Q1
2010

Calgary's Economic Outlook 2010-2015

THE CITY OF
CALGARY
FINANCE & SUPPLY

calgary.ca/economy | call 3-1-1

Introduction

The City of Calgary monitors the local economy throughout the year and updates the economic forecast each quarter to provide information for use in the decision making process by Council and Administration.

The forecasts contain economic and demographic information on the regional economy of Calgary. The document that follows presents forecasts of a selected number of economic variables for the period 2010–2015. It provides an analysis of those factors that are considered most likely to have a significant effect on the local economy over the forecast period.

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Executive Summary

City of Calgary

- Total building permit values are expected to range between $3.2 and $4.6 billion in 2010 and $2.8 and $4.4 billion in 2011. High vacancy rates in the non-residential sectors are expected to act as restraints on the level of investment intentions in the non-residential sector.

- The number of housing units built in 2010 is expected to be below demographic requirements. With the economic recovery entrenched from 2011 onwards, construction activity should grow in line with population change. The forecast is for the city's housing starts to total 8,800 units in 2011 and 9,000 in 2012.

Calgary Economic Region (CER)

- The local economy should expand by 2.5 per cent in 2010 and 4.0 per cent in 2011.

- The unemployment rate averaged 6.3 per cent in the CER in 2009. The forecast is for the unemployment rate to trend higher and average 7.0 per cent in 2010 before falling to 6.0 per cent in 2011.

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

- The MPI is expected to grow from 2.2 per cent in 2009 to 4.7 per cent in 2010 and 4.1 per cent by 2011.

- The outlook calls for construction costs to resume their upward swing next year when international currencies are rebalanced and to continue growing in 2012-2015 as a tightening labour market results in construction wages rising faster than the overall rate of inflation.

Alberta

- The Alberta economy should grow by 2.8 per cent in 2010, after contracting by 2.6 per cent in 2009. Government spending is expected to be a drag on economic growth as the provincial government attempts to balance its budget through stringent expenditure measures.

- West Texas Intermediate crude oil prices are expected to average US$79/bbl in 2010. A stronger pace of global economic recovery in 2011, which should reduce inventory levels in major economies, is expected to elevate prices to US$83/bbl.

- Natural gas prices should average $4/GJ in 2010 and 2011. The following factors should influence the natural gas market over the forecast period:
  - production from shale formations.
  - power generation.
  - weather conditions.

Canada

- Real GDP in Canada is expected to grow around 3 per cent in 2010-11 before slowing to 2.3 per cent in 2015.

- The U.S./Canadian exchange rate is expected to peak at or above parity in 2010-11 and then remain there for most of the forecast period.
- The Bank of Canada is expected to raise interest rates in the second half of this year in order to achieve the inflation target in the future[1]. The increase of the overnight interest rate would be followed by increases in the prime rate and mortgage rates.

United States

The consensus outlook for the U.S. economy is for GDP growth to average 3 per cent in 2010, 2.9 per cent in 2011 before decline to 2.6 per cent in 2015.

World

After contracting by 1 per cent in 2009, world output is expected to rise to 3.6 per cent in 2010.

Commodity Prices

Commodity prices are expected to rise further in 2010 supported by the strength of global demand, due mainly to the buoyant recovery in emerging Asia.

1 The Bank of Canada's policy actions relating to the overnight interest rate have almost immediate effects on the exchange rate and interest rates, but current estimates suggest that it takes between 12 and 18 months for most of the effect on aggregate output to be observed. Most of the effect on inflation is not apparent for between 18 and 24 months (Duguay 1994).

Forecast Risks

The forecasts is subject to both upside and downside risks.

Upside

- Higher oil and gas prices should add to business cash flow and boost investment activity.
- Stronger economic growth in the U.S. and world economies should increase the demand for commodities and also increase commodity prices.

Downside

- The U.S. and world economies may grow at a slower rate than expected. The U.S. housing market and the consumer sector may continue to underperform. This should reduce the potential for export growth from Canada.
- Higher short term interest rates may reduce aggregate demand by a greater than expected amount.
- A higher U.S./Canadian exchange rate should reduce the competitiveness of Canada's exports.
- Higher U.S./Canadian exchange rate should reduce oil revenues as oil prices are denominated in U.S. dollar. This has a negative effect on provincial revenues. For example, an annual $0.01 increase in the exchange rate costs the provincial government $215 million in revenues.
- A reduction in government spending should reduce aggregate demand.

City of Calgary

Calgary Real Estate Market

Office Market:

The Calgary office market is experiencing vacancy rates of around 15 per cent on its inventory. Over the next 3 years another 6.3 million square feet (msqf) will be completed with about 60 per cent of that space pre-leased, consequently the vacancy rate is expected to trend higher. As a result of rising vacancies, rental rates have dropped below $30[2] for the first time since 2005 with rents expected to continue falling over the next 3 years. Given the oversupply of office space and multi-residential space in the City, the forecast expects construction activity to slow over the next 2 years.

Retail Market:

Commercial retail space is the bright spot in Calgary's current commercial market. Though retail sales have suffered in Alberta with the recession the primary market affected was automobiles while store-based retail activity has remained strong. As a result, the retail space market is experiencing only 2 per cent vacancy and the few retail store bankruptcies that have occurred to multi-national retail outlets have not resulted in any contagion in Calgary. There are currently proposals to construct an additional 5.5 msqf of retail space in Calgary and retail rents are not expected to decline.

Industrial Market:

Construction of industrial space slowed in the first quarter of 2009. Vacancy rates in the market rose from 3.8 per cent in January 2009 to 6.4 per cent in January 2010, and rents have fallen between 5 per cent and 25 per cent depending on the location. Calgary boasts some 115.5 msqf of industrial space with about 7.4 msqf currently available. There are plans to develop additional industrial lands with about 22 msqf proposed within Calgary. Further, there are plans to develop a new industrial park just outside Calgary in the Balzac east area. The Balzac east area plans include 0.2 msqf of commercial and 66 msqf of industrial parks. Given the current vacancies new projects are not expected to be started for at least 3 years.

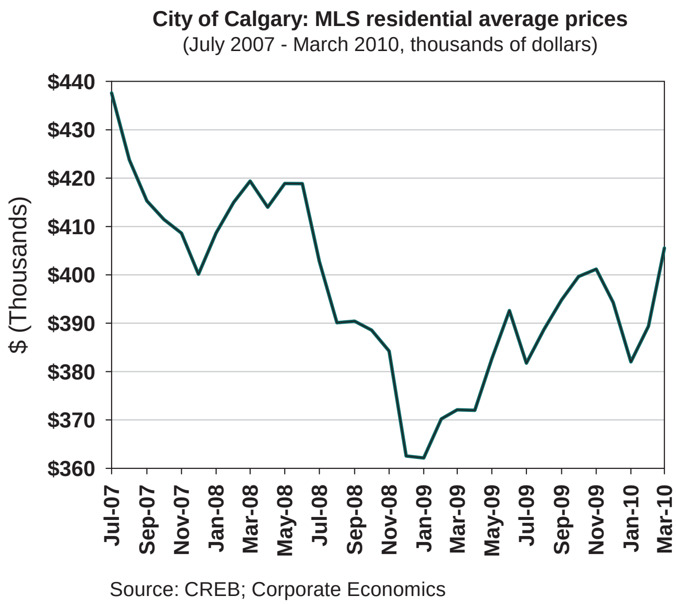
Residential Market:

The Calgary market is struggling with opposing forces. Investors and builders wish to see continued and sustained price increases. First-time buyers in 2010 are facing increased prices that are testing their ability to pay while new federal legislation has more stringent mortgage qualifying requirements. The downturn in energy prices has also put a pause on the residential market while anticipated interest rate hikes are resulting in a short term increase in demand as buyers seek to get in while they still can.

After dropping 14 per cent from peak prices in July 2007, average prices in Calgary rose throughout 2009 by 5.4 per cent, which is almost double the average price appreciation experienced in the 1990's. The wildcard for the future is interest rates. If they go up too high too quickly they will dampen sales activity, but our expectations are for the prime interest rate to be stepped up in small increments, with a muted impact on posted mortgage rates over the next year. The outlook for housing prices in Calgary is a short run-up in anticipation of increased interest rates, then a market pause after June and a normal annual cyclical pattern returning to the market with September being the hot month

2 Current ask price is $27.82 per sq ft per year, for downtown "A" space.

of the year for sales. Continued weakness in job creation may pose a downside risk to the forecast.



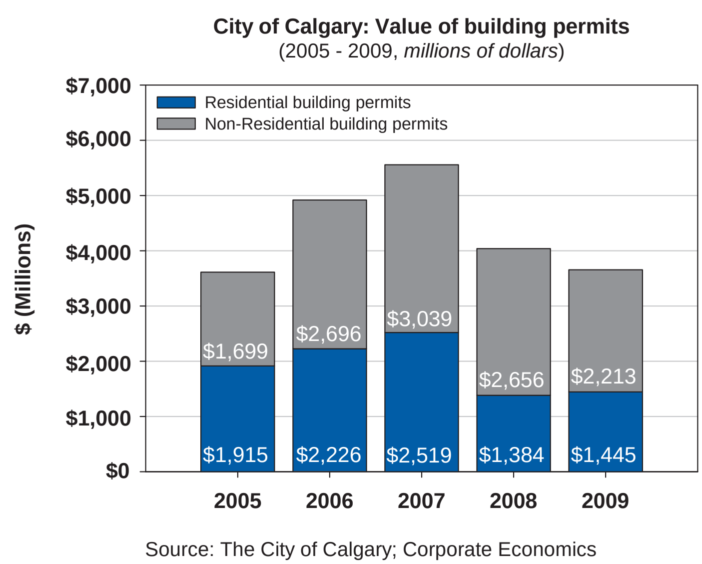
Total Building Permits (value):

The only large commercial building permits expected over the forecast horizon are from retail development. This stands in large contrast to recent years which saw significant activity in both the industrial and office categories. Residential development is expected to be driven by activity in the single family sector. Rising interest rates are expected to temper construction activity and building permit values throughout the period. In addition, high vacancy rates in the non-residential sectors are expected to act as restraints on the level of investment. Total building permit values are expected to range between $3.2 and $4.6 billion in 2010, and $2.8 and $4.4 billion in 2011. Also, institutional building activity is expected to be weak as the provincial government and governments in general exercise spending restraint to balance their budgets.

Housing Starts:

In September there were 600 single family starts in the Calgary, which has not occurred since 2007. Starts have remained in the 500-600 unit range since, with a pause in January due to holidays and cold weather. Multi-family starts have increased significantly from 1,100 in 1996 to a high of just over 7,000 in 2008. In 2009 the market saw a significant oversupply as evidenced by falling condo prices and the highest apartment vacancy rates in many years.

Higher vacancy rates in the residential market should dampen residential investment. The number of housing units built in 2010 is expected to be below demographic requirements. With economic recovery entrenched from 2011 onwards, construction activity should grow in line with population change. The forecast for the housing starts in Calgary is 8,800 total units in 2011 and 9,000 in 2012.



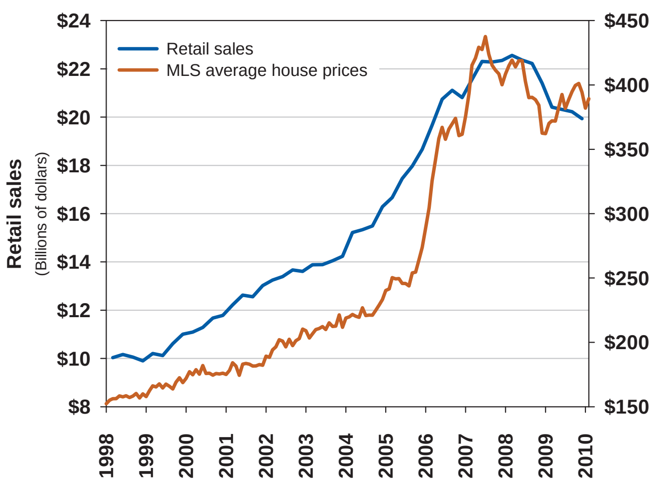
Calgary Economic Region (CER)

Gross Domestic Product

Economic activity in the Calgary Economic Region (CER) slumped in 2009 in response to the world recession. The CER and Alberta economies were adversely affected by falling commodity demand which resulted in reduced business cash flows and government revenues. These changes along with tighter credit conditions and higher labour costs contributed to the postponement or cancellation of several large investment projects in northern Alberta. Cutbacks in capital spending resulted in a reduction in demand for various professional services and adversely affected the Calgary real estate and retail markets. Economic activity contracted by 2.5 per cent in 2009.

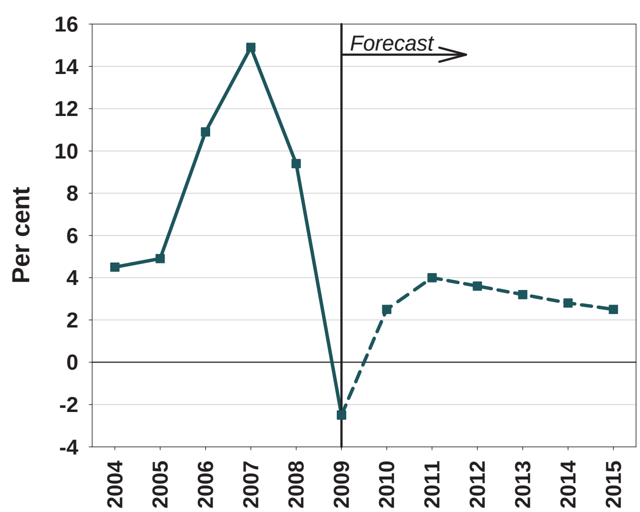
The world economy rebounded in the second half of 2009 after shrinking for several quarters. Economic recovery in the rest of the world is expected to boost demand for commodities and cause an increase in commodities prices. Calgary businesses should therefore benefit from increased export volumes, higher prices and improved cash flow. Economic growth should also strengthen as oil sands projects in northern Alberta are revived. Increased investment should boost job creation and labour incomes. This should strengthen the consumer sector. The local economy is expected to expand by 2.5 per cent in 2010. As economic growth in the U.S. and emerging economies gather momentum, the CER's output should grow by 4.0 per cent in 2011. Towards the end of the forecast period the region's economic expansion is expected to be constrained by an aging population. Consequently, the rate of economic expansion over the period is expected to be lower than in the previous ten year period.

Calgary Economic Region: Retail sales and MLS average house prices
(January 1998 - March 2010)



Source: The Conference Board of Canada; CREB; Corporate Economics

Calgary Economic Region: Gross domestic product growth
(2004 - 2015, *per cent*)

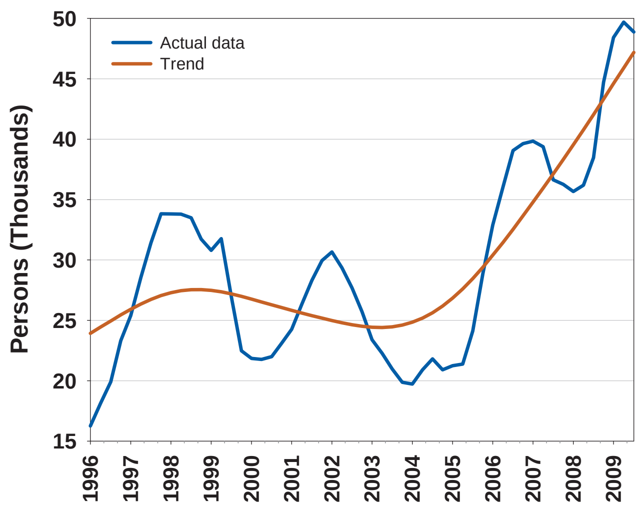


Source: Statistics Canada; Corporate Economics

Population

Population in the CER increased year-over-year, by 48,900 persons in Q3 2009, up from 38,500 in Q3 2008; well above the 5 year moving average of 35,900. This above average growth rate is largely explained by Calgary's relatively low unemployment rate which existed in the CER in late 2008 and early 2009. The sharp increase in unemployment in the latter part of 2009 in the CER resulted in a reduction in the size of the unemployment rate differential between Calgary and the rest of Canada. This should reduce the attraction of Calgary as a preferred location for job seekers. Consequently, the pace of population growth is expected to ease in coming months compared to the 2008-2009 rates.

Calgary Economic Region: Population growth
(March 1996 - September 2009, *thousands of persons*)



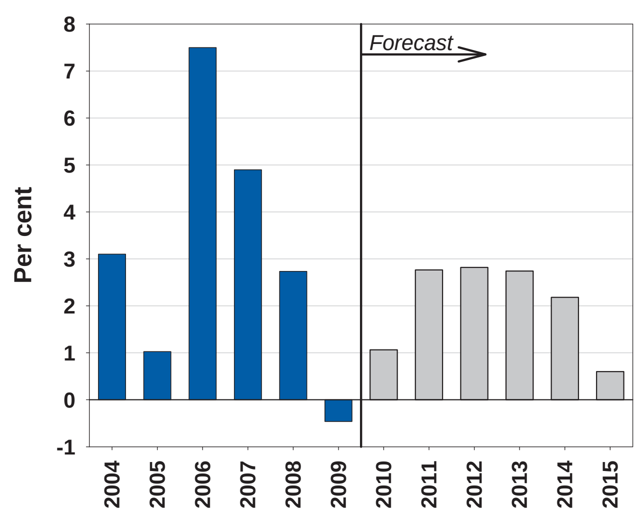
Source: Government of Alberta (January 2010); Corporate Economics

Labour Market

Total employment averaged 751,500 persons in 2009, down from 755,500 in 2008. Job losses were largely in full-time employment (-17,400) and mainly in Goods producing industries. Mining, oil and gas (-6,100), Manufacturing (-5,800) are examples of industries suffering significant losses. Job creation in part-time employment (13,400) served to offset some job losses in full-time employment. Education (5,600) and Information, culture and recreation (3,900) were industries that experienced major job gains.

Employment is a lagging indicator and consequently, significant employment growth should appear in the national and local economies from 2011 and onwards. Faster GDP growth in 2011 and beyond should create an increasing demand for labour. Total employment in the CER should average 760,000 in 2010 and 781,000 in 2011, up from 751,500 in 2009.

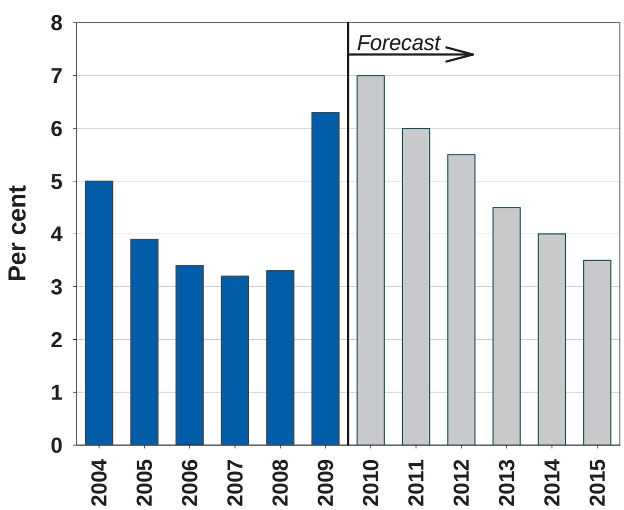
Calgary Economic Region: Total employment growth
(2004 - 2015, *per cent*)



Source: Statistics Canada; Corporate Economics

The 2009 unemployment rate averaged 6.3 per cent in the CER. The forecast for unemployment is expected to trend higher and average 7.0 per cent in 2010, before falling to 6.0 per cent in 2011. The higher unemployment rate is expected to result as the labour force grows at a faster rate than employment. The pace of the labour force growth would be influenced by previously discouraged workers returning to the work force in response to improved expectations for employment and as the working age population increase. The pace of job creation would be muted as part- time jobs are converted to full-time jobs and existing workers are asked to work longer hours.

Calgary Economic Region: Unemployment rate
(2004 - 2015, *per cent*)



Source: Statistics Canada; Corporate Economics

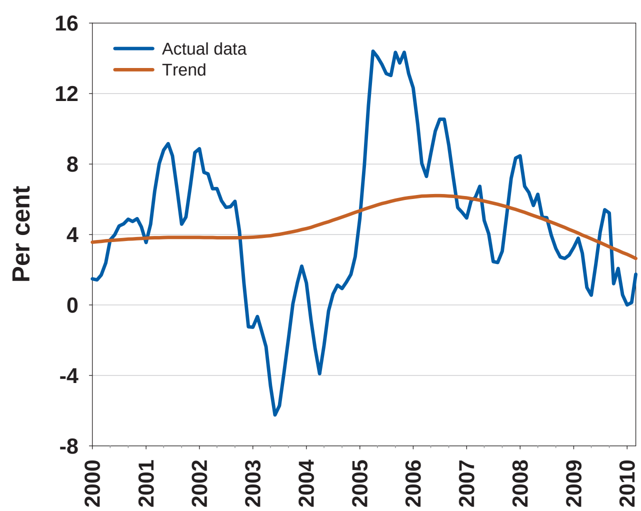
Wages

The average weekly wage rate in the Calgary CMA averaged $973.16 in 2009, up from $947.65 in 2008. For Alberta as a whole, the average weekly wage rate was $916.28 in 2009, up from $886.53 in 2008.

Wages in Calgary increased by 2.7 per cent in 2009, down from 4.9 per cent in 2008. In Alberta, the wage inflation in 2009 was 3.4 per cent, down from 6.1 per cent in 2008. The moderation of wage inflation resulted from sharp increase in the unemployment rate. A larger number of workers in search of a smaller number of jobs caused employers to offer lower wage increases.

The wage inflation rate for 2010 is expected to be lower than 2009. A higher unemployment rate in 2010 is expected to increase competition among job seekers for available jobs and result in lower wage increases.

Calgary CMA: Wage inflation rate
(Janary 2000 - March 2010, *per cent*)



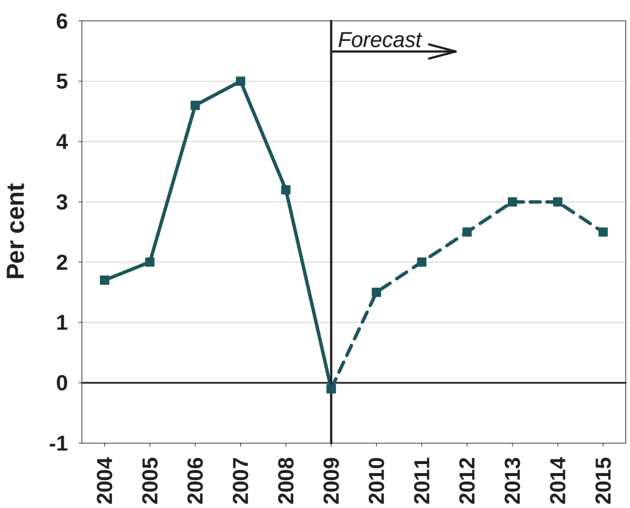
Source: Statistics Canada; Corporate Economics

Inflation

Consumer Prices *(CER)*

On average, consumer prices declined by 0.1 per cent in 2009, down from 3.2 per cent a year earlier. High unemployment rates acted as a major restraint on wage increases. The wage inflation rate moderated in response to a higher unemployment rate. Businesses were unable to pass on cost increases through higher prices as consumer demand was weak. Consumer price inflation rate is expected to increase by 1.5 per cent in 2010 and 2.0 per cent in 2011. Inflation rates are expected to increase as the region's spare capacity becomes exhausted.

Calgary Economic Region: Inflation rate
(2004 - 2015, *per cent*)



Source: Statistics Canada; Corporate Economics

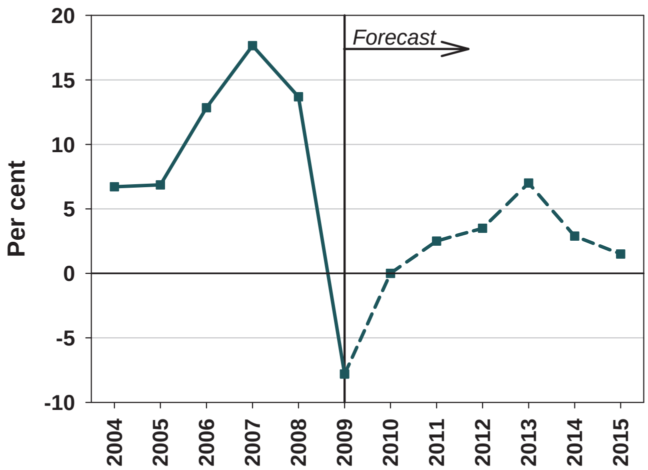
New House Price *(CMA)*

New house prices fall in 2008-2009 mostly due to decreased square footage and more diversity like upscale duplexes and row housing into the housing market. Value-added upgrades were also cut to meet buyers' price points and in some cases incentives were offered. That was yesterday. Today, builders are tepidly returning to value-added upgrades and have made small price increases while they test the market. Conscious of profit margins the only speculative houses are being built to replace inventory. Future price pressure is looming as existing serviced land inventories may be exhausted within 12 months while construction costs have risen. However, as interest rates rise waning demand will temper price inflation and result in softening margins.

Non Residential Building Price *(CMA)*

The impact of recent price increases in international construction materials is being muted by rapid appreciation of the Canadian dollar against other currencies. However a decreasing price shock should be avoided as inventories are slowly used up. With uncertainties over cap-and-trade, or other GHG regulations and taxes, the outlook for future oilsands development is expected to result in smaller scale plays while wage pressures remain contained due to the unemployment rate. The combined impact of these changes are anticipated to result in a softening of current non-residential building prices. The outlook calls for construction costs to resume their upward swing as international currencies are rebalanced in 2011 and continue to grow in 2012-2015 as a tight labour market results in increased construction wages.

Calgary CMA: Non-residential building price inflation
(2004 - 2015, *per cent*)



Source: Statistics Canada; Corporate Economics

Municipal Price Index *(City of Calgary)*

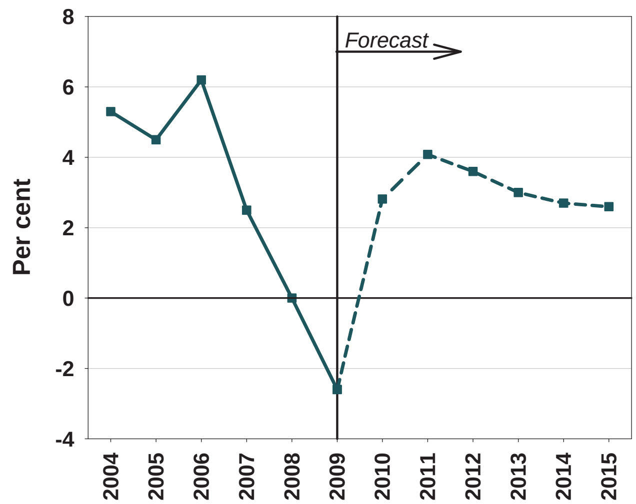
The municipal price index (MPI) is expected to grow from 2.2 per cent in 2009 to 4.7 per cent in 2010, and is expected to reach 4.1 per cent by 2011. The MPI measures the change in the cost of a fixed basket of goods and services purchased by The City of Calgary. The MPI differs from the CPI in terms of how expenditures are distributed among goods and services.

Alberta Economy

Gross Domestic Product

The Alberta economy should grow by 2.8 per cent in 2010, after contracting by 2.6 per cent in 2009. Government spending is expected to be a drag on economic growth as the provincial government attempts to balance its budget through stringent expenditure controls. Export growth is also expected to constrain growth in overall economic activity as the U.S., Alberta's major export market, grows below its long-term potential. In addition, a strong Canadian currency should reduce Alberta's competitiveness. Economic growth is expected to be driven by investment spending. The recent recession reduced the demand for labour and materials, consequently reducing the construction costs for non-conventional energy projects. Lower project costs, attractive financing options combined with higher crude oil prices should boost investment in Alberta's non-conventional energy sector. Investment in this sector should be strong enough to overshadow weaker growth in the conventional energy sector. Expected higher crude oil production is projected to offset declining natural gas output.

Alberta: Gross domestic product growth
(2004 - 2015, *per cent*)



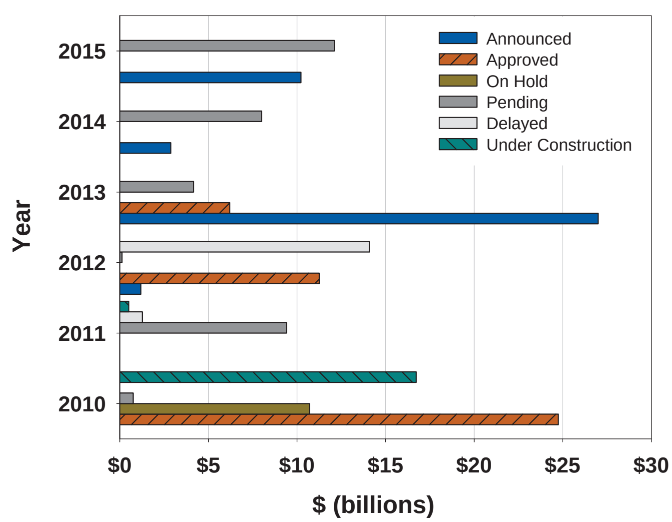
Source: Statistics Canada; Centre for Spatial Economics; Corporate Economics

Alberta's economic growth is expected to be driven by non-residential construction. Firmer oil prices and lower input costs should increase business confidence and therefore boost investment spending during the period. Total oil sands investment is expected to decrease to $11.2 billion in 2011 and increase to $22.3 billion in 2015.

Investment

Currently almost one in seven Albertans are directly or indirectly employed by the energy industry[3]. Investment in energy and related projects is expected to continue to grow during the 2010-15 forecast period. In 2010, a total of $52.9 billion in new oil sands projects have been either approved ($24.8 billion), put on hold ($10.7 billion), pending approval ($0.8 billion) or under construction ($16.7 billion).

Alberta: Total oil sands investment
(2010 - 2015, *billions of dollars*)



Source: Oilsands Review; Corporate Economics

3 Alberta Government, (2010). Alberta delivers on oil and gas competitiveness. News Release. Calgary: AB, Canada.

Textbox: Major Capital Projects in Alberta

A combination of higher crude oil prices, lower input costs and favourable credit conditions have improved expected profitability for heavy oil development in Alberta. Consequently, several postponed projects were revived in response to improved profit expectations.

The following project budgets have been revised as of March 2010:

Oilsands Project Budget Revisions

$ (millions)

Company	Inital Budget	Revised Budget	Difference
Husky/BP - Sunrise (Phase 1)	4,500.00	2,500.00	-2,000.00
Southern Pacific - STP McKay	414.6	383.8	-30.8
North Peace - Red Earth CSS Pilot	13.1	14.8	1.7
Suncor - Base Operations (U1 & U2)	122	190	68
Value Creation - BA Energy Heartland Upgrader (Phase 1)	800	900	100
North West Upgrading (Phase 1)	1,300.00	1,600.00	300
Total - Joslyn North Mine - (Phase 1)	2,000.00	2,900.00	900
Imperial/ExxonMobil - Kearl (Phase 1)	6,500.00	8,000.00	1,500.00
Total/SinoCanada - Northern Lights Upgrader (Phase 1)	3,600.00	6,300.00	2,700.00
Nexen/OPTI - Long Lake SAGD & Upgrader (Phase 1)	3,400.00	6,100.00	2,700.00
Total/SinoCanada - Northern Lights Mining (Phase 1)	1,700.00	4,400.00	2,700.00
CNRL - Horizon (Phase 1)	6,800.00	9,700.00	2,900.00
Total	**31,149.70**	**42,988.60**	**11,838.90**

Source: Oilsands Review; Corporate Economics

ALBERTA ECONOMY

In March 2010, the Alberta Economic Development Authority (AEDA) reported $232.7 billion in major construction projects were either planned or underway in Alberta. Most of these projects are in oil sands development (61 per cent), but $75 billion was related to projects classified as being on hold.

Major Capital Projects in Alberta

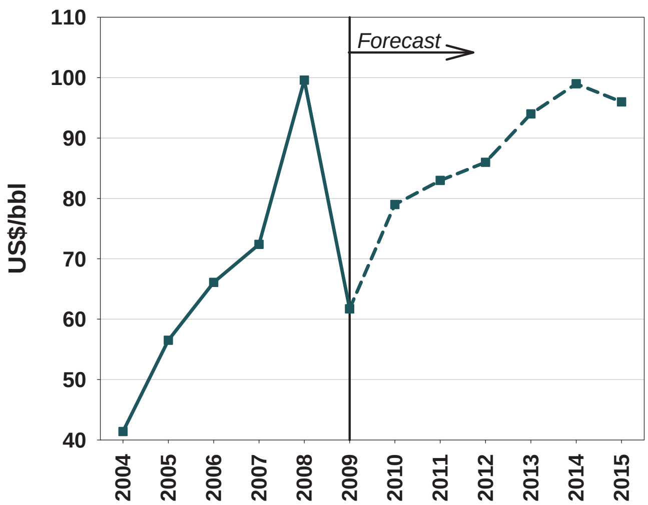
Project Sector	# of Projects	Value of All Projects *($Millions)*	# on Hold	Value of On Hold Projects *($Millions)*
Agriculture & Related	6	$181.7	0	
Biofuels	13	$1,702.0	2	$590.0
Chemicals & Petrochemicals	1	$35.0	0	
Commercial/Retail	62	$9,688.9	5	$195.1
Commercial/Retail and Residential	14	$4,353.5	4	$862.8
Forestry & Related	1	$30.0	0	
Infrastructure	291	$17,167.1	5	$89.4
Institutional	168	$10,447.1	10	$891.1
Manufacturing	8	$682.7	0	
Mining	3	$4,730.0	1	$4,500.0
Oil & Gas	9	$1,583.5	0	
Oilsands	51	$142,097.9	12	$62,847.0
Other Industrial	8	$270.7	0	
Pipelines	25	$6,807.3	2	$2,018.0
Power	51	$19,616.5	3	$800.0
Residential	84	$6,028.2	17	$2,632.4
Telecommunications	1	$700.0	0	
Tourism/Recreation	108	$6,625.0	3	$107.8
Total	**904**	**$232,747.1**	**64**	**$75,533.6**

Source: Alberta Economic Development Authority, March 2010

West Texas Intermediate crude oil prices are expected to average US$79/bbl in 2010. A stronger pace of global economic recovery should reduce inventory levels in major economies and elevate prices to US$83/bbl in 2011.

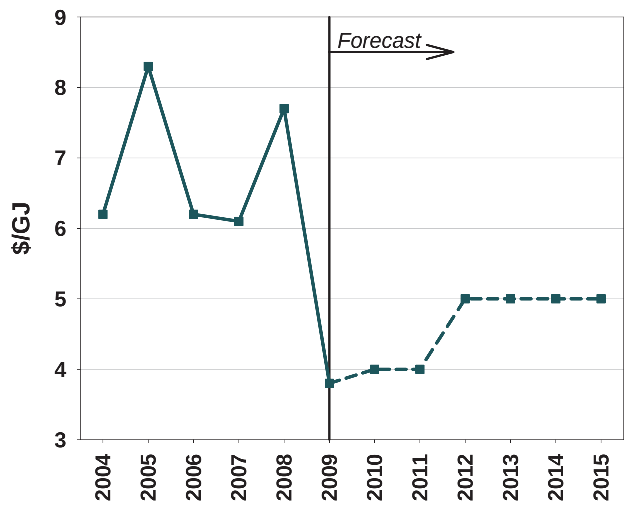
These factors are expected to keep natural gas prices around $4/GJ in 2010 and 2011. Weak natural gas prices are expected to depress the overall growth of the provincial economy and public finances (see appendix 2).

West Texas Intermediate (WTI) spot oil prices
(2004 - 2015, *US$/bbl*)



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

Alberta: Natural gas price - AECO/NIT
(2004 - 2015, *$/GJ*)



Source: GLJ Publications; Corporate Economics

Natural gas prices in Alberta decreased to $4.95/GJ in February 2010, from $5.30/GJ a month earlier or by 6.6 per cent, supported by warmer-than-normal weather since mid-January and higher levels of working gas in storage. However, future prices could be influenced by the following factors:

- rising production from shale formations.
- current natural gas prices placed gas in a competitive position with coal in power generation.
- expected warmer and a more active hurricane season this year.

Textbox: Alberta Royalty Regime Change

The Alberta government announced changes to its royalty regime on March 11, 2010. The changes include a reduction in royalties on all types of oil and gas production and will take effect on January 1, 2011:

- The current incentive program rate of five per cent on new natural gas and conventional oil wells will become a permanent feature of the royalty system, with the current time and volume limits.
- The maximum royalty rate for conventional oil will be reduced at higher price levels from 50 per cent to 40 per cent to provide better risk-reward balance to investors.
- The maximum royalty rate for conventional and unconventional natural gas will be reduced at higher price levels from 50 to 36 per cent.
- All royalty curves will be finalized and announced by May 31, 2010.
- The transitional royalty framework for oil and gas introduced in November 2008 will continue until its original announced expiration on December 31, 2013. Effective January 1, 2011, no new wells will be allowed to select transitional royalty rates. Wells that have already selected transitional royalty rates will have the option to stay with those rates or switch to the new rates effective January 1, 2011[4].
- Currently, 5 per cent rate is applied to the first 12 months or 500 million cubic feet (MMcf) of natural gas production. The government will consider a request to extend this rule for a period long enough to recover extra costs associated with deep, complex wells and hydraulic fracturing.

The province also experienced its largest land sales ($762 million) in recent years, between December 2009 and March 2010. The majority of purchased land is located on top of a shale play in northwestern Alberta, but the royalty regime change still leaves some unanswered questions:

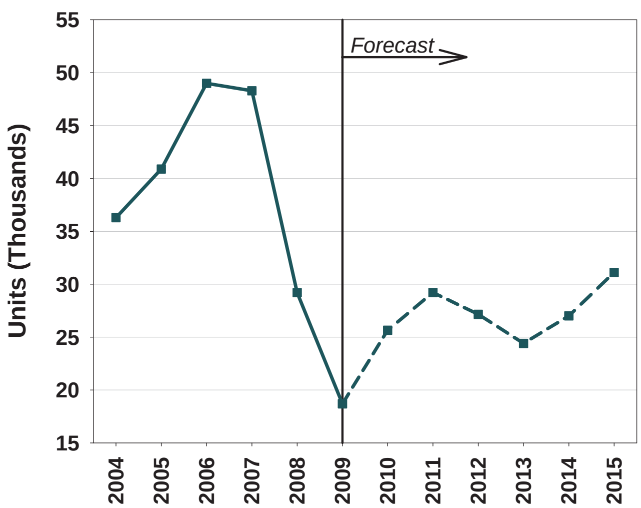
- Will the recovery in the energy industry follow the path of the overall economic recovery?
- What natural gas plays will be feasible under the new royalty regime?
- When will drilling activity in the province rebound?
- How is supply going to be influenced by these factors?

4 Alberta Government, (2010). Alberta delivers on oil and gas competitiveness. News Release. Calgary: AB, Canada.

Consumer Spending

Labour force growth in 2010 is expected to outpace employment gains, pushing the unemployment rate up further to 6.9 per cent. But a stronger energy industry in 2011 should have a positive impact on labour markets and business confidence. This is expected to increase demand for labour and reduce the unemployment rate to 6.3 per cent. Healthy population and income growth, combined with positive net migration are expected to sustain the recovery of Alberta's housing market and consumer sector. Housing starts are expected to remain in line with growth in household formations during the forecast period. Consumer spending should therefore expand by about 3 per cent in 2011.

Alberta: Housing starts
(2004 - 2015, *thousands of units*)



Source: CMHC; Corporate Economics

Government Spending

Government spending should contribute modestly to economic growth during the forecast period. Significantly lower revenues and higher expenditures during the economic recession resulted in a provincial deficit. The province has pledged to control spending in order to bring its budget back into balance.

A strong Canadian dollar should have a negative effect on Alberta's public finances. As actual revenues fall below projection, the provincial government is expected to tighten spending. This should have an adverse effect on the level of provincial transfer to municipalities.

Net Exports

Alberta's exports are driven by two key factors: Canada's reliance on the U.S. market and the value of the Canadian dollar. The current high exchange rate prevents our export sector from achieving its full potential. The U.S. economy is currently in recovery mode and is expected to grow below potential for most of the period. The strong Canadian currency combined with a sub-par recovery is expected to restrain export growth during this period.

Canadian Economy

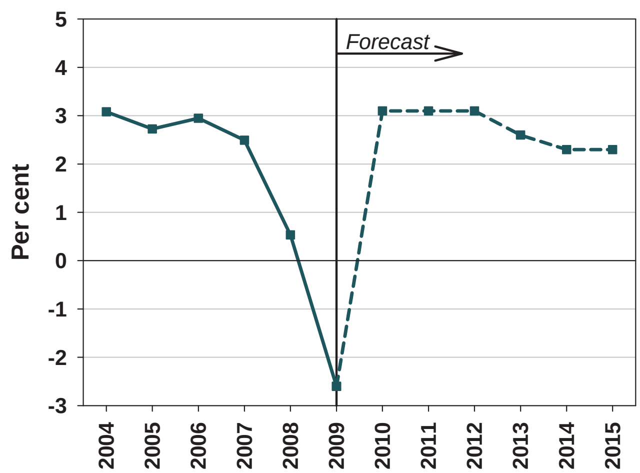
Gross Domestic Product

Real GDP in Canada fell 2.6 per cent in 2009, as export and fixed capital investment dropped sharply in the first half of the year. However, growth accelerated in Q4 2009 at an annualized rate of 5 per cent, largely driven by domestic demand and higher net exports to the U.S. Significant fiscal and monetary stimulus, combined with increased consumer confidence and improved financial conditions were the main factors that supported growth in Canada's domestic demand. Fiscal policy stimulus was achieved at significant cost: higher public debt.

Fiscal supports to the Canadian economy will extend to 2010-2011 as $19 billion new federal stimulus spending will be delivered in year 2 of Canada's Economic Action Plan. However, with the plan to return to budget balance, contribution to GDP growth from government spending should fade after 2011. Growth in consumer spending is expected to be constrained by the high debt levels of Canadian consumers. Residential investment is expected to slow after the first half of 2010, when interest rates start to increase. In addition, more stringent mortgage qualifying requirements and the introduction of a harmonized sales tax in Ontario and British Columbia should combine to further reduce demand for housing. The expectation is that business investment would be the engine of growth after 2010. The federal government has proposed longer-term tax reductions on business capital investments in machinery and equipment in order to boost investment spending. Net export growth is expected to be a drag on economic growth as the U.S. economy grows below potential and the strength of the Canadian dollar impacts Canadian exports.

As a result, real GDP in Canada is expected to grow around 3 per cent in 2010-2011 before slowing to 2.3 per cent in 2015. In the forecast period, downward risks facing the Canadian economy include: moderate growth in U.S. demand for Canadian exports, a strong Canadian dollar, tighter fiscal policy and a higher than expected slowdown in Canadian real estate.

Canada: GDP growth
(2004 - 2015, *per cent*)

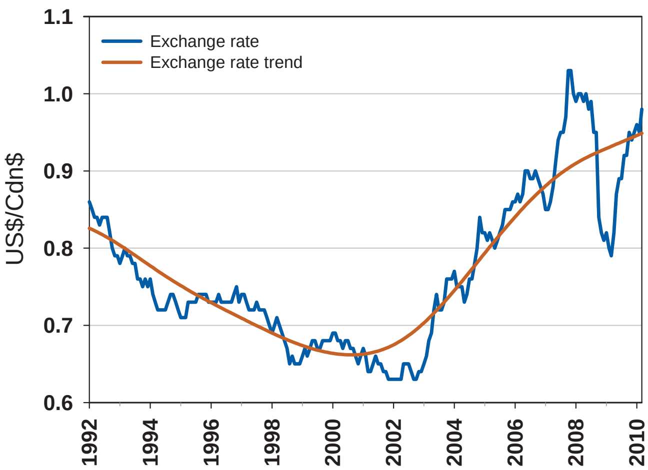


Source: Statistics Canada; Corporate Economics

Strong Canadian dollar

As a resource rich, small open economy, the Canadian economy fluctuates with the global demand for commodities and the value of the currency. For example, the Canadian dollar appreciated with the rebound in oil prices. The weakness of the U.S. dollar has been a contributing factor to the strength of the Canadian currency. The U.S./Canadian exchange rate is expected to peak at or above parity in 2010-2011 and then remain close to that level for most of the period. In the short run, a strong Canadian dollar should reduce the cost of imports while increasing the cost of exports. Businesses should be able to purchase capital equipment at a lower cost. In the long run, higher investment in improved technology should benefit the country's productivity.

Canada: U.S./Canadian dollar exchange rate
(January 1992 - March 2010, *US$/Cdn$*)

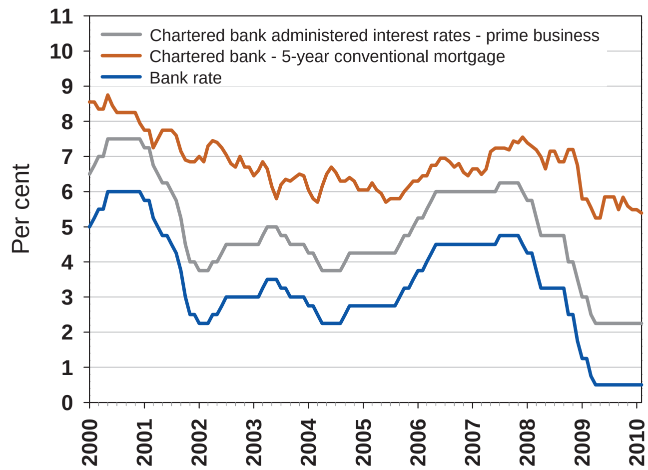


Source: Bank of Canada; Corporate Economics

Monetary policy and interest rates

According to The Bank of Canada's recent assessment core inflation in Canada has been slightly higher than projected. The outlook for inflation should continue to reflect the combined influence of strong domestic demand, slowing wage growth, and excess capacity in industrial and labour markets. Expecting that the persistent strength of the Canadian dollar and low absolute level of U.S. demand in certain key sectors such as autos and housing, would continue to act as significant drags on the Canadian economy. The Bank decided in March to maintain its overnight target rate at the current level until the end of Q2 2010. This commitment provides important near-term monetary support to the recovery of Canadian economy. However, The Bank is expected to raise interest rates in the second half of this year in order to achieve the inflation target in the future [5]. The increase of the overnight interest rate would be followed by increases in the prime rate and mortgage rates.

Canada: Interest rates
(January 2000 - March 2010, *per cent*)



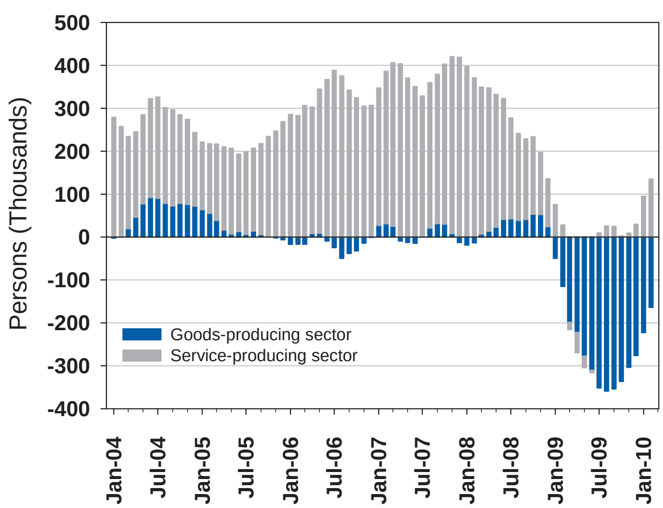
Source: Bank of Canada; Corporate Economics

5 The Bank of Canada's policy actions relating to the overnight interest rate have almost immediate effects on the exchange rate and interest rates, but current estimates suggest that it takes between 12 and 18 months for most of the effect on aggregate output to be observed. Most of the effect on inflation is not apparent for between 18 and 24 months (Duguay 1994).

Labour market

Total employment in Canada edged up from its trough in recent months, led by growth in the service-producing sector (+135,500 in February 2010, over last year). Increased demand for auto parts and energy commodities from a recovering U.S. economy should create more jobs in Canada's goods-producing sector. However, given the moderate pace of recovery in the U.S. economy, coupled with a growing Canadian labour force, it is expected to take several quarters before the job market starts to tighten again.

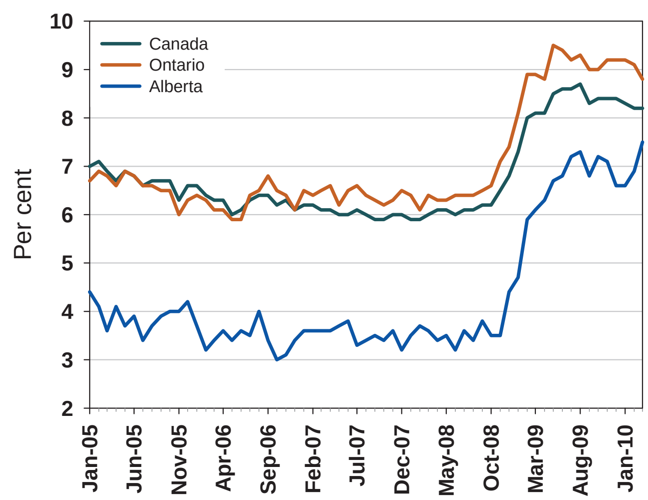
Canada: Total employment changes
(Year-over-year changes,
January 2004 - February 2010, *thousands of persons*)



Source: Statistics Canada; Corporate Economics

Total unemployment rate in Canada peaked at 8.4 per cent in late 2009 and started to decline in early 2010. Similar trends were observed in Ontario and Alberta, two growth engines of the Canadian economy. Given the structural changes in Ontario's economy, it's expected to take a longer time for the province to close the gap between its high unemployment rate and the national average rate. Alberta, on the other hand, should be more attractive to job seekers from other provinces with its lower than national average unemployment rate.

Canada: Unemployment rates
(Seasonally adjusted,
January 2005 - March 2010, *per cent*)

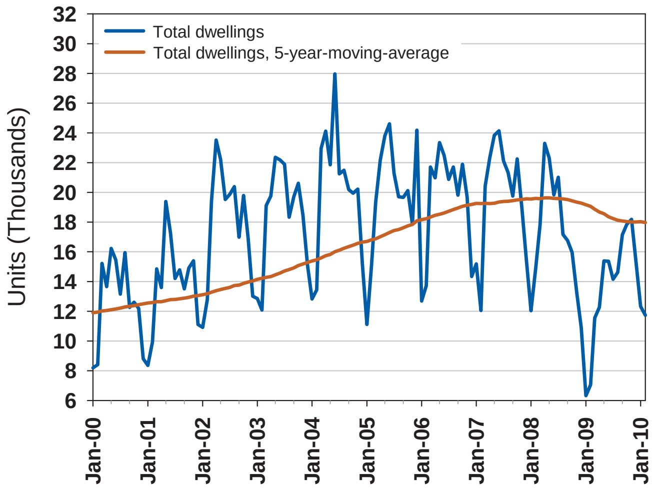


Source: Statistics Canada; Corporate Economics

Residential investment and housing market

Residential investment in Canada rebounded quickly in 2009, supported by low mortgage rates and increasing consumer confidence as a result of improving labour market conditions. It is no coincidence that Ontario and B.C. accounted for about 60 per cent home sales activity in 2009, and are set to implement a harmonized sales tax (HST) by July 1st 2010. Tighter qualifying criteria for government-backed insured mortgages effective April 19th 2010 and expectations that borrowing costs will soon be higher, added further urgency to buyers in the market. However, the temporary lift to demand in Ontario and B.C. is expected to wane and give way to a more subdued activity in the second half of 2010, as higher interest rates and home prices erode affordability. The sign of cooling in the market was shown in the decline of total building permits numbers early this year.

Canada: Total number of building permits
(January 2000 - February 2010, *thousands of units*)



Source: Statistics Canada; Corporate Economics

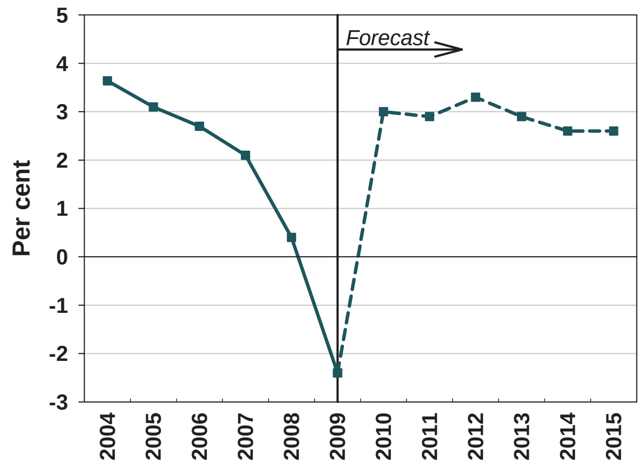
U.S. Economy

Gross Domestic Product

Economic activities in the U.S. fell 2.4 per cent in 2009, due to a steep drop in private investments in the first half of the year. After turning the corner in Q3, real GDP growth in the U.S. beat expectations at an annualized rate of 5.6 per cent in Q4 2009. Economic growth in Q4 2009 was driven by an outsized contribution from private inventory investment (which accounted for 3.4 points of the expansion) and fiscal stimulus spending. As of March 12, 2010, US$301.2 billion stimulus dollars have been paid out through the American Recovery and Reinvestment Act (ARRA) fund. From October 1 to December 31, 2009, 608,317 jobs were created by this fund. As these funds are used up and their impacts wane in coming quarters, a sustainable U.S. recovery should rely on an enduring rise in its final domestic demand.

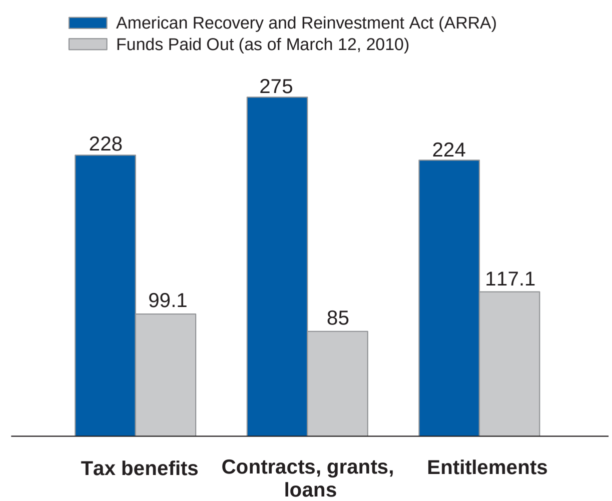
The consensus outlook for the U.S. economy is an upward revision from previous ones, with real GDP expected to average 3 per cent in 2010, 2.9 per cent in 2011 before decline to 2.6 per cent in 2015. The growth should be supported by increases in consumer spending, business investment and export activities in the near-term, followed by additional contributions from residential investments in 2011 and beyond.

U.S.: Real GDP growth
(2004 - 2015, *per cent*)



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

U.S.: Overview of ARRA Funding
(*Billions of U.S. dollars*)

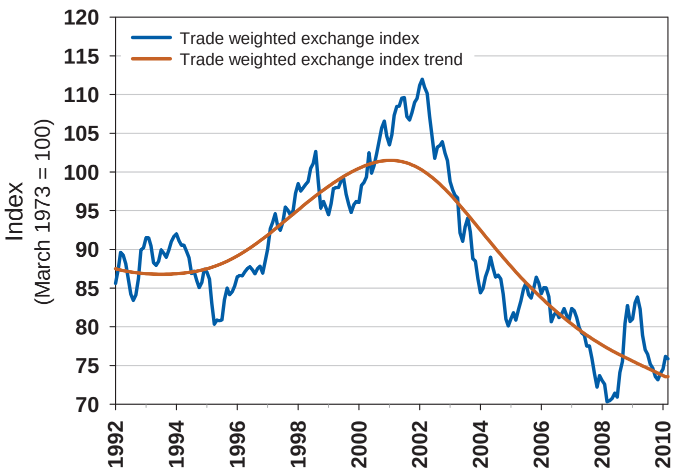


Source: http://www.recovery.gov

Weak U.S. dollar

In recent times, the U.S. dollar has been declining trend against other major currencies, driven by its deteriorating public finances and its overwhelming reliance on foreign capital inflows. Given the magnitude of the structural adjustments that the U.S. economy must undergo, sustained appreciations of the dollar are unlikely in the short to medium term. However, a weak U.S. dollar is good news to the U.S. export sector, for it would increase the sector's competitiveness in world markets.

U.S.: Trade weighted exchange index - major currencies vs. U.S. dollar
(January 1992 - March 2010, *Index March 1973 = 100*)



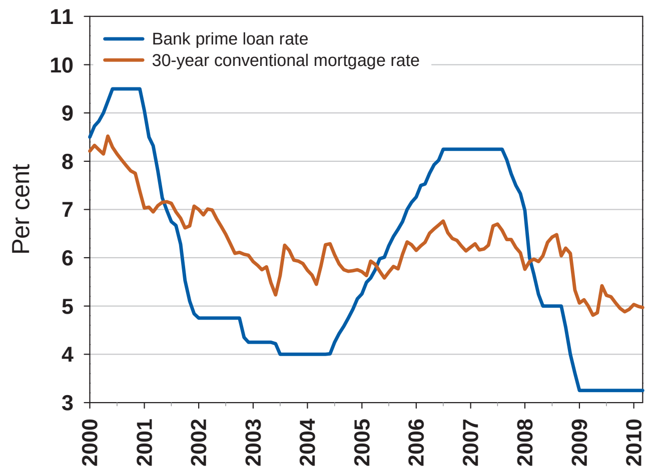
Source: U.S. Federal Bank Reserve of St. Louis; Corporate Economics

Note: A weighted average of the foreign exchange value of the U.S. dollar against a subset of the broad index currencies that circulate widely outside the country of issue. Major currencyindex includes the Euro Area, Canada, Japan, United Kingdom, Switzerland, Australia, and Sweden.

Monetary policy and interest rates

Despite large quantities of liquidity pumped into the financial system, inflation in the U.S. is still not a near-term concern to the Fed. Weak labour market conditions and soft consumer demand should keep downward pressures on U.S. inflation. Moreover, with the recovery in the labour market expected to be modest, wage pressures and inflation expectations should stay contained, further dampening price pressures. As a result, the Fed is not expected to raise policy rates, and would do so only if the U.S. economic recovery proved sustained in late 2010 or early 2011.

U.S.: Interest rates
(January 2000 - March 2010, *per cent*)



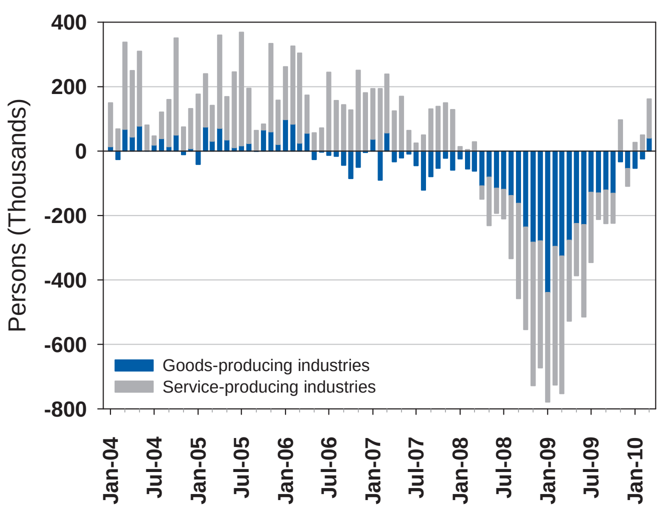
Source: U.S. Federal Bank Reserve of St. Louis; Corporate Economics

The main challenge for U.S. policy makers in the near term is the timing and pace of withdrawal of monetary and fiscal stimulus put in place to minimize the impact of the recent recession. A speedy withdrawal of stimulus programs could stagnate the economic recovery, while a slow pullback could increase inflation and harm long term growth.

Labour market

Since the start of the recession in December 2007, total non-farm payroll employment fell by 8.4 million in the U.S., with 4.2 million in the goods-producing sector and 4.1 million in the service-producing sector. The pace of job losses slowed in 2010 with less cuts reported in January (-26,000) and February (-36,000) and the March report showed a job growth of 162,000. With the firming of the U.S. economic recovery, the pace of job creation should accelerate in coming months. Still, because of the large number of job losses during the recession, total employment is not expected to return to its pre-recession level anytime soon.

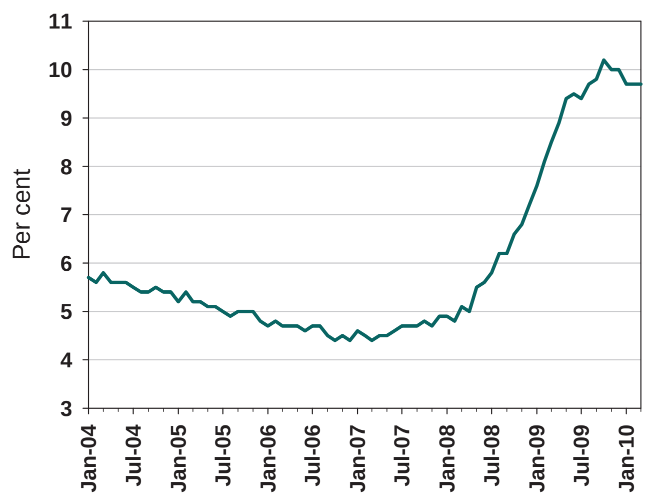
U.S.: Total employment changes
(Month-over-month changes,
January 2004 - March 2010, *thousands of persons*)



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

Based on the labour force survey[6] data, the number of unemployed persons in February was 14.9 million, including 6.1 million long-term unemployed (those jobless for 27 weeks and over). There were 8.8 million people working part-time for economic reasons, because their hours had been cut back or because they were unable to find a full-time job. In February, the U.S. unemployment rate was 9.7 per cent, trending down from 10.2 per cent in October 2009.

U.S.: Civilian unemployment rate
(seasonally adjusted, January 2004 - March 2010, *per cent*)



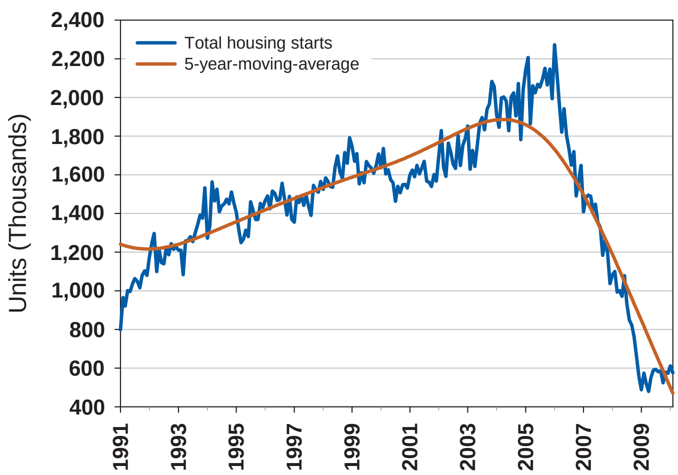
Source: U.S. Federal Bank Reserve of St. Louis;
Corporate Economics

6 Household survey includes the self-employed, unpaid family workers, agricultural workers, and private household workers, who are excluded by the establishment survey.

Residential investment and housing market

High unemployment rates, low wage inflation and high inventory of foreclosure houses led to weak residential investment in the U.S. housing market in 2009. The market weakness is expected to continue in 2010 due to unwinding of the temporary stimulus and looming large supply of foreclosures. However, supports from renewed job creation this year, household formation and the improvement in housing affordability should eventually turn the market back to growth in the coming years. As new housing construction is eventually driven by the long-term household formation, housing starts in the U.S. are expected to rise to 1.5 million units per year when the market recovers. Residential construction is likely to contribute to U.S. GDP growth from 2011 and beyond.

U.S.: Total new privately owned housing starts
(Seasonally adjusted,
January 1991 - February 2010, *thousands of units*)



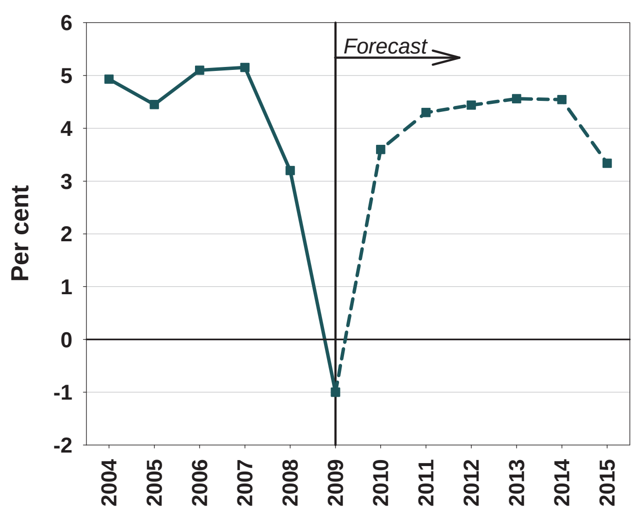
Source: U.S. Federal Bank Reserve of St. Louis;
Corporate Economics

Global Economy

Gross Domestic Product

The world economy is recovering from the deepest global downturn in recent history with the support of massive policy stimuli. After contracting 1 per cent in 2009, world output is expected to rise 3.6 per cent in 2010. Confidence rebounced in both financial and real fronts, and a reduction in uncertainty continue to improve capital flows, trade, and private demand. However, the path of recovery is still fragile. A key risk is that the premature exit of stimulus policies may undermine global growth and rebalancing. The worsening budgetary positions and fiscal sustainability would increase the cost of borrowing unsettle financial markets and stifle the recovery. Moreover, the rallying in commodity prices may constrain the recovery in advanced economies in 2010.

World: Economic growth rates
(2004 - 2015, *per cent*)



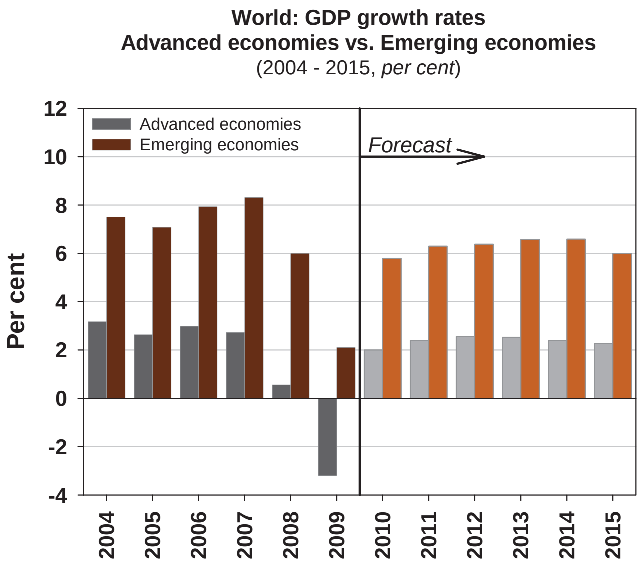
Source: International Money Fund (World Economy Outlook); Consensus Forecasts; World Bank; Corporate Economics

Advanced Economies

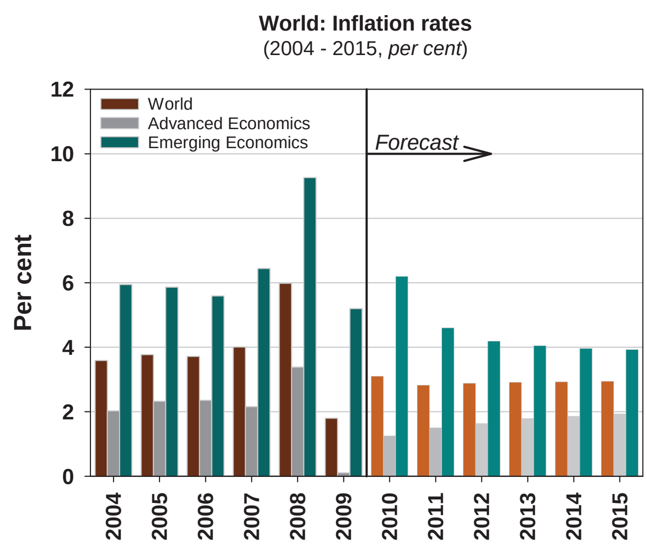
Following a sharp decline in 2009, output in advanced economies is expected to expand by 2 per cent in 2010, and 2.4 per cent in 2011. The recovery in advanced countries is weak by historical standards, with real output remaining below its pre-crisis level. High unemployment rates and public debt present further challenges to recovery in these economies.

Emerging Economies

Stronger economic frameworks and swift policy responses have helped emerging and developing economies cushion the impact of unprecedented external shock and quickly re-attract capital flows. Both global trade flows and world market prices for primary commodities rebounded during 2009, but the contribution of international trade to growth in developing countries is not expected to recover to its full strength in the near term. Real GDP is expected to rise by 5.8 per cent in 2010, following a modest 2 per cent in 2009. Key emerging economies have supplanted the U.S. in leading the world out of recession, which is the first time in modern history. However, the relatively small size of the economies of developing countries determine that the recovery will not be strong until the developed economies pick up.



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



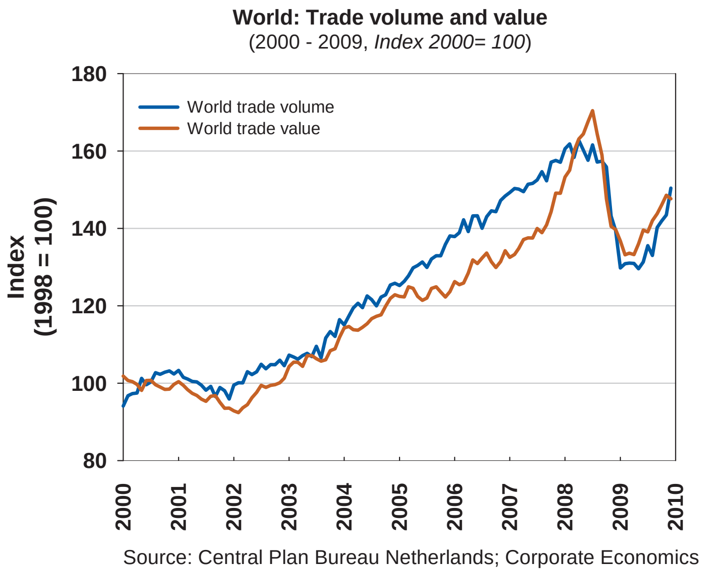
Source: International Money Fund (World Economy Outlook); World Bank; Corporate Economics

World Inflation

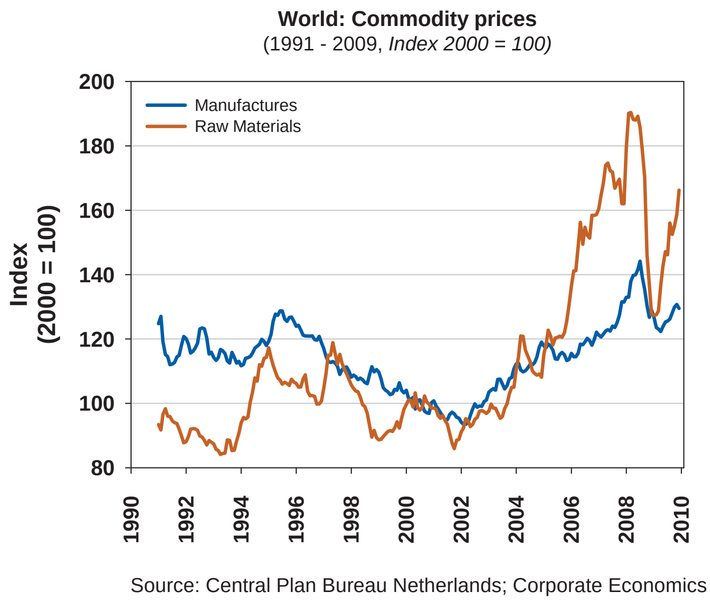
Whereas 2009 witnessed headline deflation due to the negative and strengthening base effects of commodity prices, 2010 will see the opposite. In the advanced countries, headline inflation is expected to pick up from zero in 2009 to 1.25 per cent in 2010, as rebounding energy prices more than offset slowing labour costs. In emerging and developing countries, inflation is expected to edge up to above 6 per cent in 2010, as some of these economies face growing price pressures due to more limited economic slack and increased capital flows.

World Trade Market

Global trade has followed a broadly similar pattern to industrial production. With the recovery of global economy, world trade has also showed signs of revival, though the rebound lagged somewhat. However, it is expected that trade will only grow modestly in 2010, after inventories are rebuilt and fiscal stimulus wanes. Trade finance remains tight and excess capacity of goods and transportation remains. World merchandise trade volumes are estimated to have contracted by 17.6 per cent in 2009. Given the expected weak recovery and weak base effects, trade is projected to expand by 4.3 per cent in 2010 and by 6.2 per cent in 2011.



Commodity prices are expected to rise further in 2010 supported by the strength of global demand, due mainly to the buoyant recovery in emerging Asia. However, this upward pressure will be modest, since the inventory levels are still above average and many commodity sectors are under their production capacity.

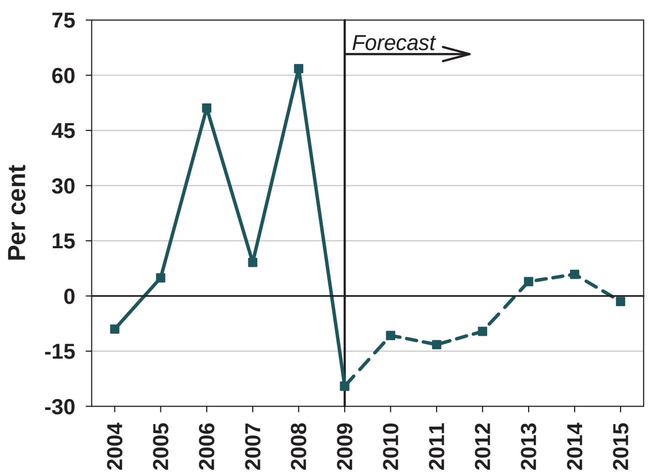


Commodities

Asphalt

Tarsands production is forecast to increase by 1 million barrels per day instead of the previously reported 2 million barrels per day by 2020. Continued uncertainty over greenhouse gas regulations, particularly the possibility of multiple levels of CO2 taxation, are causing slower development of this resource. Higher interest rates and higher oil prices should combine to increase the value of the Canadian dollar. A higher Canadian dollar should put downward pressure on asphalt prices both in the short term and in the longer term.

Asphalt price inflation
(2004 - 2015, *per cent*)

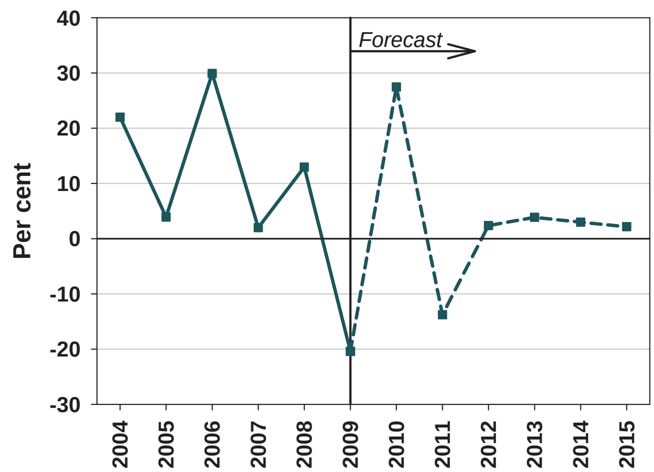


Source: Statistics Canada; Corporate Economics

Rubber

Markets are in short supply after bad weather in Asia in the fall. Meanwhile renewed demand for tires in North America as a result of re-starting production of vehicles is causing increased demand. A faltering U.S. dollar is also driving prices up and now prices are hovering just above US$3.00/Kg[7]. The forecast is for elevated prices in 2010 followed by increased production from India in 2011 and this should depress prices going forward.

Rubber price inflation
(2004 - 2015, *per cent*)



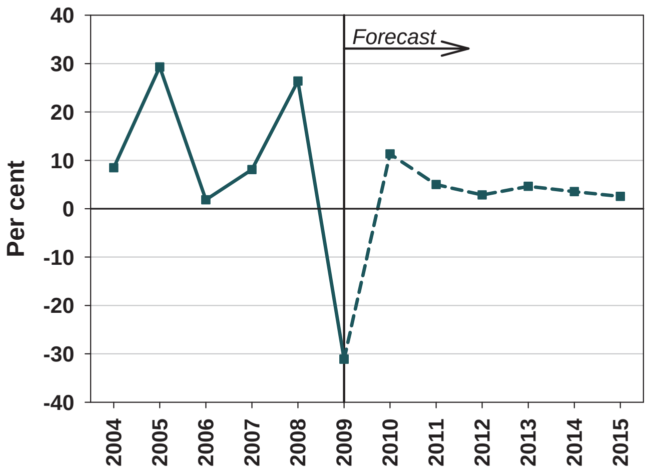
Source: Statistics Canada; Corporate Economics

Diesel

The U.S. Energy Information Administration expects diesel prices to average US$2.96/Gal in 2010. Diesel demand in Alberta is expected to improve somewhat on increased oilfield activity as a result of the Provincial government's changes to royalty payments. Stabilizing demand should respond to increased construction activity in both the residential and non-residential sectors. Price pressures from increased oil prices are being muted by the rising exchange rate yielding an outlook of moderate growth for diesel prices in Alberta.

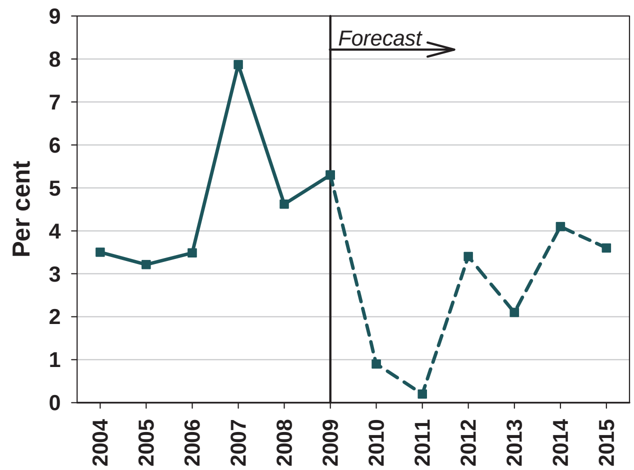
7 http://rubberboard.org.in/InterNationalRubberPrice.asp

Diesel oil price inflation
(2004 - 2015, *per cent*)



Source: Statistics Canada; Corporate Economics

Vehicle parts price inflation
(2004 - 2015, *per cent*)



Source: Statistics Canada; Corporate Economics

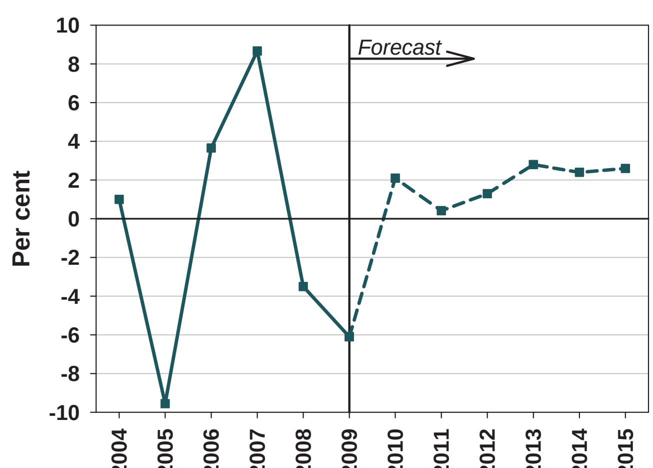
Vehicle parts

Accessorizing a vehicle is a luxury, not a necessity and as such this type of activity tends to drop off during and after a recession. So much of this activity has dropped that vehicle parts prices have been stable for the past 3 months. Dealerships are looking even harder at their service departments to increase revenues. On the bright side, the availability and quality of customer service is increasing but marketing of value-added services will likely make vehicle maintenance an even more un-enjoyable experience. We look to continued stability in vehicle parts prices in 2010 with strong pressures to increase them in 2011 and beyond.

Wood

Our outlook for wood products remains unchanged with modest price increase in Canada for the next 5 years. On a month-to-month basis we anticipate short term price spikes because currently closed plants take a few months to bring back on-line, but we don't anticipate any price spikes to last more than a couple months. The U.S. housing market, the prime market for Canadian lumber, continues to see only moderate building activity while Canadian housing markets, while growing, are of insufficient magnitude to much affect one of Canada's largest exports, wood products. The outlook for wood prices in Canada is for modest increases throughout the forecast.

Wood price inflation
(2004 - 2015, *per cent*)

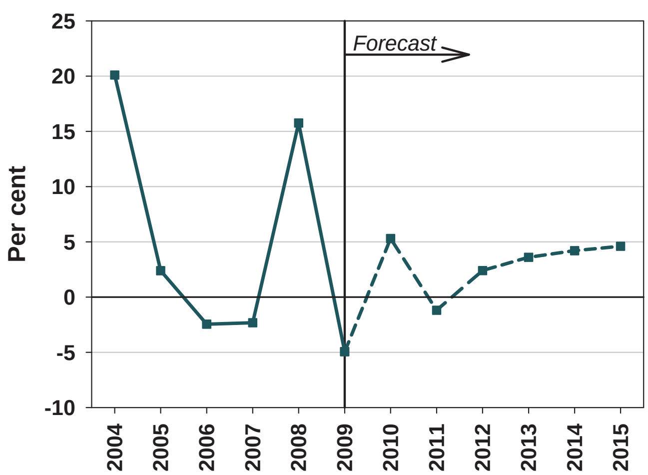


Source: Statistics Canada; Corporate Economics

Steel

Prices continue to increase in response to Chinese “panic buying”, on fears supply of iron ore will be insufficient in 2010. Other Asian markets have responded by utilizing greater volumes of scrap iron while the Chinese response has been to negotiate harder with suppliers of raw iron to little avail.[8] However, recent increases in prices appear to be entirely related to the depreciation of the U.S. dollar while global production returns to 2008 levels. The steel market is still a buyers’ market and producers are looking to their suppliers for price breaks. Likely coal producers will be particularly hard hit when their annual contracts are renegotiated starting in March. The outlook for steel prices is continued flat for 2010 with the only appreciation coming from devaluation of the U.S. dollar.

Iron and steel price inflation
(2004 - 2015, *per cent*)



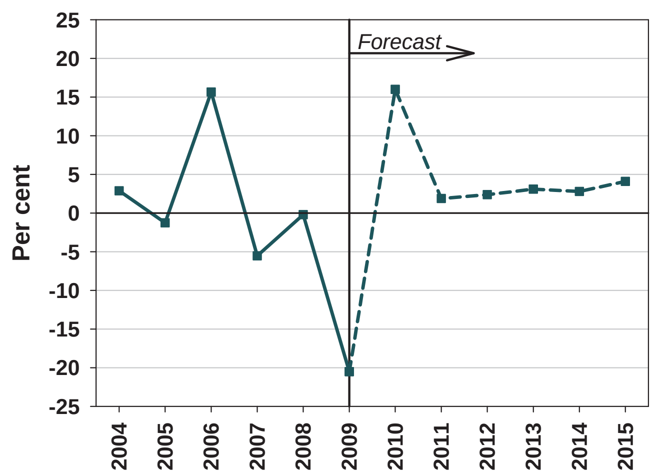
Source: Statistics Canada; Corporate Economics

8 http://www.amm.com/ (AMM Daily, March 24, 2010)

Aluminum

Global demand for aluminum has started to come back with the restarting of auto production in the U.S. as well as increased activity particularly in China. Still, many smelters remain off-line and are in discussions with electricity suppliers for lower prices so they can re-start at a profit. As expected[9], prices continue to hover around US$1/lb[10]. The outlook is unchanged with prices expected to firm somewhat late in 2010 and for the market to experience relatively stable prices over the next 5 years.

Aluminum price inflation
(2004 - 2015, *per cent*)



Source: Statistics Canada; Corporate Economics

9 Gerson Lehrman Group (August 2009), http://www.glgroup.com/News/Aluminum---Is-There-Light-at-the-End-of-this-Tunnel--42271.html

10 http://www.lme.com/aluminium.asp

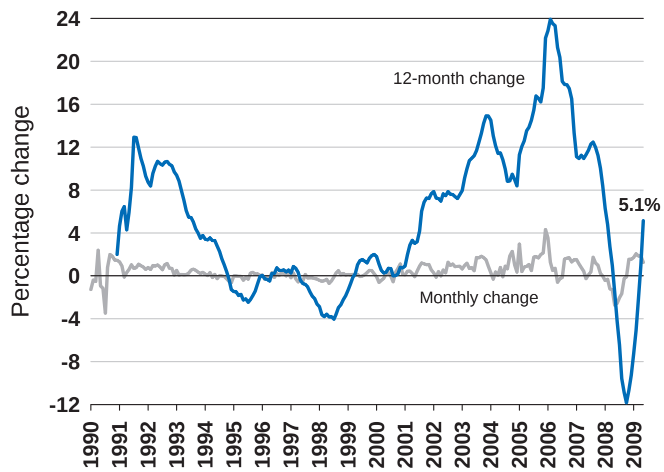
National Real Estate Market

Over the last two decades major real estate markets in Canada have experienced significant volatility, though each market has its own unique characteristics.

Vancouver started the 1990's off with a wave of foreign investors and immigrants looking for a new home as a result of Hong Kong reverting to Chinese rule in 1997. A long period of slight deflation followed as housing affordability issues forced young people to surrounding cities and other parts of the country. The Global expansion period of 2001-2008 strongly favoured the port city of Vancouver and house prices rose continuously at historically high annual rates. The decrease of international trade in 2008-2009 hit Vancouver's housing market swiftly and annual deflation of 12 per cent was recorded in 2008. The market has since recovered and has posted a 5.1 per cent increase in 2009. The strong link to the Chinese export/import market is Vancouver's strength and growth in the Chinese economy throughout 2009 has supported a robust housing market. Looking forward we anticipate all the market value losses of 2008 to be eliminated by the end of 2010 and for Vancouver to again be posting new all-time high prices.

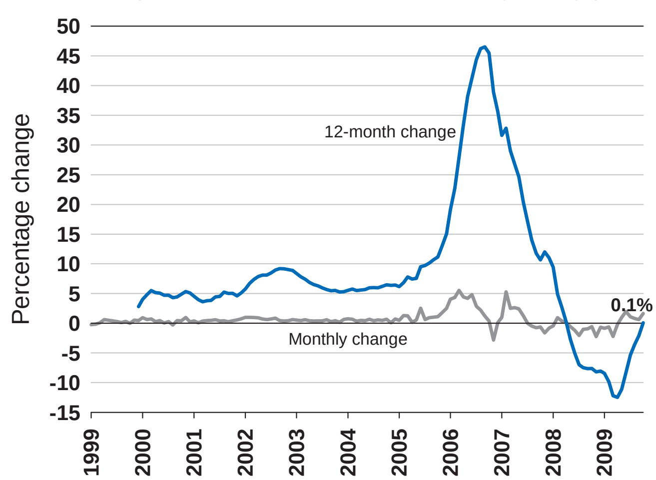
The Calgary housing market was severely depressed by the National Energy Program (NEP) of 1980. House prices plummeted in 1980 after the announcement of the NEP and uncertainty in Calgary's future resulted in Calgary seeing few housing investors until oil prices started to rise in the early 2000's. In 2006, with oil prices rising and strong investment in the Alberta tarsands, the world took notice of Calgary and saw that housing was significantly undervalued. 2006-2008 saw a dramatic re-balancing of house prices in Calgary to near normal levels. 2008-2009 brought lower energy prices and a correction of a small price overshoot which resulted in normal housing prices in Calgary at the start of 2010. The wild ride of recent years has left home owners wondering what's next, and has generated a horde of investors hoping and salivating

Vancouver
Monthly and 12-month percentage change
(August 1990 - December 2009, *Percentage change*)



Source: Teranet - National Bank House Price Index

Calgary
Monthly and 12-month percentage change
(March 1999 - December 2009, *Percentage change*)



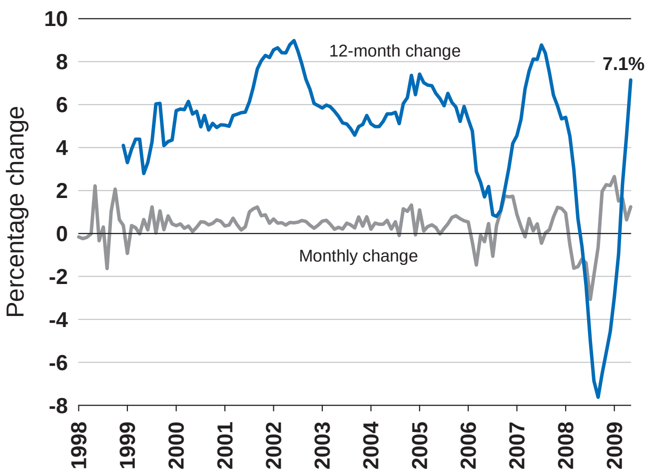
Source: Teranet - National Bank House Price Index

for another housing price appreciation. The outlook for Calgary is stable prices with a possibility of extreme upward volatility.

Toronto is the largest market in Canada and as such is a major drawing point for international immigration while it experiences the greatest problem with urban sprawl. The 401 Highway has become the lifeline of Toronto with people commuting from far away cities so that they can afford to own property. The lack of space in Toronto has resulted in consistent increases in existing housing prices of about 5 per cent per year from 1999-2006. In 2006 investors noticed Calgary and price increases in Toronto took a bit of a rest before profit taking in Calgary resulted in increased activity in Toronto in late 2007 to early 2008. The recession of 2008-2009 hit Toronto hard when car manufacturing plants closed and global financial markets operated with reduced activity. Late 2009 has seen an uptick in housing as a result of auto manufacturers returning to production and the losses of 2008-2009 have all but been erased. Soon existing housing in Toronto will return to its normal state of posting new all-time high prices every month.

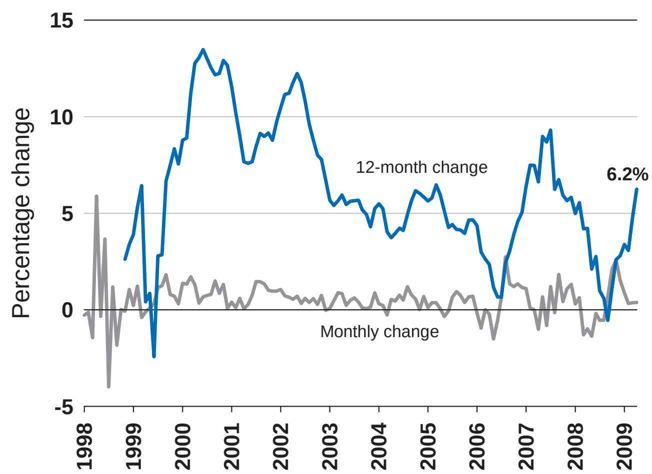
Ottawa is the hub of the federal government. After downsizing in the 1990's the federal government found itself understaffed for increased demands in the 2000's and increased hiring among the government, its agencies, commissions and crown corporations resulted in the third greatest increase in existing housing prices in recent Canadian history. Exceptional inflation was the norm for several years before tapering off in the late 2000's. Some profit taking from Calgary migrated to Ottawa as well in 2008 and the recession of 2009 saw 12 month average house prices take their first momentary dip into deflation in May 2009, a phenomenon Ottawa hadn't experienced for a decade. Since then Ottawa has continued to appreciate and as of the end of 2009 boasted the second highest annual existing housing price inflation. The federal budget of 2010 foreshadowed a return to the financial plan of the 1990's, namely a reduced federal public service, creating a bleak outlook for Ottawa house prices over the next 3 years.

Toronto
Monthly and 12-month percentage change
(August 1998 - December 2009, *Percentage change*)



Source: Teranet - National Bank House Price Index

Ottawa
Monthly and 12-month percentage change
(August 1998 - December 2009, *Percentage change*)

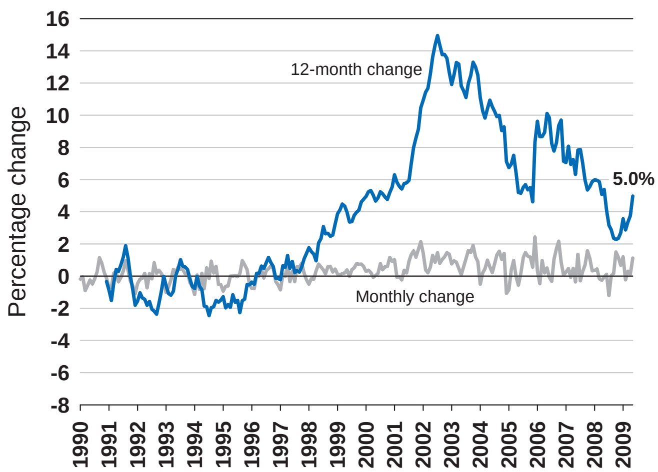


Source: Teranet - National Bank House Price Index

Montreal. The big City the recession forgot. Long economically depressed after several nationalist referenda and a corresponding flight out of the province, the Montreal economy finally started to improve in the early part of 2000. The 300 year anniversary of Montreal in 2002 brought international interest n the City and strong immigration of people who wanted to stay in Quebec instead of people who were forced to immigrate there by the federal government only to go somewhere else when they became free to do so. The federal government recently changed international immigration rules removing the most favoured destination status from Quebec and the Montreal housing market softened somewhat. Still, strong immigration has kept the city from experiencing much of the recession of 2009 and the outlook for Montreal is continued growth, though muted compared to the previous decade.

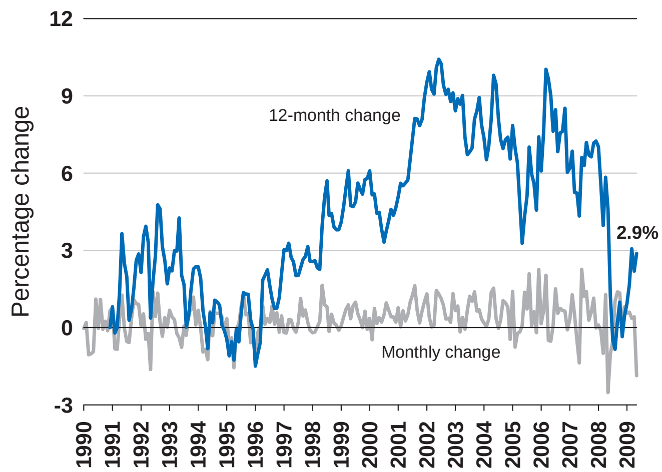
Long a place to be from and not a place to be, the largest population centre in Atlantic Canada suffered greatly from the demise of the fishing industry. Exploration and development of natural gas in the region during the 2000's as well as strong international trade and easy rail access to the rest of Canada restored the community to a thriving metropolis. The draw of available work, affordable housing and relative safety has encouraged many former Haligonians to return with their families, especially after profit-taking in Alberta's tarsands and housing markets across the country. Significant declines in international trade and depressed natural gas prices hit Halifax hard in 2009, but most of those who have returned are not in any rush to leave, after experiencing the world elsewhere. A recent community gentrification and housing redevelopment in the downtown area has further supported the process of welcoming a new generation. The outlook for the Halifax housing market is good moderate growth.

Montreal
Monthly and 12-month percentage change
(August 1990 - December 2009, *Percentage change*)



Source: Teranet - National Bank House Price Index

Halifax
Monthly and 12-month percentage change
(August 1990 - December 2009, *Percentage change*)



Source: Teranet - National Bank House Price Index

Economic Impact of Higher Natural Gas Prices

The following note provides an answer to the question: "What would have been the economic impact on the Calgary economy if natural gas prices were $1.00 per gigajoule (GJ) higher over the period 2004 - 2008?" By extension, the analysis shows the impact of $1.00/GJ reduction on the economy.

Methodology

- The economic effects of higher natural gas prices were estimated by using an economic model of the Calgary economy. The model was developed by the Centre for Spatial Economics. The model, through a modified input-output table, shows how various sectors of the Calgary economy are linked together. Consequently, the model is able to show how changes in total demand would affect individual industries and also the economy in general.

- The analysis assumes that natural gas prices are higher than they actually were for each year in the period 2004 – 2008. Specifically, prices were assumed to be higher by $1.00/GJ.

- The analysis used the shock minus control approach to estimate the effects of higher natural gas prices on the economy. The shock simulation represents the economy that would have existed if prices were $1.00/GJ higher. The control scenario represents the status-quo. The natural gas prices are the actual prices that were observed in each year of the study. The shock minus control calculation is the net effect of the two scenarios. The scenarios are similar in all respects, except for the assumptions regarding natural gas prices. The net result therefore shows the impact of prices changes on the economy.

Results

The results from the simulations are shown in the table below. The following are the highlights:

- Gross domestic product (GDP) under the shock scenario increased from $54,149 million in 2004 to $67,401 million in 2008. The GDP grew by 24.5 per cent over this period or by 4.9 per cent annually. The average level of GDP was $62, 105 million for this period.

- GDP under the control scenario increased from $53,517 million in 2004 to $65,504 million in 2008. The GDP increased by 22.4 per cent over this period, or by 4.5 per cent annually. The average level of GDP over the 2004–2008 period was $60,294 million.

- The net effect of $1.00/GJ price increase for natural gas was to increase GDP by $1.8 billion. This price increase caused GDP to grow by roughly 3 per cent above baseline. The results also show that higher natural gas prices cause the economy to experience faster growth than the baseline. In addition, A $1.00/GJ increase in natural gas prices cause provincial royalty revenues to increase by roughly $1.0 billion. Also, this price increase results in an increase in corporate profits of roughly $250 million.

- The final result should be of interest to The City of Calgary and other municipalities. Natural gas is a major revenue generator for the province and changes in its price would most likely result in changes in transfer payments to municipalities.

APPENDIX 2

Calgary GDP at Basic Prices $2002 (Millions)				
Year	**Shock**	**Control**	**Shock - Control**	**% Change**
2004	54,149	53,517	632	1.18
2005	57,213	55,454	1,759	3.17
2006	64,102	61,694	2,408	3.90
2007	67,662	65,302	2,360	3.61
2008	67,401	65,504	1,897	2.90

Calgary Consumer Expenditures $2002 (Millions)				
Year	**Shock**	**Control**	**Shock - Control**	**% Change**
2004	31,081	29,623	1,458	4.92
2005	33,817	29,612	4,205	14.20
2006	37,751	31,866	5,885	18.47
2007	40,029	33,895	6,134	18.10
2008	41,209	36,125	5,084	14.07

Calgary Total Employment (000 persons)				
Year	**Shock**	**Control**	**Shock - Control**	**% Change**
2004	627	619	8	1.29
2005	629	607	22	3.62
2006	683	653	30	4.59
2007	729	699	30	4.29
2008	752	727	25	3.44

Taxes to Provincial Government ($Millions)			
Year	**Royalties**	**Corporate Profits**	**Total**
2002	962	240	1,202
2003	936	234	1,170
2004	913	228	1,141
2005	1,016	254	1,270
2006	1,089	272	1,361
2007	1,115	279	1,394
2008	1,050	262	1,312
Average	1,012	253	1,264

Table 1 - Selected Economic Indicators

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

FORECAST COMPLETED: April 2010							BASE FORECAST					
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ASSUMPTIONS												
Global Economy												
World Gross Domestic Product (annual % change)	4.9	4.5	5.1	5.2	3.2	-1.0	3.6	4.3	4.4	4.6	4.5	3.3
The United States												
U.S. Real Gross Domestic Product growth (chained 2000 dollar) (%)	3.6	3.1	2.7	2.1	0.4	-2.4	3.0	2.9	3.3	2.9	2.6	2.6
Canada												
Real Canada Gross Domestic Product growth, (chained 2002 dollar) (%)	3.1	2.7	2.9	2.5	0.5	-2.6	3.1	3.1	3.1	2.6	2.3	2.3
Prime Business Loan Rate (%)	4.0	4.4	5.8	6.1	4.7	2.4	2.9	4.2	6.5	6.5	6.5	6.5
Exchange Rate (US$/Cdn$)	0.77	0.83	0.88	0.94	0.94	0.88	0.97	1.00	0.97	0.98	0.98	0.98
Alberta												
Gross Domestic Product (%)	5.3	4.5	6.2	2.5	0.0	-2.6	2.8	4.1	3.6	3.0	2.7	2.6
Total Employment Growth (%)	2.5	1.5	4.5	4.9	2.9	-1.0	1.2	2.8	2.2	2.3	1.9	1.2
Unemployment Rate (%)	4.6	4.0	3.5	3.5	3.5	6.3	6.9	6.3	5.9	5.1	4.1	3.72
Housing Starts ('000 Units)	36.3	40.9	49.0	48.3	29.2	18.7	25.7	29.2	27.2	24.4	27.0	31.1
Inflation Rate (%)	1.4	2.1	3.9	4.9	3.2	-0.1	1.7	2.0	1.3	1.3	1.3	1.3
Crude Oil Price - WTI (US$/bbl)	41.4	56.5	66.1	72.4	99.6	61.7	79.0	83.0	86.0	94.0	99.0	96.0
Alberta Power Pool Prices ($/MWh)	54.9	70.2	80.5	66.9	87.4	49.5						
Alberta Natural Gas Price - AECO/NIT ($/GJ)	6.2	8.3	6.2	6.1	7.7	3.8	4	4	5	5	5	5
FORECAST												
Calgary Economic Region (CER)												
Gross Domestic Product (%)	4.5	4.9	10.9	14.9	9.4	-2.5	2.5	4.0	3.6	3.2	2.8	2.5
Total population*	1,119	1,152	1,188	1,230	1,251	1,296	1,328	1,351	1,380	1,405	1,433	1,453
Total Employment ('000 Persons)	643	649	700	735	756	752	760	781	803	825	843	860
Total Employment Growth (%)	3.1	1.0	7.5	4.9	2.7	-0.5	1.1	2.8	2.8	2.7	2.2	0.6
Unemployment Rate (%)	5.0	3.9	3.4	3.2	3.3	6.3	7.0	6.0	5.5	4.5	4.0	3.5
Inflation Rate (%)	1.7	2.0	4.6	5.0	3.2	-0.1	1.5	2.0	2.5	3.0	3.0	2.5
Building Permits ($billion)	3.1	4.3	6.0	7.1	5.1	4.5						
Low Forecast							*4.0*	*4.1*	*4.3*	*3.6*	*3.9*	*3.9*
High Forecast							*5.8*	*6.1*	*6.3*	*6.0*	*6.0*	*6.0*
Housing Starts ('000 Units) CMA	14.0	13.7	17.0	13.5	11.4	6.3	9.8	11.3	11.0	11.0	9.6	9.4
Non-Residential Building Price Inflation (%) CMA	6.7	6.9	12.8	17.7	13.7	-7.8	0.0	2.5	3.5	7.0	2.9	1.5

Numbers may not add up due to rounding

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

Table 2 - Selected Indicators

City of Calgary

FORECAST COMPLETED: April 2010							BASE FORECAST					
	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Municipal price Index (as of June, 2009)					6.3	2.2	4.7	4.1	NA	NA	NA	NA
DEMOGRAPHY												
Total Population ('000 Persons)	933	956	992	1,020	1,043	1,065	1,093	1,113	1,139	1,160	1,184	1,202
Total Population Growth (%)	*1.2*	*2.4*	*3.7*	*2.9*	*2.2*	*2.2*	*2.6*	*1.9*	*2.3*	*1.9*	*2.1*	*1.5*
Net Migration ('000 Persons)	2.3	13.7	25.6	17.6	12.4	12.9	18.0	11.0	16.0	12.0	15.0	9.0
REAL ESTATE												
Residential Market												
Housing Starts ('000 units)	12.2	11.7	14.1	10.9	9.6	5.0	6.3	8.8	9.0	9.1	8.0	7.4
New House Price Inflation (%)	5.5	7.0	43.6	16.2	0.6	-6.7	5.0	6.5	4.1	4.2	4.8	3.9
Total Building Permits mid point ($billions)	2.4	3.6	4.9	5.6	4.0	3.7	3.9	3.6	3.8	3.8	3.1	3.2
Low Forecast							*3.2*	*2.8*	*3.0*	*2.9*	*2.2*	*2.3*
High Forecast							*4.6*	*4.4*	*4.6*	*4.7*	*4.0*	*4.1*

Numbers may not add up due to rounding

Table 3 - Selected Commodity Prices

City of Calgary												
FORECAST COMPLETED: April 2010							BASE FORECAST					
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
CONSTRUCTION COMMODITIES												
Iron and steel products	20.1	2.4	-2.5	-2.3	15.8	-4.9	5.3	-1.2	2.4	3.6	4.2	4.6
Aluminum products	2.9	-1.3	15.7	-5.5	-0.2	-20.5	16.0	1.9	2.4	3.1	2.8	4.1
Wood	1.0	-9.6	3.7	8.7	-3.5	-6.1	2.1	0.4	1.3	2.8	2.4	2.6
Asphalt**	-9.0	4.9	51.1	9.1	61.8	-24.5	-10.7	-13.2	-9.6	3.9	5.9	-1.5
OPERATIONAL COMMODITIES												
Rubber	22.0	3.9	29.9	2.0	13.0	-20.4	27.5	-13.8	2.4	3.9	3.0	2.2
Diesel oil	8.5	29.3	1.9	8.1	26.4	-31.1	11.4	5.0	2.9	4.7	3.6	2.6
Vehicle parts	3.5	3.2	3.5	7.9	4.6	5.3	0.9	0.2	3.4	2.1	4.1	3.6

Numbers may not add up due to rounding

** Based on Ontario Ministry of Transportation Asphalt Price Index

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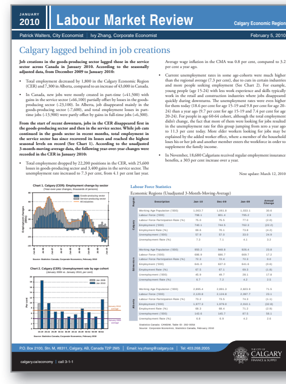

Commentary
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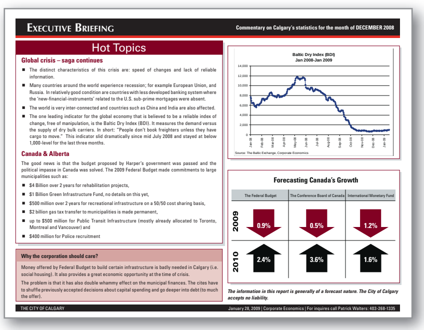

Quarterly
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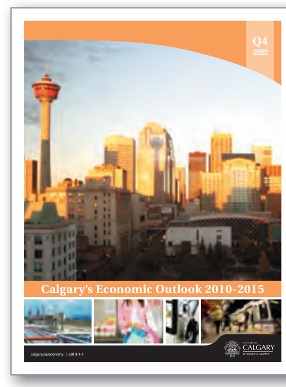

Who We Are

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.

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Sources: Statistics Canada, CMHC, CREB, MLS, Bank of Canada, THe Conference Board of Canada, GLJ Publications, The City of Calgary, and others.