENDS FOR CALGARY

In order to sustain solid economic growth in the years ahead, Calgary must maintain population growth robust enough to drive consumer spending, housing starts, office space absorption and employment. With demographic trends signaling an ageing population, it is important to consider where the city's population growth will be coming from.

Calgary is in an enviable position in relation to other Canadian municipalities. There is a robust economy, a generally young population relative to the rest of Canada, high education levels and infrastructure that supports growth. While other cities in eastern Canada, such as Sudbury, Windsor and Saguenay, are dealing with yearly contractions in their respective populations, Calgary has generally enjoyed growth rates around two per cent annually.

However, the nature of our population growth is changing. As death rates increase and are not fully offset by new births, Calgary will have to look more and more to interprovincial and especially international migration. The population of Calgary residents aged 65 and older is expected to go from 110,400 people currently to over 182,000 in 2020. As mentioned, this puts pressure on Calgary to attract immigrants and other Canadians to choose Calgary as a place to live and pursue their careers. We have already seen positive trends in this regard. While there was a dip in interprovincial migration in 2009

because of the weak economy, it was a banner year for international migration. Calgary may only account for 5.7 per cent of the international immigrant landings in Canada, but the growth in this area has been astounding. In 2006, Calgary had 11,635 immigrant landings, compared with 16,103 in 2010. This represents a growth rate of 36 per cent. As more and more immigrants make their way to Calgary, expect this number to continue to rise as family-class and economic immigrants are lured to the city by both family members and job prospects.

Along these lines, we have already seen a tremendous increase in economic class immigrants from 2006-2010 at a rate of 67 per cent. Between 2009 and 2010 there was a 32 per cent increase in economic immigrants, a sign of the growing labour and skill shortages in Calgary. Trends in family class immigrants reveal a two per cent growth rate since 2006 and a 17 per cent decrease for refugee class immigrants. Due to economic opportunities and many established immigrant communities and services, Calgary will likely see not only more direct immigrant landings, but also more immigrants that land in Toronto, Montreal and Vancouver, moving here in the future.

When examining interprovincial migration into Calgary from census metropolitan areas (CMAs) across Canada, there are a number of alarming trends. The most recent data for this level of analysis is from 2009 that revealed the first net out-migration from Calgary to other Canadian CMAs in many years. Without the positive net migration of 303 from Edmonton and rural Alberta to Calgary, the city saw a net out-migration of 1,931 residents to other parts of Canada. British Columbia was the biggest beneficiary as Vancouver, Victoria and non-CMA areas witnessed positive net migration of 977, 531 and 751 residents respectively. Toronto and Montreal were the two largest contributors to Calgary's population with a positive net migration of 284 and 224 residents respectively. These numbers are drastically reduced from the previous four years (2005-08) where, on average, 1,867 Montreal residents and 2,995 Toronto residents moved to Calgary every year.

In light of the solid economic recovery and with all signs pointing to a human capital shortage (in spite of the recent downturn in the world economy), Calgary Economic Development launched Calgary. Be Part of the Energy campaign in June 2011 to ensure a steady stream of interprovincial and international migrants to Calgary in the future.

It is not surprising that Calgary is still viewed as a "one horse town," defined by its energy sector. However, key to the success of the campaign is highlighting the diversity of additional sectors, such as financial services and transportation and logistics, that help drive Calgary's economy, building on our strength in energy. Calgary is a city experienced and proven in international business, where deals are done on a handshake. And while not spoken about enough, the growing arts and culture sector not only provides an additional source of economic revenue but increases the quality of living for Calgarians. It's this sense of quality of place and economic opportunity that will draw more and more people to Calgary in future years.

Calgary Economic Region (CER)

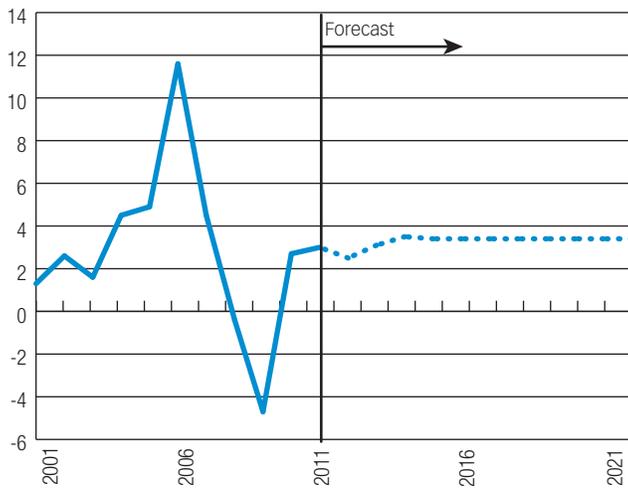


The CER is expected to grow by 3 per cent in 2011, from 2.7 per cent in 2010 and -4.7 per cent in 2009. Increased economic activity in the rest of Alberta should create increased demand for goods and services from the CER. Consumer and business spending growth should boost economic activity in the CER. Job growth and wage increases should boost labour income, which would support consumer spending and result in faster growth for the local economy. Faster growth would further increase the demand for labour and would reduce

the local unemployment rate relative to the national rate. Calgary would become a more attractive destination for job seekers and would cause net migration to increase. Economic growth would become self sustaining. The local economy should expand in 2012 and drive consumer spending higher. Economic growth should plateau at 3.5 per cent in 2014 and then at 3.4 per cent over the rest of the forecast period as slower labour force growth constrains output growth.

**Calgary Economic Region:
Gross domestic product growth**

(2001-2021, per cent)

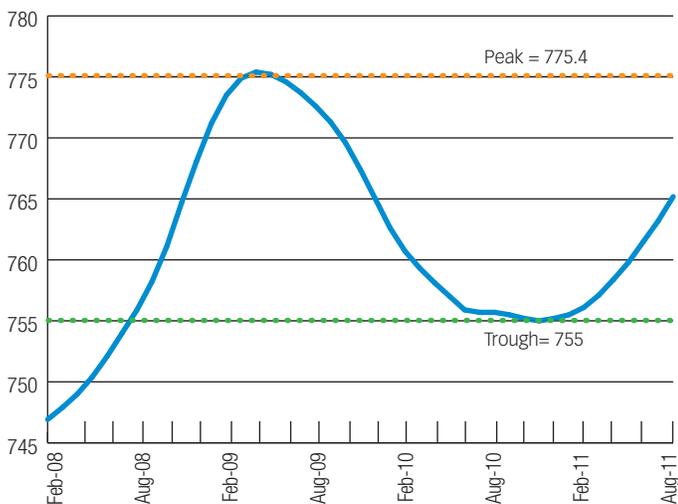


Total employment peaked in 2008 and with the onset of the recession, employment contracted in 2009 and 2010. This decrease in employment ended in late 2010 and into 2011 and it is anticipated that the economy should recover the jobs lost during the recession by the end of 2011. The economy is expected to enter the expansion phase from 2012 to the end of the forecast period. An expanding economy is expected to generate an increased demand for labour.

Calgary Economic Region: Total employment

12 month-moving-average

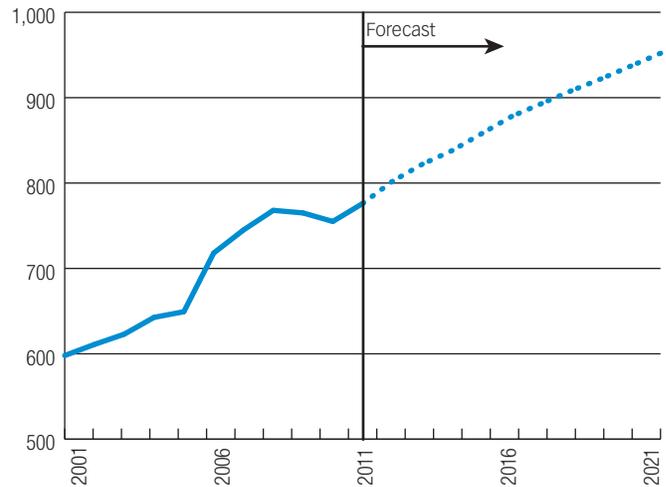
(February 2008 – August 2011, thousands of persons)



Total employment is expected to reach 802,000 in 2012 and 838,000 by 2014, up from 776,000 in 2011. This employment growth should be driven by increased economic activity.

Calgary Economic Region: Total employment

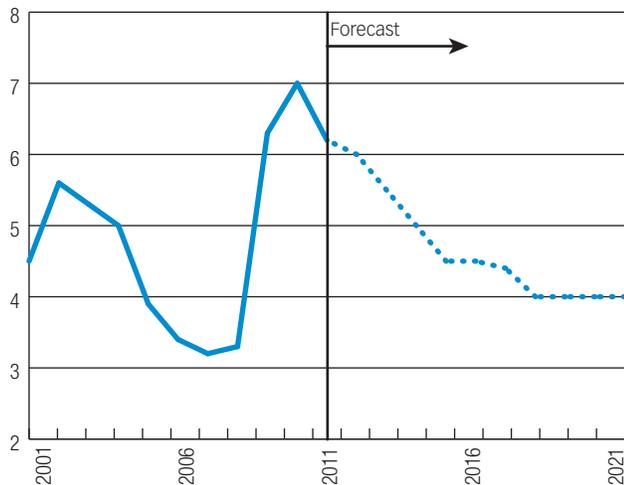
(2001-2021, thousands of persons)



Source: Statistics Canada; Corporate Economics

The labour force participation rate (12-month-moving-average) was 73.9 per cent in July 2011, down from 77.2 per cent in July 2009. The labour force participation rate is expected to reverse trend and grow over the forecast period as the economy experiences job gains. This should cause the labour force to grow at a relatively faster rate in the short-run compared to that experienced during the economic slowdown. The faster growth in the labour force should prevent the unemployment rate from falling to relatively low levels early in the forecast period.

Calgary Economic Region: Unemployment rate
(2001-2021, per cent)



The unemployment rate for 2011 is expected to average 6 per cent in 2012 and 5.0 per cent in 2014, down from 7 per cent in 2010. Employment growth should exceed labour force growth and cause the numbers of unemployed and the unemployment rate to shrink. Throughout the forecast period, slower growth in the working age population is expected to constrain the labour force growth rate especially in the later stages of the forecast.

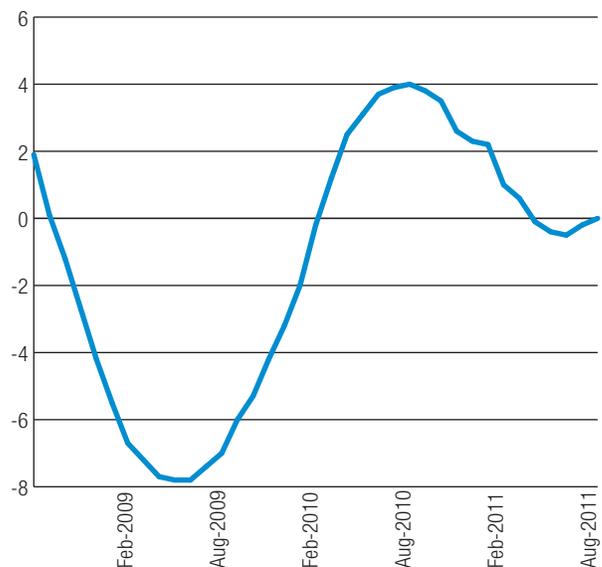
Price Inflation (Calgary Metropolitan Area – CMA)

Consumer Price

The consumer price inflation rate is estimated at 2.2 per cent in 2011, up from 0.8 per cent in 2010 and -0.1 per cent in 2009. Higher inflation rates in 2011 are driven by higher energy and food prices. Lower accommodation costs stemming from lower rental rates and house prices served to moderate the rise in consumer prices. The inflation rate is expected to average 2.4 per cent in 2012, 2.6 per cent in 2013 and 2.2 in 2014. Higher energy prices and increased accommodation costs are expected to increase consumer prices over the forecast period.

Calgary: Median MLS house price change

12-month-moving-average
(September 2006 – August 2011, per cent)



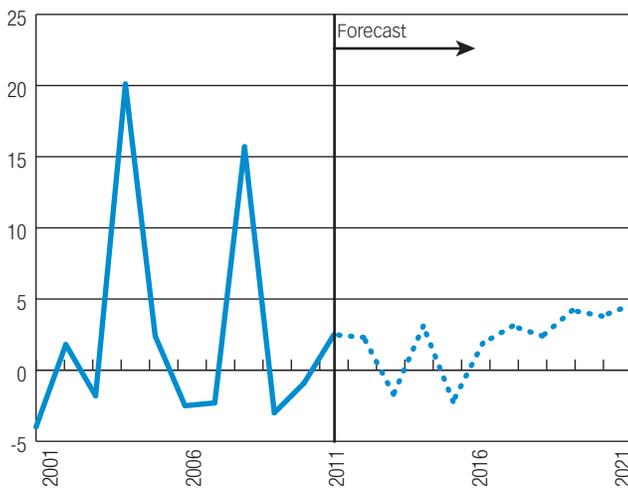
Commodity prices

Commodity prices were constrained recently by the slower growth of the world economy, which should ease inflationary pressures in the world market.

Steel

After a rally in commodity prices in Q1 2011, Q2 global economic results were disappointing. As the auto industry continues to reconsolidate, as witnessed with SAAB calling for creditor protection, the demand for international shipping remains soft. Moderate demand may be spurred in the longer-term as shipping fleets age and require replacement.

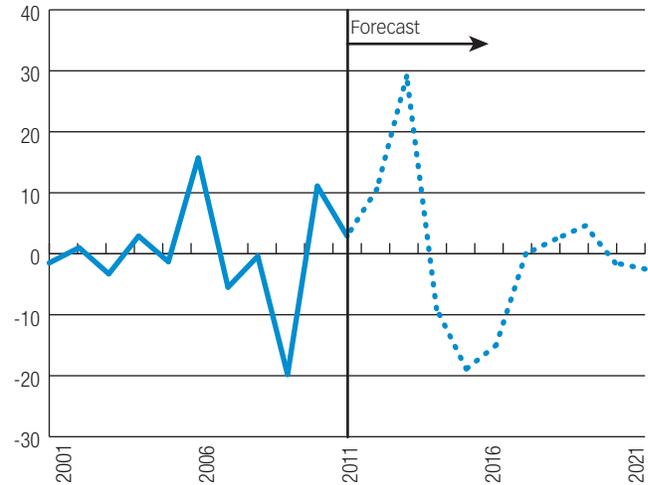
Iron and steel products price inflation (2001-2021, per cent)



Aluminum

The outlook for aluminum calls for volatility and rising prices while interest rates remain low. When interest rates rise, aluminum prices may crash and struggle for several years. Physical demand should raise by 20 per cent over the next four years due to increased fuel efficiency demands for vehicles, eliminating today's excess production capacity. Aluminum is fast becoming the next commodity in play in international finance.

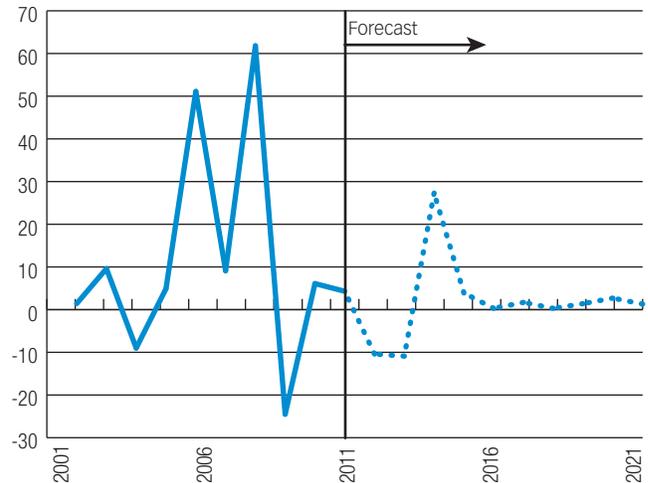
Aluminum products price inflation (2001-2021, per cent)



Asphalt

As a result of elevated oil prices at the start of the paving season, asphalt prices stabilized this year at moderately high levels. With oil prices softening in the latter part of 2011, asphalt prices are expected to soften into 2012 although it is too late to see an impact on 2011 prices. Softening oil prices will see some short term easing in Asphalt prices early in the forecast but the relief is expected to be temporary.

Asphalt price inflation (2001-2021, per cent)

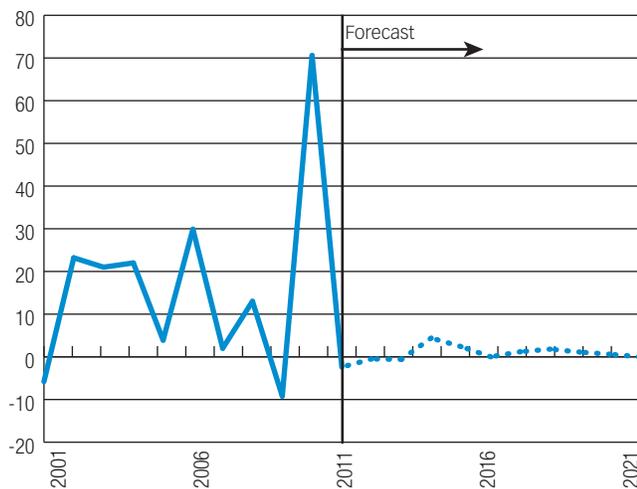


Rubber

Natural rubber production continues to suffer as a result of the tropical storms of 2010. Natural production will take several years to return to normal. Meanwhile the top four U.S. oil firms, the major producers of Butadiene (the major component in synthetic rubber) have made record profits. Butadiene prices have fallen recently in response to new technologies allowing Butadiene to be bio-engineered from sugar. It is anticipated that these new discoveries will result in softened rubber prices, which are less responsive to oil price shocks in the future.

Rubber price inflation

(2001-2021, per cent)

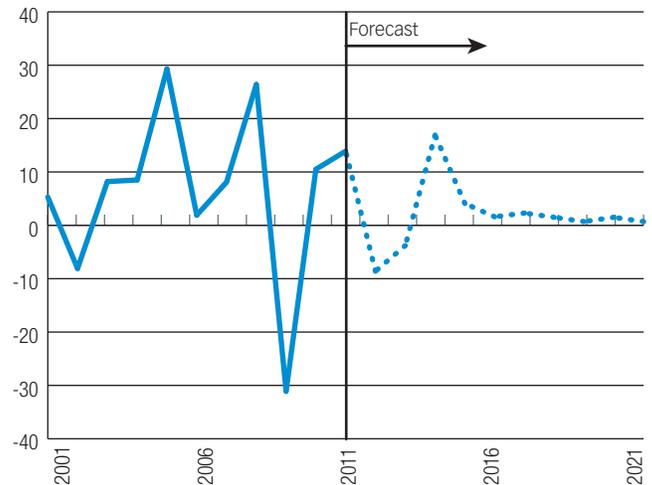


Diesel

On an annual average basis, Alberta diesel prices closely follow international WTI crude oil prices. The run-up in oil prices at the start of the year will have a dramatic impact on the full-year average price though prices are beginning to soften. The medium-term outlook for global and U.S. economic growth has softened and as a result the outlook for oil prices is softer. As a result, local diesel fuel prices are now expected to moderate over the next couple years before picking up their upward march right where they left off.

Diesel oil price inflation

(2001-2021, per cent)

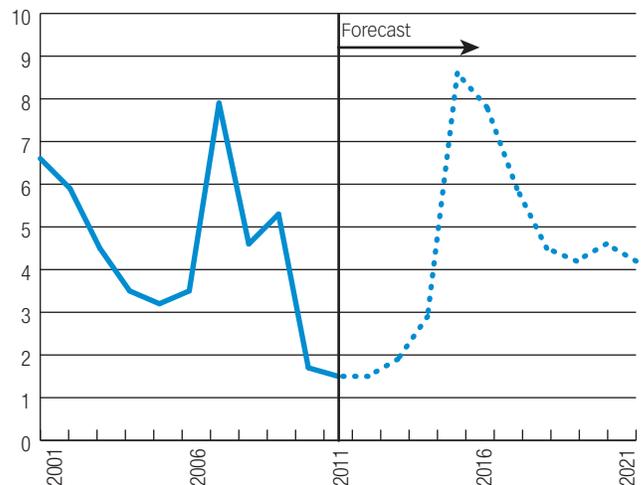


Vehicle parts

Vehicle part inflation has been relatively steady and low since the financial crisis of 2008. Supply chain disruptions resulting from the Fukushima crisis were not as great as anticipated while the global auto industry is experiencing some continued consolidations with SAAB seeking creditor protection. The outlook is for continued softness in this sector until the 2015 time-frame when global labour shortages are expected to mount causing upward pressure on parts prices.

Vehicle parts price inflation

(2001-2021, per cent)

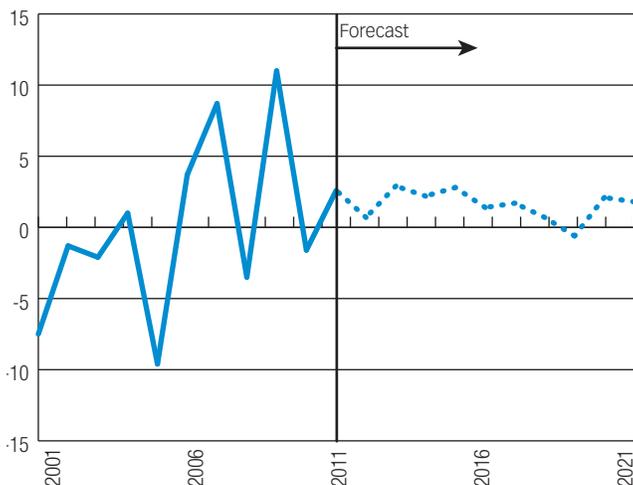


Wood

The price of Canadian wood products is highly impacted by the U.S. housing market which is now clearly experiencing a double-dip recession. Although U.S. housing starts have stabilized at 0.5 million monthly and demographic demand is closer to 1.4 million; there is such an over-supply it will take many years for the market to return. It is now anticipated that the poor U.S. housing market will stretch to the end of the forecast period.

Wood price inflation

(2001-2021, per cent)

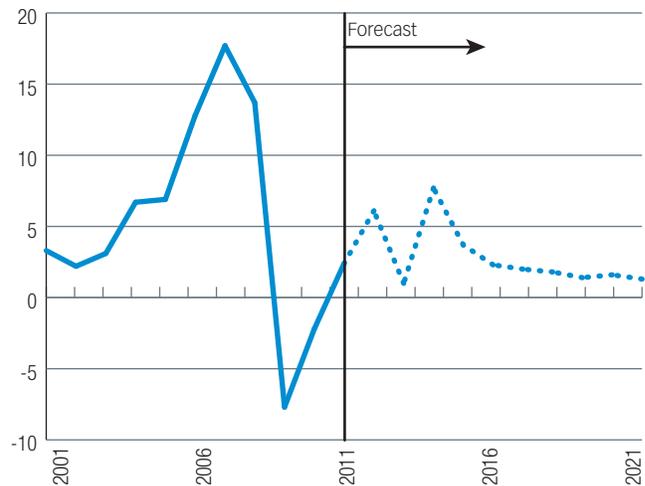


Non-residential building price inflation

Non-residential building costs are affected by four components; interest rates, oil prices, exchange rates and wages. The Bank of Canada recently announced it will, much like the US Federal Reserve, keep interest rates lower for longer than previously expected. This is expected to moderate local construction inflation over the short-term. Medium-term rising wages are expected to push up non-residential construction costs. In the longer-range a falling Canadian Dollar should offset rising oil prices. The net impact of this would be a destabilization of non-residential building costs with some jumps early in the forecast period before construction inflation stabilizes at a relatively high level but growing slower than CPI.

Non-residential building price inflation

(2001-2021, per cent)



COMMODITY PRICES

When a product is so common that no one producer can put their brand on it we call it a commodity. Salt, sugar, crude oil, rice, and wheat are all considered commodities. When these products have well-established quality indicators (i.e. light, sweet) they can be actively traded in spot and futures markets like the New York Mercantile Exchange or the Natural Gas exchange.

In economic theory the price of commodities is set by the interplay of supply and demand. If more of a product is demanded than can be supplied then prices rise and only the buyers willing to pay the highest price will obtain the product. In commodities markets, things are a bit more complicated.

Some commodities can be stored for long periods of time. Steel, wood and aluminum can be stored almost indefinitely and in a form that is readily usable like reinforcement bar or 2 x 4's. The ability to store these products limits the price impact of supply shortages caused by things like wars and earthquakes. For example, The City of Calgary has warehouses and fuel depots that dispense dry goods and fuel to City fleet vehicles annually. These facilities enable The City to buy needed supplies when prices are low and enjoy some protection from market price spikes.

However, sellers can play the storage game too. Some suppliers store some of their product instead of selling into commodities markets. When enough is withheld from the marketplace, the price rises and if sustained for long enough buyers' reserves can be run down and buyers will be forced to pay the higher prices

For the past 50 plus years people have been investing in markets through stocks, bonds etc., and more often than not these investments were used to place bets on commodities. Now that the baby boom generation is starting to retire, they will be drawing down their investments instead of building them up. This means less money in pension funds and hedge funds. The managers of these funds, however, are not prepared to see the balances of these funds shrink. The only way these funds can continue to grow is for managers to take greater risks, which means commodity prices will become even more volatile in the future. Facing a future of greater commodity price volatility, The City will have to rely on its warehouses to an even greater extent than it has historically, while exploring all available purchasing options.

Alberta Economy



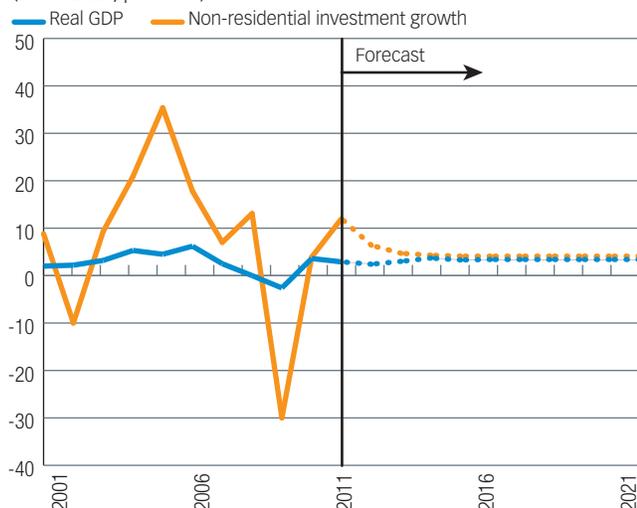
Gross Domestic Product

The Alberta economy should grow by 2.9 per cent in 2011, down from 3.6 per cent in 2010. The export sector is expected to take away from the overall growth rate in the short-term (2011–2012) as a strong Canadian currency and slow economic growth in the U.S. combine to constrain the rate of export growth. In addition, government spending is not expected to contribute to growth as the federal and provincial governments attempt to restore balance to their budgets. Statistics Canada estimates that investment in the oil and gas sector should advance by 9.1 per cent in 2011, with conventional investment declining by less than one per cent and non-conventional investment increasing by 27.8 per cent. Stronger

business investment should offset weaker activity in the government and export sectors. Increased investment in the non-conventional oil sector, arising from relatively high energy prices and increased cash flow, should add to the overall level of economic activity in the province and further increase the demand for labour and push the unemployment rate lower. The labour markets in recent quarters have shown signs of stronger job growth. This should create a firmer foundation for increased consumer spending and higher economic growth given the large significance of the consumer sector in the provincial economy.

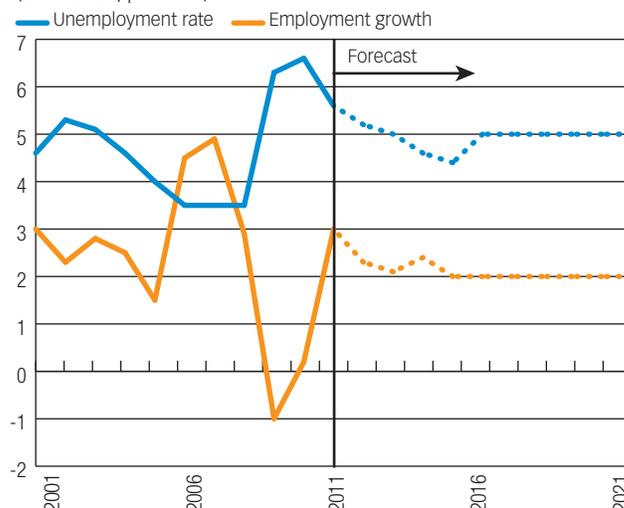
Alberta: Real GDP and non-residential investment growth

(2001-2021, per cent)



Alberta: Unemployment rate and employment growth

(2001-2021, per cent)



A relatively lower unemployment rate would make Alberta more attractive for potential migrants. This would cause population to grow at a faster rate and drive residential investment and consumer spending. Economic growth is expected to become self-sustaining over the 2014–2021 period. Stronger U.S. economic growth and a slight depreciation in the Canadian Dollar after 2013 should improve the competitiveness of Alberta’s exports to the U.S. and cause total exports to grow at a faster rate. In this period Alberta would benefit from expanded production capacity in the non-conventional oil sector, as heavy oil construction projects are completed and enter the production phase. The Canadian Association of Petroleum Producers expect oilsands production to grow from 1.5 million barrels daily to 2.2 million barrels daily by 2025. This increased production should contribute to the growth in export activity during the forecast period.

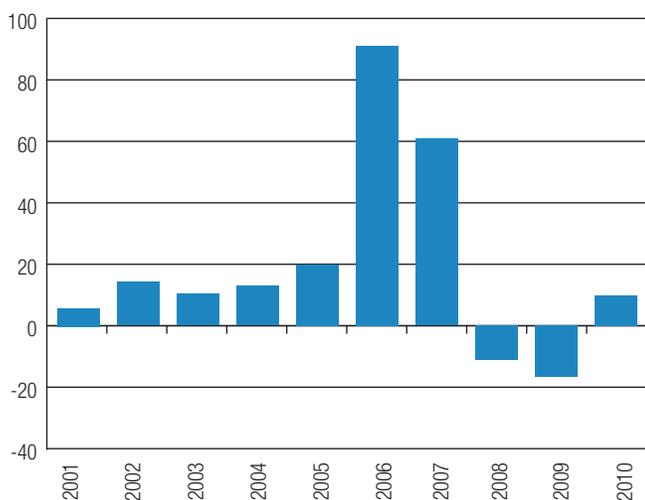
Alberta: Inflation rate and wage growth

(2001-2021, per cent)



House prices declined in Alberta's major cities in 2008 and 2009 making the purchase of a house more affordable than before the recession. Population growth combined with improved incomes have led to increased sales and restored balance in the market. Future new home construction and housing sales are expected to grow in line with demographic requirements.

Calgary: Change of median MLS house price
(2001-2010, thousands of dollars)



Oil Price

Oil prices should average \$US90.00/bbl in 2011 and fall to \$US82.00/bbl in 2012 and \$78.00/bbl in 2013. Relatively weaker economic growth in the global economy in 2012 and 2013 should reduce the demand for oil and cause the price to fall. Crude oil prices are expected to grow from 2014 to 2021 in response to increased demand for oil from emerging economies. Emerging economies such as India and China are industrializing and have a growing need to transport people and products to and from markets. While, slower economic growth and conservation measures in developed economies would act as a partial offset to the overall growth for energy products.

Natural gas price

Growing domestic production in the United States, due to the emergence of shale gas reserves, has reduced natural gas imports from Canada. This problem is compounded by slower U.S. economic growth, and a strong Canadian currency. The U.S. economy is expected to grow at a relatively slow pace over the forecast period and consequently, natural gas prices should increase at a modest pace.

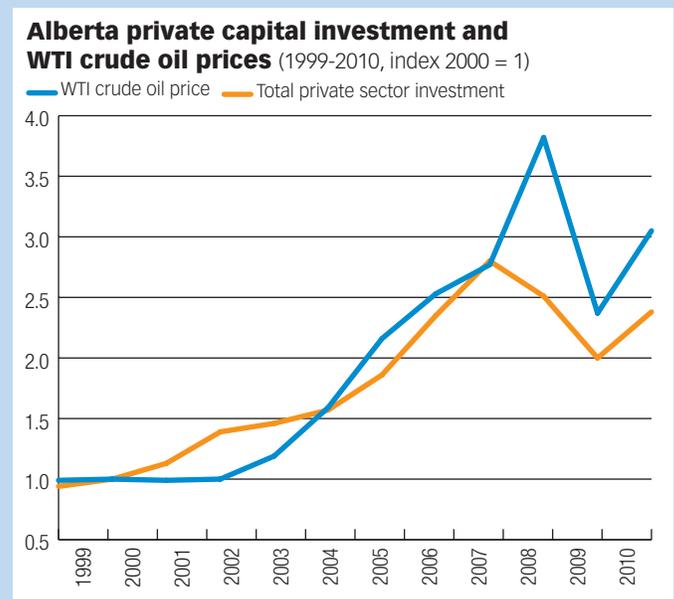
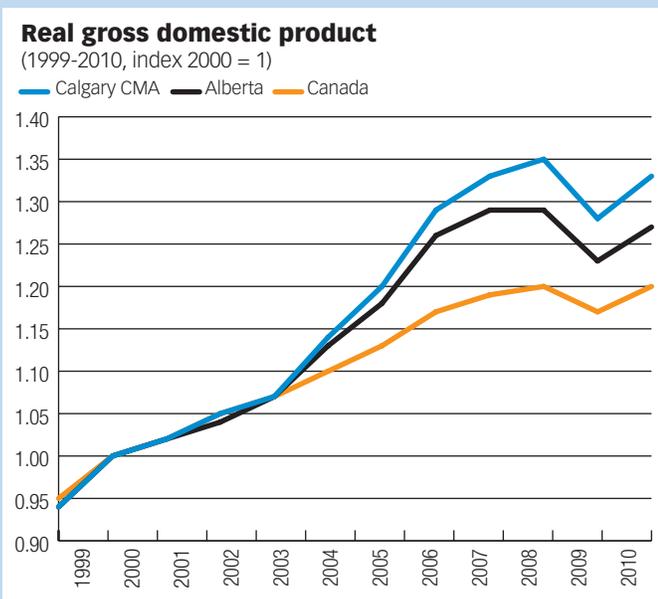
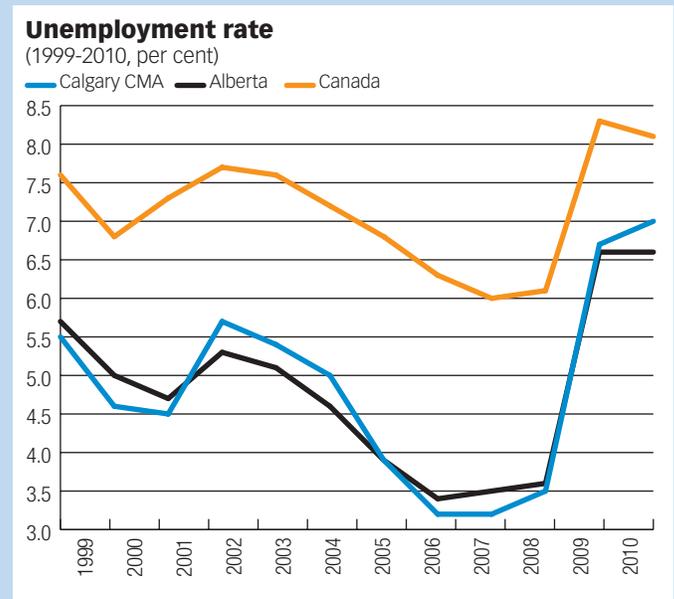
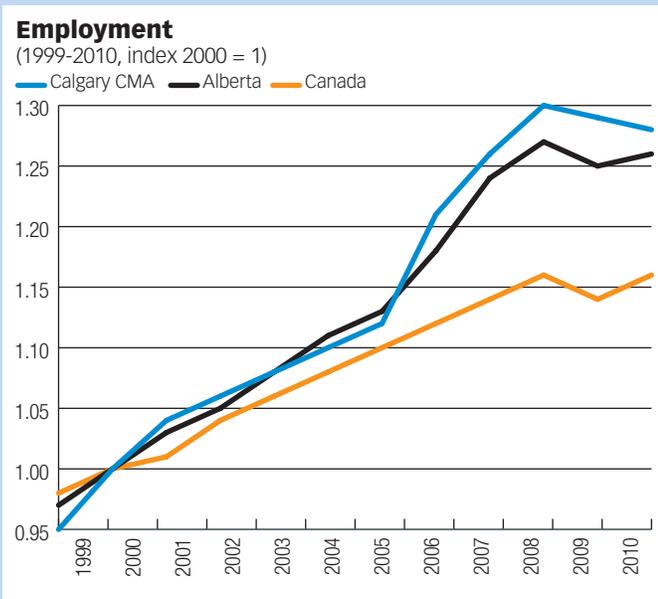
A survey of readily available natural gas forecasts show the following:

- ♦ Prices are expected to fluctuate within a band of \$3.51/GJ to \$4.32/GJ in 2011 for an average of \$3.84/GJ. Prices are expected to remain weak in 2011, due to a struggling U.S. economy.
- ♦ In 2012, prices are expected to range between \$3.70/GJ to \$4.85/GJ for an average of \$4.21.
- ♦ In 2013, prices are expected to range between \$4.06/GJ to \$5.48/GJ for an average of \$4.50.
- ♦ In 2014, prices are expected to range between \$4.55/GJ to \$5.80/GJ for an average of \$5.15.

INVESTMENT AND ENERGY PRICES

The energy sector is a major contributor to Alberta's economic development as illustrated by recent economic history. Specifically, the province grew at a faster rate than the national average as it benefited from strong energy prices. Higher energy prices increased the energy sector's cash flow and this boosted the level of investment and economic

activity in the province. Similarly, weaker energy prices in 2008–2009 were accompanied by a sharp reduction in investment spending in the energy sector and overall economic activity in Alberta. The economic uncertainty facing the world economy poses significant downside risks for oil prices and by extension the economic outlook for the province.

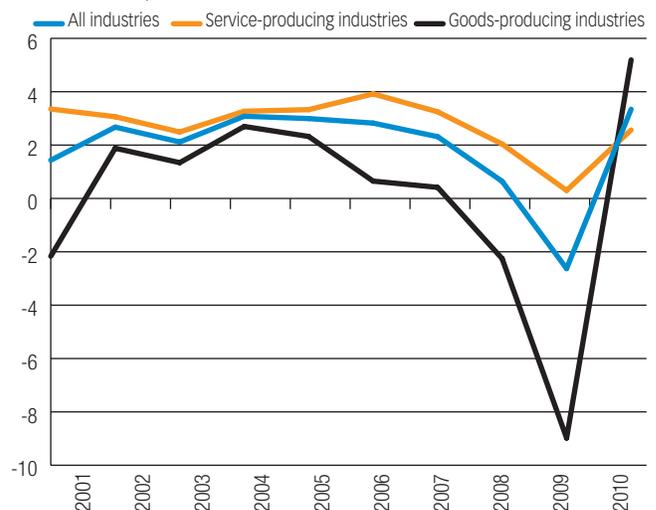


Canadian Economy

Real GDP in Canada is expected to grow at 2.2 per cent in 2011 and 2 per cent in 2012, before returning to 2.2 per cent by 2015. Economic growth is expected to remain weak in response to slower growth in consumer spending, government expenditures and net exports. Canadian households are heavily indebted and are expected to reduce their rate of spending to pay down household debt. The Canadian Government is currently focused on achieving a balanced budget by fiscal year 2014/2015 and consequently government spending is expected to take away from growth over the next three years. Slower U.S. economic growth along with a strong Canadian Dollar should combine to reduce the rate of growth in net exports. Canadian economic growth is therefore dependent on growth in business spending over the near-term.

Canada: Real GDP growth

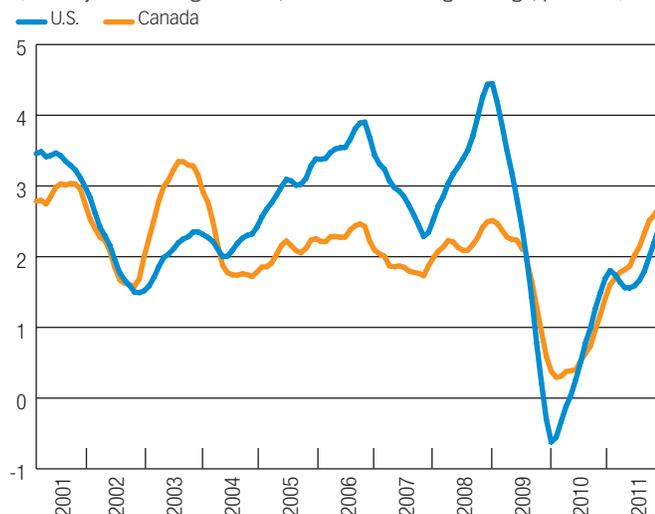
(2001-2010, per cent)



Canada's consumer price inflation increased in recent months, driven by factors such as employment growth, tighter production capacity utilization and higher food and energy prices. Slower economic growth in the near to medium-term should ease inflationary pressures from commodity prices and shelter costs and contribute to lower inflation expectations. The Bank of Canada expects core inflation to remain well contained over the short to medium-term as excess capacity remains in the economy.

Canada: All-items inflation rates

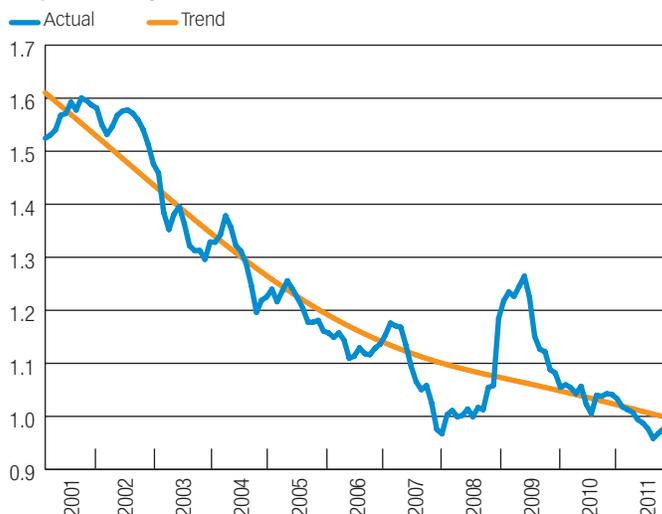
(January 2001 – August 2011, 12-month-moving-average, per cent)



Supported by sound domestic fundamentals and relatively high commodity prices, the Canadian Dollar is expected to fluctuate around parity against the U.S. Dollar in 2011/2012 and then fall slightly below parity for the rest of the forecast period. After the recent low in 2009, the Canadian Dollar has appreciated against the U.S. Dollar. This reflects a weak U.S. recovery, tighter Canadian monetary policy and strong commodity prices. Although a strong Canadian Dollar has brought challenges to the country's export sector it has helped ease inflation pressures.

Foreign exchange rate – Canadian Dollar vs. U.S. Dollar

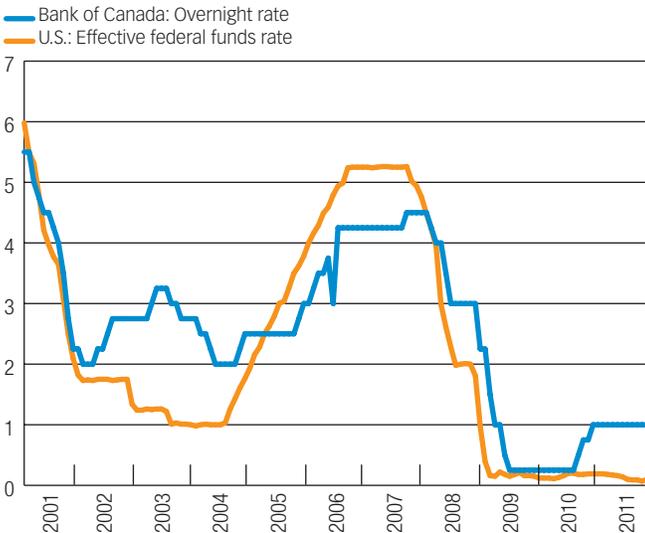
(July 2001 – August 2011, Cdn\$/US\$)



Thanks to the Bank of Canada's early decision to raise interest rates in June 2010, Canada currently has more flexibility with its monetary policy to support the economy than in the United States. In its September 7, 2011 announcement, the Bank of Canada reassessed recent deteriorations in the global economy and financial market and acknowledged that monetary tightening is not an immediate necessity. As a result, the Bank held the overnight interest unchanged at one per cent, maintaining the monetary stimulus. To keep pace with the Fed and reduce the upward pressure on the Canadian Dollar, the Bank of Canada is expected to hold its overnight interest rate at the current level until late 2012.

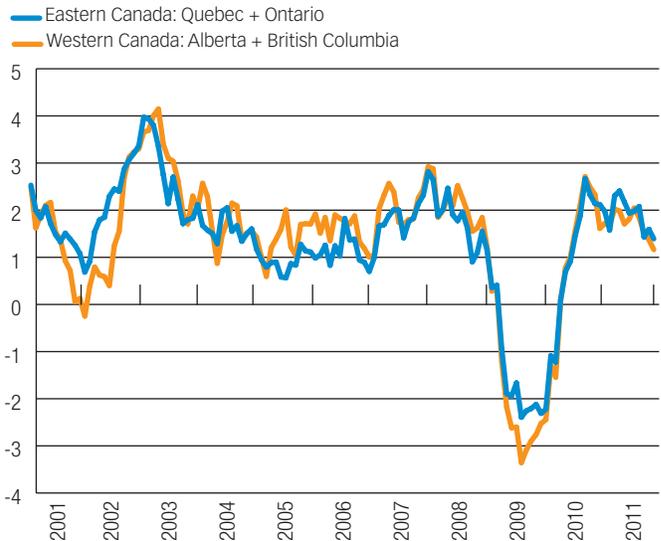
Canada: Interest rates

(January 2001 – August 2011, per cent)



Canada: Total employment change by region

(January 2001-August 2011, year-over-year, per cent)

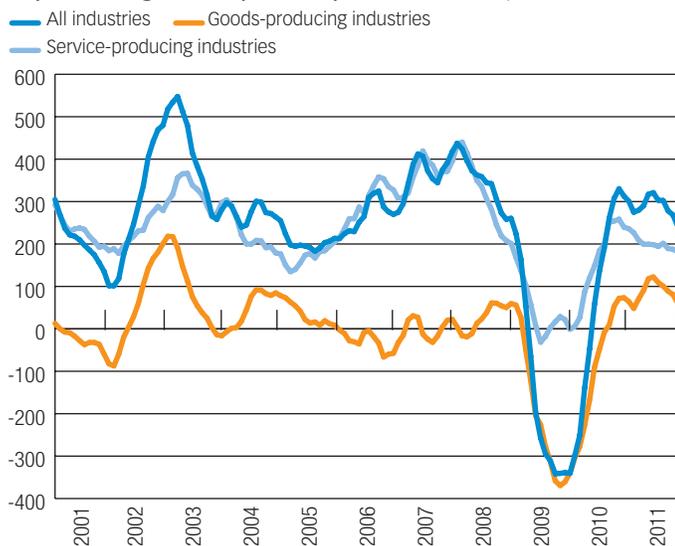


Canada's economic recovery, especially job market growth, has outperformed most other advanced economies. In August 2011, total employment in Canada reached a new high of 17.6 million, compared to the pre-recession peak of 17.4 million in August 2008. The service-producing sector weathered the recession better than the goods-producing sector.

Despite this resurgence, the economic expansion has begun to run out of steam as job creation stalled in July/August this year. It is expected that an increased number of businesses are likely to reduce their hiring pace in the coming months, leading to less job creation and an increase in the unemployment rate.

Canada: Total employment change by industry

(July 2001 – August 2011, year-over-year, thousands of persons)



EXCHANGE RATES

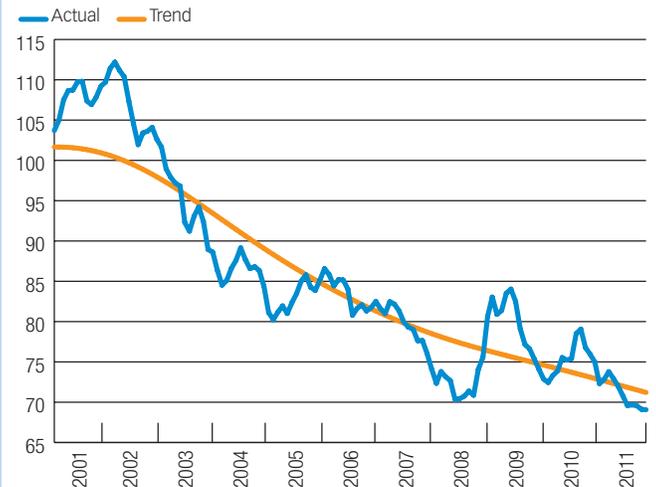
The exchange rate is the rate at which one currency is exchanged for another. Exchange rate fluctuations affect the relative prices of domestic and foreign goods, and thus the export and import demand for them. For example, an appreciation of a currency makes it harder for domestic manufacturers to sell their goods in foreign markets. However, it makes it easier for foreign producers to compete in the domestic market with cheaper foreign products.

Over the past decade, exchange rates between major world currencies fluctuated frequently with all other major currencies appreciating against the U.S. Dollar. New developments in the global trade market such as the introduction of a single currency within the Eurozone in 1999 and the inclusion of China as a member of the WTO in December 2011 reflect the long-term weakening trend in the U.S. Dollar. Reduced trade barriers such as tariffs and quotas, increased competition among foreign producers and increased productivity in producing countries all contributed to the cheaper foreign goods increasing demand for them in the world's largest market, the United States.

Against this long-term trend, there were short periods of times when the U.S. Dollar appreciated against other major currencies, especially during economic and financial market turmoil. Central banks, institutions and investors flee to the safety of the U.S. Dollar, because of the scale and liquidity of the Fed's reserve funds. Although its dominant position is currently challenged by countries concerned about its long-run stability, the U.S. Dollar is the single most important reserve currency¹ in the world.

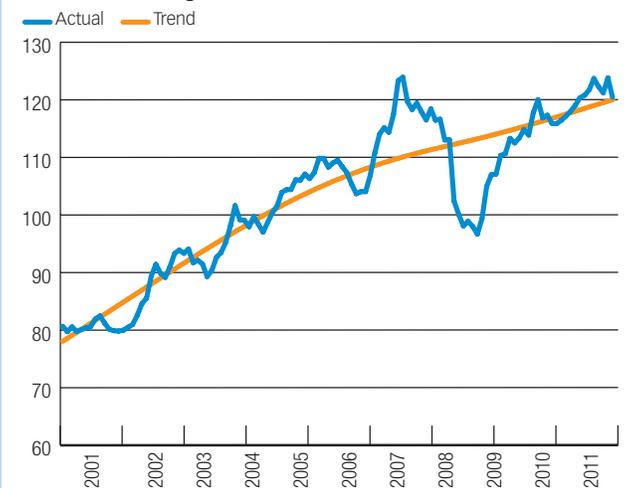
U.S. Dollar: Trade weighted exchange index

(January 2001 – August 2011, index March 1973 = 100)



Foreign exchange rate: Canadian-dollar effective exchange rate index (CERI)

(October 2001 – August 2011, index 1992 = 100)

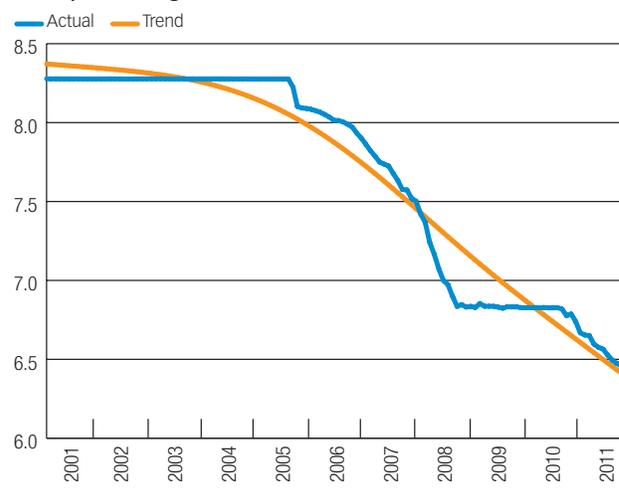


¹ A reserve currency, or anchor currency, is a currency that is held in significant quantities by many governments and institutions as part of their foreign exchange reserves. It also tends to be the international pricing currency for products traded on a global market, and commodities such as oil, gold, etc.

Countries manage their currency values through different exchange rate regimes, including free-floating, pegged or fixed², or a hybrid. Canada, like most developed economies, is in a floating exchange rate regime where the Canadian Dollar value is allowed to fluctuate according to the foreign exchange market. The Canadian-dollar effective exchange rate index³ (CERI) shows that the Canadian Dollar appreciated against the currencies of Canada's six major trade partners. The appreciation of the Canadian Dollar has made Canada's export industry less competitive and may lead to potential job losses. During market turmoil, some central banks intervene in the foreign exchange market to counter disruptive short-term movements. For example in September 2011 the Swiss central bank' intervened when the Swiss Franc weakened to protect the country's domestic industries and exports after the Swiss Franc appreciated sharply against other major currencies by more than 25 per cent year-over-year.

Other countries such as China have fixed exchange rate regime. In China's case, the fixed exchange rates were used to stabilize the value of the Chinese Yuan against the U.S. Dollar, which helped Chinese exporters in their largest foreign market, the United States market. However, this policy cost China the freedom of using monetary and fiscal policy. During the recent U.S. recession, China had to follow the U.S. stimulus policies even though its economic condition was in much better shape. This forced action partially contributed to the property market bubble and inflation problems facing the Chinese government today.

Foreign exchange rate: Chinese Yuan vs. U.S. Dollar
(January 2001 – August 2011, Yuan/US\$)



² A fixed exchange rate, sometimes called a pegged exchange rate, is a type of exchange rate regime wherein a currency's value is matched to the value of another single currency or to a basket of other currencies, or to another measure of value, such as gold.

³ The Canadian-dollar effective exchange rate index (CERI) is a weighted average of bilateral exchange rates for the Canadian Dollar against the currencies of Canada's major trading partners. The six foreign currencies in the CERI are the U.S. Dollar, the European Union euro, the Japanese yen, the U.K. pound, the Chinese Yuan, and the Mexican peso.

U.S. Economy



GDP growth: drivers and drags

Recent data revisions show that the U.S. recession was deeper and its recovery slower than previously reported. The economy is expected to grow by 1.5 per cent in 2011, down from 2.9 per cent in 2010. Economic growth in the U.S. increased moderately in the first two quarters of 2011, at a slower pace than 2010. So far this year's growth was driven

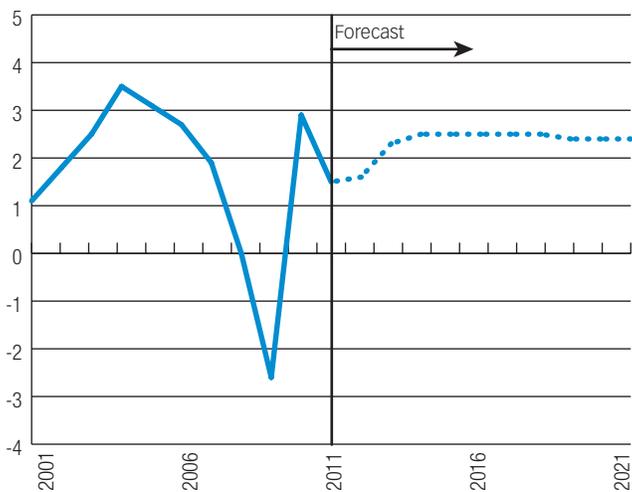
by personal consumption and private investment, but was restrained by imports and government spending at state and local levels. The end of the stimulus program¹ coupled with the fall-out from the debt-ceiling debates adversely impacted consumer and business confidence as well as economic growth.

¹ After being in place for three years, the \$787 billion federal fiscal stimulus in the U.S. is coming to an end this year.

Based on the current political environment at the federal level and fiscal constraints at the state and local levels, the forecast assumes that no new fiscal stimulus measures would be enacted before early 2013. This forecast assumes that all orders of governments would restrain spending to address deficits and public debts problem. Government spending is therefore expected to subtract from the overall level of economic growth. Consumer spending is also expected to be a drag on economic growth in the near-term. Household debt is at record levels and households are reducing their rate of spending in order to pay down household debt. Also, individuals who are unemployed or threatened by job loss are expected to reduce their rate of discretionary spending. In addition, household wealth has been eroded by falling house prices arising from excess supply in the housing market. Falling household wealth should also have an adverse effect on consumer spending. As a result, real GDP in the U.S. is expected to grow by 1.5 per cent this year and 1.6 per cent next year, improving to 2.3 per cent in 2013 and 2.5 per cent in 2015.

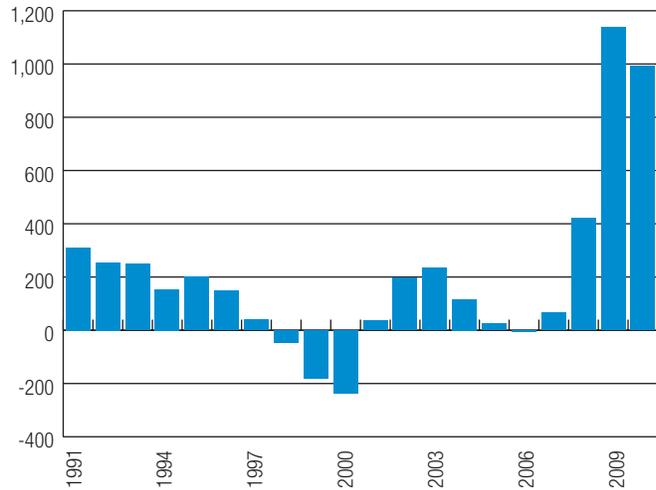
U.S.: Real GDP growth

(2001-2021, per cent)



U.S.: Real GDP gap

(Potential GDP – Actual GDP, 1991-2010, billions of dollars)

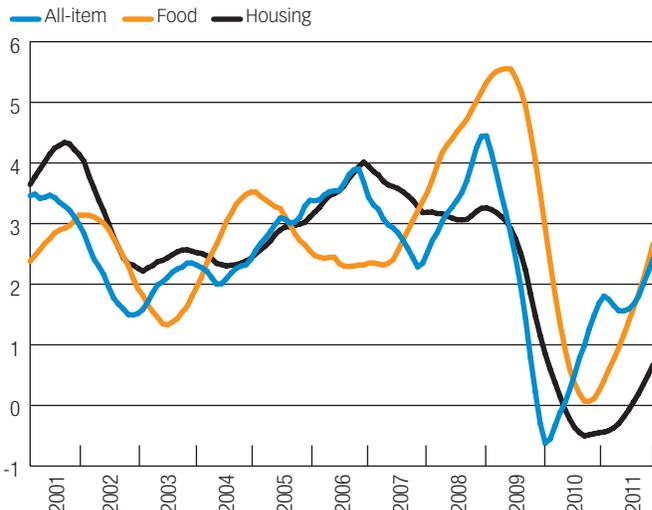


Inflation and exchange rate

The U.S. consumer price index has trended up in recent months, driven by higher food and energy prices. High fuel and food prices eroded Americans' purchasing power for other goods and services. The latest reading of the core inflation (excluding food and energy) was at the high end (two per cent) of the target range, which could limit the Fed's ability to provide further support measures such as quantitative easing to the economy. Below potential economic growth in the past three years has created excess capacities in the U.S. economy. This is expected to offset inflationary pressures.

U.S.: Inflation rate

(January 2001 – August 2011, 12-month-moving-average, per cent)



Since its peak in 2002, the U.S. Dollar has depreciated against other major currencies in the world, represented by the trade weighted exchange index against the Euro, Canadian Dollar, Japanese Yen, British Pound, Swiss Franc, Australian Dollar and Swedish Krona. The depreciation of the dollar provided a supportive environment for U.S. exporters. However, it raised fears among nations and institutions that the weakening U.S. Dollar would devalue their huge amount of U.S. Dollar denominated foreign exchange reserves and assets.

Monetary policy in the U.S. has also exhausted its effectiveness. In an unprecedented move in August 2011, the Fed announced that it would keep short-term interest rates at current levels at least through mid-2013. However, risk-averse businesses and consumers are increasingly unwilling to invest due to the uncertainties. This is a typical phenomenon of liquidity trap².

U.S. Dollar: Trade weighted exchange index

(January 2001 – August 2011, index March 1973 = 100)

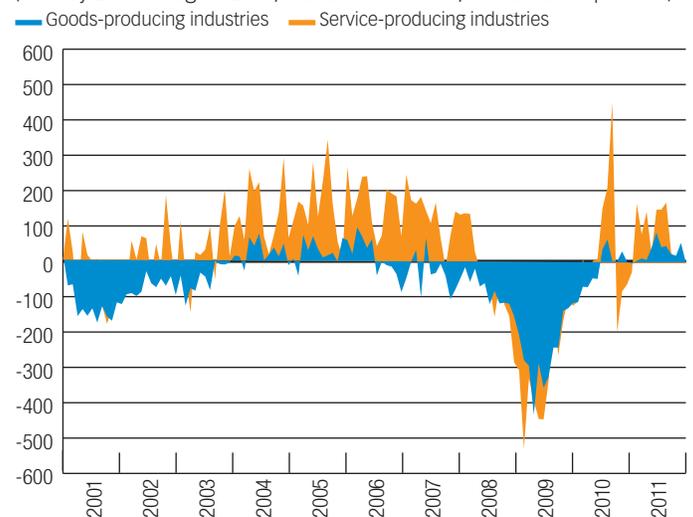


Labour market

The U.S. labour market has created less than expected jobs (0.9 million) so far this year. During recent recession, there were 8.7 million jobs lost in total, about half of which were in the goods-producing industries. Since the recovery in 2010, only 1.9 million new jobs were created to date in the U.S. economy and most of them in the service-producing sector.

U.S.: Change of total nonfarm employees

(January 2001 – August 2011, month-over-month, thousands of persons)



² The liquidity trap is a situation where monetary policy is unable to stimulate an economy, either through lowering interest rates or increasing the money supply. Liquidity traps typically occur when expectations of adverse events (i.e., deflation, insufficient aggregate demand, or civil or international war) make persons with liquid assets unwilling to invest.

One challenge facing the U.S. labour market after the recent recession is the persistently high levels of long-term unemployment. The number of total long-term unemployed civilians in the past two years reached a historic high above six million. The high level of long-term unemployment indicates a growing structural problem in the U.S. labour market. There is an increasing discrepancy between the skills required by employers and those held by unemployed individuals. Many long-term unemployed individuals will require retraining to gain new skills before they can re-enter the job market. As many of the unemployed are matured workers, it is questionable whether this problem can be easily resolved.

U.S.: Long-term unemployed (jobless for 27 weeks or over)

(January 2001 – August 2011, thousands of persons)



Over the past two years, employment level in the U.S. dropped to a historic low: only 58 per cent of the population have jobs in 2011, compared to 64 per cent ten years ago. The problem in the U.S. job market is that companies are still hesitating to hire, given their lack of confidence in the economic and financial market future. Without much improvement in the U.S. housing market and global financial system, job recovery in the U.S. is expected to take many years.

U.S.: Civilian employment-population ratio

(January 2001 – August 2011, seasonally-adjusted, per cent)



Global Economy



GDP growth

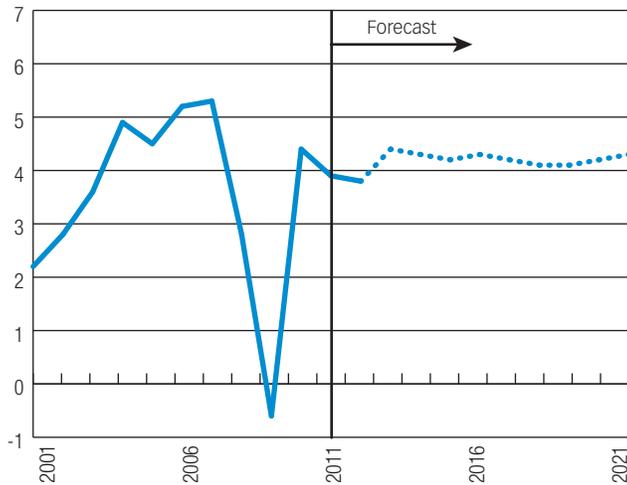
Global economic expansion remains precarious, with deteriorating public finances and fears of escalating inflation rates dominating the news headlines. The downside risks have intensified in response to the turmoil in the MENA, rising oil and commodity prices, Japan's earthquake, the debt crisis in the Eurozone and sluggish growth in advanced economies. For most advanced economies, growth has stalled and the risk of double-dip recession has been rising. Although emerging market economies continue to outperform advanced economies, they have also showed signs of slowing down. Leading emerging economies are still key contributors to global economic growth, however; they are not immune

to a possible sharp downturn in the growth. Weaknesses in developed markets will work its way through to emerging market via trade, vulnerable capital market and worsening risk sentiment. A key uncertainty for the global economic outlook is how much emerging economies will be affected by the foreseen slowdown in the U.S. and European countries.

Compared to three years ago, there are fewer policy tools that countries have at their disposal to fight another recession, if required. The world GDP is expected to grow at 3.7 per cent in 2011, and 3.6 per cent in 2012.

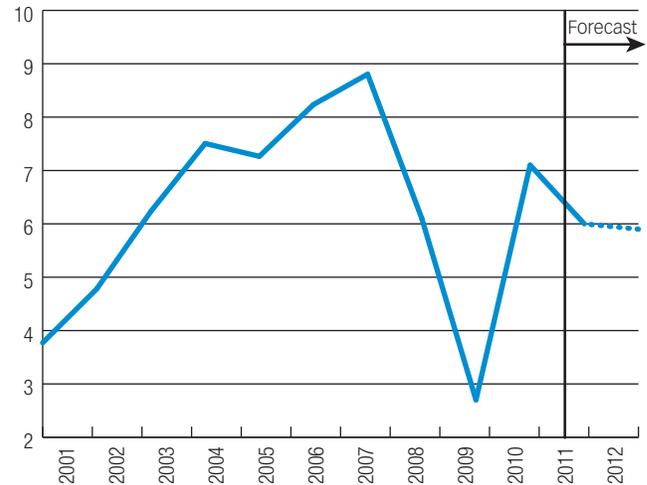
World: Economic growth rates

(2001-2021, per cent)



Emerging economies: Economic growth rates

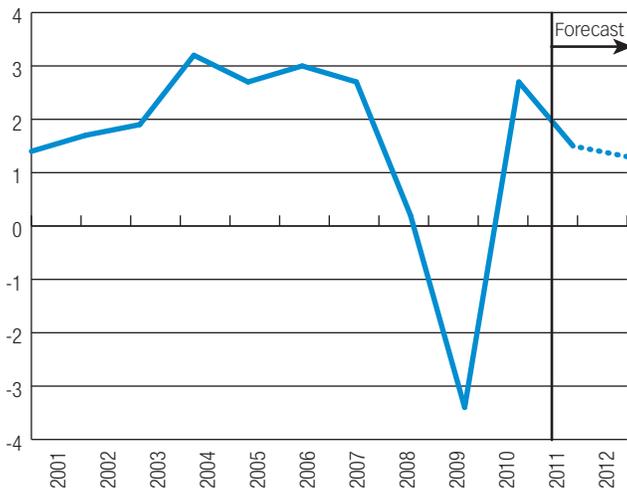
(2001-2012, per cent)



In most advanced economies, output should grow below potential. As a group, the average growth rate of advanced economies is expected to be 1.5 per cent in 2011 and 1.3 per cent in 2012.

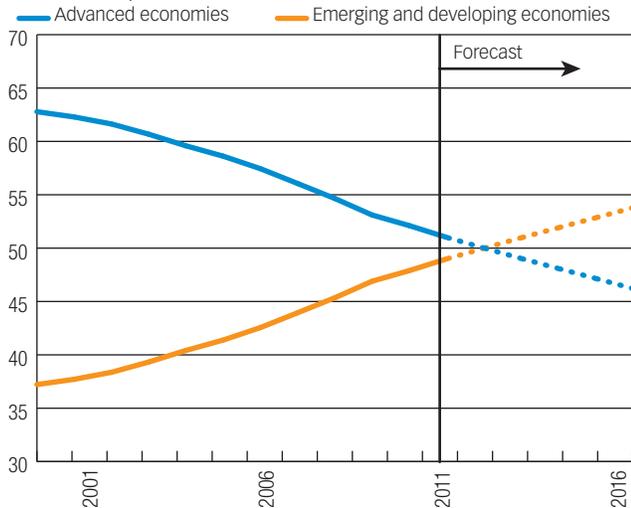
Advanced economies: Economic growth rates

(2001-2012, per cent)



Over the past decade the emerging and developing economies have been growing much faster than the advanced economies. As a result, their share of world GDP has been increasing significantly and this has led to a shift in economic power in the global picture. Starting from 37 per cent in 2000, the aggregate economic weight of developing and emerging economies is getting close to 48 per cent by 2010. According to the estimation of IMF, in the next one or two years, the economic share of emerging economies is going to surpass that of the advanced economies. The economic and financial crisis hit the advanced economies harder than the emerging markets, which should accelerate the rise in importance of the emerging economies in the long term.

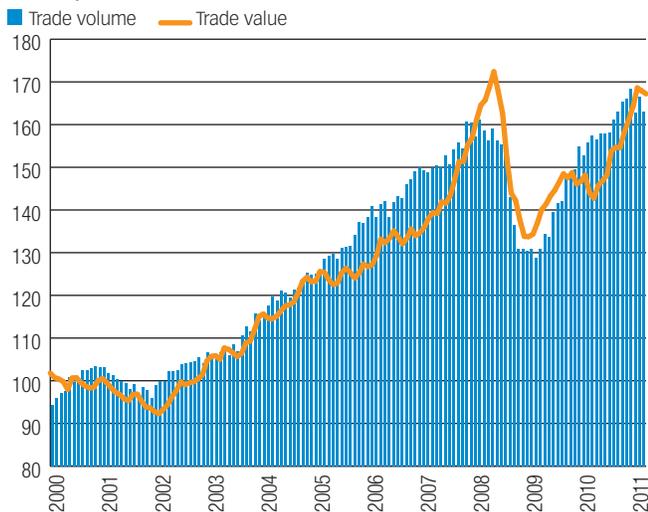
World economy shares: GDP based on purchasing-power-parity (PPP) share of world total
(2000-2016, per cent)



World Trade

World trade has stalled since the onset of 2011. In recent years, trade from emerging markets has had more influence than developed markets on global trade. However, the future impact from emerging economies on world trade remains uncertain due to their significant reliance of exports to developed markets, which continue to face heavy deleveraging pressures.

World: Trade volume and value
(January 2000 – June 2011, index 2000 = 100)



The Baltic Dry Index (BDI) is a popular financial barometer to track worldwide international shipping prices of various dry bulk cargoes. The BDI plunged to 663 during the 2008 recession from its peak of over 11,000 earlier that year. Commodity demand from emerging economies and strong commodity prices pushed the BDI up in 2010. Since the middle of 2010, the rally changed direction giving an early warning sign of slower growth, which was well ahead of the turn of purchasing managers' index. The BDI has been stagnant in 2011, at almost 90 per cent below its 2008 peak level. This indicates the weakness of the global economy and the slackness of future international trade activity.

World: Baltic Dry Index (BDI)
(September 2003 – August 2011)

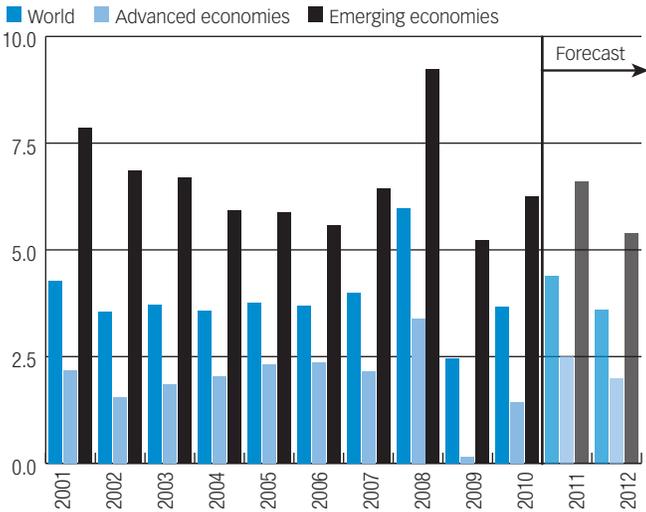


Inflation

With the ease of commodity prices and deterioration of sovereign debt problems and recession concerns, inflationary worries have moved out of the center stage. In advanced economies, headline inflation is projected to be 2.5 per cent in 2011, settling at about 2 per cent during the course of 2012. Food and energy prices should moderate and wages should accelerate only gradually with weak labour markets. In emerging and developing economies, inflation pressures are broadening. The average inflation rate should be 6.6 per cent in 2011 and recede to 5.4 per cent in 2012. On average, the global inflation rate is expected to be 4.4 per cent in 2011 and 3.6 per cent next year.

World: Inflation rates

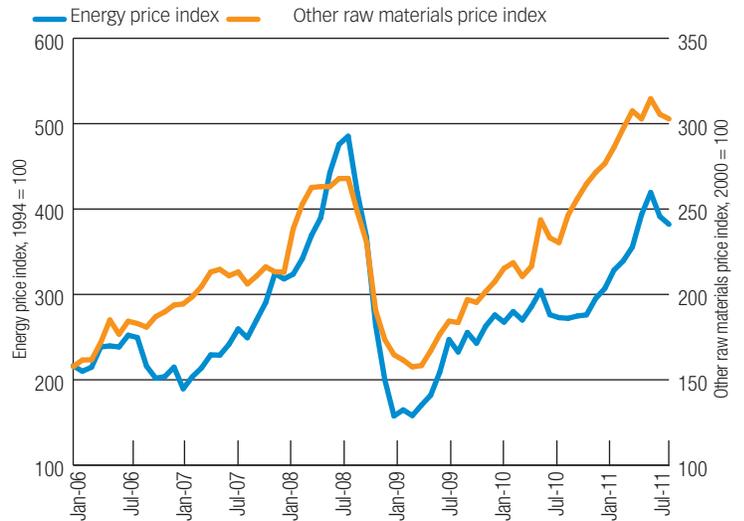
(2001-2012, per cent)



Source: International Monetary Fund (World Economic Outlook); World Bank; Corporate Economics

World: Price changes of energy and other raw materials

(2002-2011, index)



SOVEREIGN DEBT CRISIS

Introduction

The U.S. sovereign debt problem is similar to the European debt crisis. Large flows of foreign capital and low interest rates encouraged debt-financed consumption and generated a housing boom. When the U.S. housing boom ended in 2007, real estate related securities' value has plunged and financial institutions were damaged. To prevent the economic and financial crisis from getting worse, in 2009 the U.S. government implemented an \$800 billion fiscal stimulus, together with significant monetary stimulus and a massive backstopping of the financial system. The bailouts and fiscal stimulus plans inevitably led to a sharp increase in public debt, which surpassed 100 per cent of U.S. GDP in August, 2011 for the first time since World War II. As a result, the U.S. had to raise its debt-ceiling many times to avoid default, with the most recent one passed on August 2, 2011. However, this only temporarily muted the problem. Similar debates are anticipated to repeat themselves soon.

Consequences

The sovereign debt problem indicates that fiscal policy has to contract in the Eurozone and the United States. Governments will inevitably cut spending, reduce transfer payments and raise taxes. From the fiscal side, further stimulus seems unlikely. Instead, there will be a significant fiscal drag. In addition, the ability to backstop and bail out banks is constrained by political factors and financial constraints. Most sovereign countries are so distressed that not only can they not backstop their banks, but their sovereign risk is actually creating risks for the banks. This is because the banks are loaded with distressed government debts. The debt crisis and its renewing deterioration threaten the fragile global recovery and raise the downside risks of economic outlook. If the debt problem, especially in the Eurozone, cannot be solved properly it will cause disorderly default and trigger another round of financial crisis and double-dip recession of the global economy.

Forecast Tables

Table 1: Selected Economic Indicators

Rest of the world, United States, Canada, Alberta, Calgary Economic Region & Calgary CMA										
FORECAST COMPLETED: September 2011										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ASSUMPTIONS										
Global Economy										
World Gross Domestic Product (annual % change)	2.3	2.9	3.6	4.9	4.5	5.2	5.3	2.8	-0.6	4.4
The United States										
U.S. Real Gross Domestic Product Growth (chained 2005 dollar) (%)	1.1	1.8	2.5	3.6	3.1	2.7	1.9	0.0	-2.6	2.9
Canada										
Canada Real Gross Domestic Product Growth, (chained 2002 dollar) (%)	1.4	2.7	2.1	3.1	2.7	2.8	2.2	0.7	-2.8	3.2
Prime Business Loan Rate (%)	5.8	4.2	4.7	4.0	4.4	5.8	6.1	4.7	2.4	2.6
Exchange Rate (US\$/Cdn\$)	0.65	0.64	0.72	0.77	0.83	0.88	0.94	0.94	0.88	0.97
Alberta										
Gross Domestic Product (%)	2.0	2.2	3.2	5.3	4.5	6.2	2.5	0.0	-2.6	3.6
Total Employment Growth (%)	3.0	2.3	2.8	2.5	1.5	4.5	4.9	2.9	-1.0	0.2
Unemployment Rate (%)	4.6	5.3	5.1	4.6	4.0	3.5	3.5	3.5	6.3	6.6
Housing Starts ('000 Units)	29.2	38.8	36.2	36.3	40.8	49.0	48.3	29.2	20.3	27.1
Inflation Rate (%)	2.3	3.4	4.4	1.4	2.1	3.9	4.9	3.2	-0.1	1.0
Crude Oil Price - WTI (US\$/bbl)	25.9	26.1	31.1	41.4	56.5	66.1	72.3	99.6	61.8	79.5
Alberta Natural Gas Price - AECO/NIT (\$/GJ)	5.2	3.9	6.3	6.2	8.3	6.2	6.1	7.7	3.8	3.8
Alberta Average Wage Rate Increase for All Industries	1.8	2.4	3.4	3.5	5.7	4.6	5.9	6.1	3.3	4.1
FORECAST										
Calgary Economic Region (CER)										
Gross Domestic Product (%)*	1.3	2.6	1.6	4.5	4.9	11.6	4.5	-0.4	-4.7	2.7
Total population**	1,048	1,076	1,096	1,119	1,152	1,188	1,230	1,251	1,296	1,338
Total Employment ('000 Persons)	598	611	623	643	649	718	745	768	765	755
Total Employment Growth (%)	3.8	2.1	1.9	3.1	1.0	10.6	3.8	3.1	-0.4	-1.3
Unemployment Rate (%)	4.5	5.6	5.3	5.0	3.9	3.4	3.2	3.3	6.3	7.0
Inflation Rate (%) (CMA)	2.4	3.7	3.5	1.7	2.0	4.6	5.0	3.2	-0.1	0.8
Building Permits (\$billion)	2.5	2.9	3	3.1	4.3	6.0	7.1	5.1	4.5	3.8
Low Forecast	N/A									
High Forecast	N/A									
Housing Starts ('000 Units) CMA	11.3	14.3	13.6	14.0	13.7	17.0	13.5	11.4	6.3	9.3
Non-Residential Building Price Inflation (%) CMA	3.3	2.2	3.1	6.7	6.9	12.8	17.7	13.7	-7.7	-2.2

Numbers may not add up due to rounding

* Source: Centre for Spatial Economics, Corporate Economics

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

Table 1: Selected Economic Indicators (continued)

Rest of the world, United States, Canada, Alberta, Calgary Economic Region & Calgary CMA											
	BASE FORECAST										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
ASSUMPTIONS											
Global Economy											
World Gross Domestic Product (annual % change)	3.7	3.6	4.4	4.3	4.2	4.3	4.2	4.1	4.1	4.2	4.3
The United States											
U.S. Real Gross Domestic Product Growth (chained 2005 dollar) (%)	1.5	1.6	2.3	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4
Canada											
Canada Real Gross Domestic Product Growth, (chained 2002 dollar) (%)	2.2	2.0	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.0
Prime Business Loan Rate (%)	3.0	3.3	4.0	5.0	5.5	6.0	6.5	6.5	6.5	6.5	6.5
Exchange Rate (US\$/Cdn\$)	1.00	0.98	0.98	0.96	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Alberta											
Gross Domestic Product (%)	2.9	2.4	3.0	3.7	3.3	3.4	3.4	3.4	3.4	3.4	3.4
Total Employment Growth (%)	3.0	2.3	2.1	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Unemployment Rate (%)	5.6	5.2	5.0	4.6	4.4	5.0	5.0	5.0	5.0	5.0	5.0
Housing Starts ('000 Units)	23.7	27.1	26.3	28.0	27.5	24.0	24.0	24.0	24.0	24.0	24.0
Inflation Rate (%)	2.2	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Crude Oil Price - WTI (US\$/bbl)	90	82	78	97	103	105	108	110	111	113	114
Alberta Natural Gas Price - AECO/NIT (\$/GJ)	4.0	4.0	4.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0	7.0
Alberta Average Wage Rate Increase for All Industries	3.9	3.7	4.3	4.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3
FORECAST											
Calgary Economic Region (CER)											
Gross Domestic Product (%)*	3.0	2.5	3.1	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Total population**	1,359	1,380	1,399	1,416	1,432	1,449	1,466	1,484	1,502	1,519	1,537
Total Employment ('000 Persons)	776	802	822	838	858	878	893	908	922	937	952
Total Employment Growth (%)	2.8	3.4	2.5	1.9	2.4	2.3	1.7	1.7	1.5	1.6	1.6
Unemployment Rate (%)	6.2	6.0	5.5	5.0	4.5	4.5	4.4	4.0	4.0	4.0	4.0
Inflation Rate (%) (CMA)	2.2	2.4	2.6	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Building Permits (\$billion)	5.0	4.4	4.4	5.0	5.0	5.0	4.4	4.4	4.4	4.4	4.4
Low Forecast	4.4	3.8	3.8	4.4	4.4	4.4	3.8	3.8	3.8	3.8	3.8
High Forecast	5.6	5.0	5.0	5.6	5.6	5.6	5.0	5.0	5.0	5.0	5.0
Housing Starts ('000 Units) CMA	8.0	9.4	10.0	10.3	10.5	10.0	9.2	9.2	9.3	9.2	9.2
Non-Residential Building Price Inflation (%) CMA	2.4	6.1	1.0	7.7	3.7	2.3	2.0	1.8	1.4	1.6	1.3

Numbers may not add up due to rounding

* Source: Centre for Spatial Economics, Corporate Economics

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

Table 2: Selected Indicators

City of Calgary										
FORECAST COMPLETED: September 2011										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
DEMOGRAPHY										
Total Population ('000 Persons)	877	905	922	933	956	992	1,020	1,043	1,065	1,072
Total Population Growth (%)	1.8	3.2	1.9	1.2	2.4	3.7	2.9	2.2	2.2	0.6
Net Migration ('000 Persons)	8.0	21.0	9.0	2.3	13.7	25.6	17.6	12.4	12.9	-4.1
REAL ESTATE										
Residential Market										
Housing Starts ('000 units)	9.9	12.4	11.9	12.2	11.7	14.1	10.9	9.6	5.0	7.3
New House Price Inflation (%)	2.5	5.2	5.2	5.5	7.0	43.6	16.2	0.7	-6.7	1.7
Total Building Permits mid point (\$billions)	2.0	2.3	2.4	2.4	3.6	4.9	5.6	4.0	3.7	2.9
Low Forecast										
High Forecast										

Numbers may not add up due to rounding

Table 2: Selected Indicators (continued)

City of Calgary											
	BASE FORECAST										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
DEMOGRAPHY											
Total Population ('000 Persons)	1,091	1,110	1,127	1,143	1,159	1,174	1,190	1,206	1,223	1,239	1,256
Total Population Growth (%)	1.8	1.8	1.5	1.4	1.3	1.3	1.4	1.4	1.4	1.4	1.3
Net Migration ('000 Persons)	9.6	8.0	7.0	7.0	7.0	8.0	8.0	9.0	10.0	10.0	10.0
REAL ESTATE											
Residential Market											
Housing Starts ('000 units)	6.4	7.5	8.0	8.2	8.4	8.0	7.3	7.4	7.4	7.4	7.3
New House Price Inflation (%)	0.0	0.0	6.1	3.7	1.1	1.4	1.5	1.3	0.8	0.3	1.4
Total Building Permits mid point (\$billions)	4.0	3.5	3.5	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.5
Low Forecast	3.5	3.0	3.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0
High Forecast	4.5	4.0	4.0	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0

Numbers may not add up due to rounding

Table 3: City of Calgary Population Projection

City of Calgary											
FORECAST COMPLETED: September 2011											
		FORECAST									
(Persons except rates)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Population <i>(April)</i>	1,090,900	1,110,300	1,127,400	1,143,200	1,158,500	1,174,100	1,190,000	1,206,300	1,222,800	1,239,400	1,255,800
Total Net Migration <i>(May - April)</i>	10,000	8,000	7,000	7,000	7,000	8,000	8,000	9,000	10,000	10,000	10,000
Total Natural Increase <i>(May - April)</i>	10,000	9,000	9,000	9,000	9,000	8,000	8,000	7,000	7,000	7,000	6,000
Total Population Growth Rate <i>(May - April)</i>	1.8%	1.8%	1.5%	1.4%	1.3%	1.3%	1.4%	1.4%	1.4%	1.4%	1.3%

Population by five-year cohort

		FORECAST									
(Ages)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
0-4	68,400	72,500	75,900	78,700	81,000	82,500	82,600	82,500	82,300	81,900	81,400
5-9	63,900	64,700	66,100	67,400	68,900	71,000	74,800	78,200	81,200	83,600	85,400
10-14	62,300	62,400	62,700	63,400	64,300	65,300	65,900	67,300	68,700	70,300	72,500
15-19	66,000	65,000	63,900	63,400	63,400	63,500	63,500	63,900	64,700	65,700	66,700
20-24	78,200	75,800	73,700	72,000	70,100	68,300	67,200	66,200	65,900	66,000	66,300
25-29	93,400	93,600	91,900	88,900	85,700	82,700	80,200	78,200	76,900	75,400	73,900
30-34	89,800	91,900	94,400	96,400	98,300	99,500	99,300	97,700	95,200	92,500	90,000
35-39	93,700	93,900	93,800	94,000	94,700	95,200	97,000	99,500	102,000	104,300	105,900
40-44	88,300	90,900	93,400	95,400	96,400	97,600	97,500	97,400	97,900	98,900	99,800
45-49	87,200	87,900	88,100	88,200	89,000	90,400	92,800	95,400	97,500	98,700	100,100
50-54	81,300	83,000	84,400	86,100	87,200	87,800	88,400	88,500	88,700	89,600	91,100
55-59	63,700	67,100	70,600	73,200	75,700	78,100	79,700	81,000	82,600	83,800	84,400
60-64	48,100	50,900	52,100	53,900	56,600	59,300	62,300	65,600	68,100	70,500	72,700
65-69	34,900	36,300	39,100	41,700	43,900	46,100	48,700	49,900	51,700	54,200	56,700
70-74	24,700	25,900	27,300	29,000	30,800	32,600	33,800	36,400	38,900	40,800	43,000
75-79	19,200	19,500	19,800	20,200	20,900	21,800	22,900	24,100	25,600	27,200	28,700
80-84	14,500	15,000	15,400	15,600	15,600	15,600	15,900	16,200	16,500	17,100	17,800
85-89	8,400	8,600	8,700	9,000	9,400	9,700	10,100	10,300	10,400	10,400	10,400
90+	4,600	5,300	5,900	6,300	6,700	7,000	7,400	7,800	8,200	8,600	9,000
Total	1,090,900	1,110,300	1,127,400	1,143,200	1,158,500	1,174,100	1,190,000	1,206,300	1,222,800	1,239,400	1,255,800

Numbers may not add up due to rounding

UPDATED BY CORPORATE ECONOMICS, September 2011

Table 4: Calgary Economic Region Population Projection

Calgary Economic Region											
FORECAST COMPLETED: September 2011											
		FORECAST									
(Persons except rates)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Population (April)	1,365,200	1,385,800	1,403,500	1,419,800	1,435,600	1,451,500	1,468,000	1,485,000	1,502,200	1,519,400	1,536,500
Total Net Migration (May - April)	12,300	9,600	8,300	8,200	8,700	9,600	10,600	11,400	11,900	12,200	12,200
Total Natural Increase (May - April)	8,200	8,100	7,900	7,600	7,300	6,900	6,400	5,900	5,400	4,900	4,300
Total Population Growth Rate (May - April)	2.0%	1.5%	1.3%	1.2%	1.1%	1.1%	1.1%	1.2%	1.2%	1.1%	1.1%

Population by five-year cohort

		FORECAST									
(Ages)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
0-4	89,500	90,200	90,200	89,600	88,300	86,300	86,500	86,400	86,100	85,600	84,900
5-9	79,400	81,700	83,900	86,300	89,200	92,600	93,100	93,100	92,700	91,700	89,900
10-14	76,300	76,700	77,600	78,600	79,700	81,000	83,200	85,500	87,900	91,000	94,500
15-19	80,100	78,800	78,100	77,800	77,700	77,700	78,200	79,000	80,200	81,400	82,900
20-24	95,400	92,600	90,100	87,400	84,600	82,900	81,500	80,900	80,900	81,000	81,300
25-29	118,200	116,500	112,900	108,800	104,800	101,000	98,000	95,700	93,400	91,200	89,900
30-34	116,000	119,600	122,400	124,800	126,200	125,800	123,600	120,200	116,600	113,300	110,100
35-39	112,200	114,100	116,100	118,600	120,700	122,800	125,900	128,900	131,700	133,600	133,800
40-44	107,100	110,400	113,000	114,200	115,600	117,100	118,500	120,600	123,400	126,000	128,500
45-49	107,500	106,900	106,200	106,200	106,900	109,800	112,800	115,400	116,800	118,500	120,200
50-54	102,500	104,300	106,300	107,800	108,500	108,200	107,400	106,800	106,900	107,800	110,800
55-59	85,000	88,800	91,600	94,100	96,600	98,500	100,100	102,100	103,500	104,200	104,000
60-64	64,200	66,000	68,500	72,100	75,600	79,000	82,600	85,200	87,600	89,900	91,700
65-69	43,000	47,200	51,100	54,500	58,000	61,500	63,200	65,600	69,000	72,400	75,600
70-74	30,100	31,700	33,800	35,800	37,900	40,000	43,900	47,600	50,700	54,000	57,200
75-79	23,600	23,800	24,000	24,600	25,300	26,600	28,000	29,800	31,600	33,400	35,300
80-84	18,400	18,800	19,100	19,100	19,200	19,200	19,400	19,500	20,000	20,700	21,700
85-89	10,700	10,900	11,200	11,500	11,900	12,300	12,600	12,700	12,700	12,800	12,800
90+	6,200	7,000	7,600	8,100	8,600	9,000	9,500	10,000	10,500	11,000	11,400
Total	1,365,200	1,385,800	1,403,500	1,419,800	1,435,600	1,451,500	1,468,000	1,485,000	1,502,200	1,519,400	1,536,500

Numbers may not add up due to rounding

UPDATED BY CORPORATE ECONOMICS, September 2011

Table 5: Selected Commodity Prices***

City of Calgary										
FORECAST COMPLETED: September 2011										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
COMMODITIES										
Construction Commodities										
Iron and steel products	-4.0	1.8	-1.8	20.1	2.4	-2.5	-2.3	15.7	-3.0	-0.9
Aluminum products	-1.5	1.0	-3.3	2.9	-1.3	15.7	-5.5	-0.4	-19.8	11.1
Wood	-7.5	-1.3	-2.1	1.0	-9.6	3.7	8.7	-3.5	11.0	-1.6
Asphalt**	N/A	1.4	9.6	-9.0	4.9	51.1	9.1	61.8	-24.5	6.1
Operational Commodities										
Rubber	-5.8	23.2	21.0	22.0	3.9	29.9	2.0	13.0	-9.2	70.6
Diesel Oil	5.3	-8.1	8.2	8.5	29.3	1.9	8.1	26.4	-31.1	10.5
Vehicle Parts	6.6	5.9	4.5	3.5	3.2	3.5	7.9	4.6	5.3	1.7

Numbers may not add up due to rounding

* Estimate

** Based on Ontario Ministry of Transportation Asphalt Price Index

*** Calgary Metro Area, measured at mid-year average

Table 5: Selected Commodity Prices* (continued)**

City of Calgary											
	BASE FORECAST										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
COMMODITIES											
Construction Commodities											
Iron and steel products	2.5	2.3	-1.7	3.1	-2.2	1.9	3.1	2.4	4.2	3.8	4.6
Aluminum products	2.9	10.6	29.1	-9.0	-18.9	-15.0	0.0	2.4	4.6	-1.5	-2.5
Wood	2.6	0.7	2.9	2.2	2.8	1.4	1.7	0.7	-0.6	2.1	1.8
Asphalt**	4.3	-10.4	-10.9	27.3	3.9	0.3	1.7	0.3	1.4	2.7	1.3
Operational Commodities											
Rubber	-2.4	-0.5	-0.6	4.4	2.4	0.0	1.2	1.8	1.1	0.6	0.0
Diesel Oil	13.9	-8.6	-3.8	16.9	4.1	1.6	2.3	1.5	0.7	1.5	0.7
Vehicle Parts	1.5	1.5	1.9	2.9	8.6	7.8	5.9	4.5	4.2	4.6	4.2

Numbers may not add up due to rounding

* Estimate

** Based on Ontario Ministry of Transportation Asphalt Price Index

*** Calgary Metro Area, measured at mid-year average

Brief Biographies

Patrick Walters

City Economist

Tel: 403.268.1335 or patrick.walters@calgary.ca

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.

Clyde Pawluk

Senior Corporate Economist

Tel: 403.268.2643 or clyde.pawluk@calgary.ca

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.

Ivy Zhang

Corporate Economist

Tel: 403.268.2005 or ivy.zhang@calgary.ca

Ivy's current focus is on municipal finance, economic forecasting and market analysis. She has co-authored several discussion papers in municipal finance and presented to the 45th Annual Conference of the Canadian Economic Association.

Before joining The City, Ivy worked as an engineer and a marketing manager in various industries in Beijing. She holds a MA degree in economics from the University of Calgary, a MBA degree from Tsinghua University, and a B. Sc degree in physics from Fudan University.

Wendy Fan

Corporate Economist

Tel: 403.268.8690 or wenhui.fan@calgary.ca

Wendy's currently focuses on macroeconomic modeling and econometric estimation, and public policy analysis. Her responsibilities include monitoring and forecasting world economic growth, inflation fluctuation and global trade changes. Wendy maintains Calgary's Monthly Inflation Review. She also contributes to various municipal research projects including importance of cities, brownfield redevelopment, Calgary real estate market, population projection, diesel fuel price changes, system dynamic modeling a simulation, and parking problem in Calgary.

Estella Scruggs**Corporate Research Analyst**

Tel: 403.268.5556 or estella.scruggs@calgary.ca

Estella's interest is in monitoring national and regional economic behaviours. Her responsibilities include providing a common and current database for various analytical and forecasting models, and responding to inquiries from various parts of The City. She also prepares current statistical reports such as construction inflation and current economic indicators, and maintains a number of business unit publications and presentations. She is excited about the upcoming projects which include economic modelling and analysis.

Jolanta Szewczyk**Corporate Economist**

Jolanta's 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. She has also contributed to various business unit publications, and builds tools and methods for problem solving in the area of policy analysis including MDP/CTP review.

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. She has a MA degree and a Ph.D. degree in economics from the University of Warsaw, Poland.

Chukwudi Osuji**Corporate Economist**

Tel: 403.268.3752 or chukwudi.osuji@calgary.ca

Chukwudi Osuji's current areas of interest include urban and regional planning, econometric modelling and public policy. He has taught at University of Michigan-Dearborn, Lawrence Technological University, Imo State University, and has worked for JD Powers and Associates in Troy Michigan as an Econometrician.

Chukwudi Osuji has a Bs.c degree (1991) in Physics from University of Windsor, a M.A degree (1993) in Economics from the University of Windsor and a Ph.D degree (2001) from Wayne State University, Detroit, Michigan.

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.

Baltic Dry Index (BDI)

The Baltic Dry Index (BDI) is a popular financial barometer to track worldwide international shipping prices of various dry bulk cargoes. It is a number issued daily by the London-based Baltic Exchange. The index provides an assessment of the price of moving the major raw materials by sea.

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.

Double-Dip Recession

A double-dip recession refers to a recession followed by a short-lived recovery, followed by another recession. The technical measurement of double-dip is when gross domestic product (GDP) slides back to negative after several quarters of positive growth.

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 zone

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.

Fixed exchange rate

Sometimes called a pegged exchange rate, is a type of exchange rate regime wherein a currency's value is matched to the value of another single currency or to a basket of other currencies, or to another measure of value, such as gold.

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.

Reserve currency

A reserve currency, or anchor currency, is a currency that is held in significant quantities by many governments and institutions as part of their foreign exchange reserves. It also tends to be the international pricing currency for products traded on a global market, and commodities such as oil, gold, etc.

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.

Disclaimer:

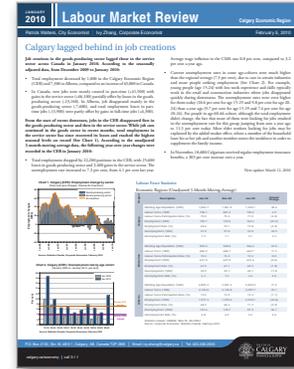
The City of Calgary provides this information in good faith. However, the aforementioned organization makes no representation, warranty or condition, statutory express or implied, takes no responsibility for any errors and omissions which may contained herein and accepts no liability for any loss arising from any use or reliance on this report.

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

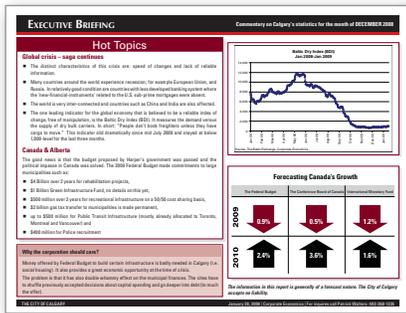
Monthly
Energy Markets and
the Economy



Monthly
Information Provision



Commentary
Executive Briefing



Quarterly
Calgary's Quarterly Economic
Outlook



Who We Are

Over the past ten years Corporate Economics has researched dozens of economic topics and developed reliable methods of forecasting and analysis. Monitoring economic trends allows us to develop unique insights on how external events are impacting the local economy and the Municipal Corporation. We provide services in four areas: forecasting, information provision, consulting and policy analysis.

Corporate Research Analyst: Estella Scruggs

Sources:

Statistics Canada, CMHC, Calgary Real Estate Board (CREB), MLS, Bank of Canada, Conference Board of Canada, GLJ Energy Publications Ltd., The City of Calgary, Centre for Spatial Economics, Construction Sector Council, U.S. Federal Bank Reserve of St. Louis, U.S. Energy Inflation Administration (EIA), International Money Fund (World Economic Outlook Database), World Bank, Central Plan Bureau Netherlands, IHS Global Insight, The City of Calgary, and others.

For more information, please contact:

Patrick Walters at 403.268.1335 or patrick.walters@calgary.ca

Ivy Zhang at 403.268.2005 or ivy.zhang@calgary.ca