BANK OF CANADA
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Monetary Policy Report

April 2007

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Canada's Inflation-Control Strategy*

Inflation control and the economy

- Inflation control is not an end in itself; it is the means whereby monetary policy contributes to solid economic performance.

- Low inflation allows the economy to function more effectively. This contributes to better economic growth over time and works to moderate cyclical fluctuations in output and employment.

The monetary policy instrument

- Announcements regarding the Bank's policy instrument—the target overnight interest rate—take place, under normal circumstances, on eight prespecified dates during the year.

- In setting a target for the overnight rate, the Bank of Canada influences short-term interest rates to achieve a rate of monetary expansion consistent with the inflation-control target. The transmission mechanism is complex and involves long and variable lags—the impact on inflation from changes in policy rates is usually spread over six to eight quarters.

The targets

- In February 1991, the federal government and the Bank of Canada jointly agreed on a series of targets for reducing total CPI inflation to the midpoint of a range of 1 to 3 per cent by the end of 1995. The inflation target has been extended a number of times. In November 2006, the agreement was renewed for a period of five years to the end of 2011. Under this agreement, the Bank will continue to conduct monetary policy aimed at keeping total CPI inflation at 2 per cent, with a control range of 1 to 3 per cent around the target.

Monitoring inflation

- In the short run, a good deal of movement in the CPI is caused by transitory fluctuations in the prices of such volatile components as fruit and gasoline, as well as by changes in indirect taxes. For this reason, the Bank uses a *core* measure of CPI inflation as an indicator of the underlying trend in inflation. This core measure excludes eight of the most volatile components of the CPI and adjusts the remaining components to remove the effect of changes in indirect taxes.

* See "Joint Statement of the Government of Canada and the Bank of Canada on the Renewal of the Inflation-Control Target." Press Release (23 November 2006) and Background Information. Reprinted in the *Bank of Canada Review* (Winter 2006–2007): 45–59.

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MONETARY POLICY REPORT

— April 2007 —

*This is a report of the Governing Council of the Bank of Canada:
David Dodge, Paul Jenkins, Sheryl Kennedy, Pierre Duguay,
David Longworth, and Tiff Macklem.*

By the early 1990s, the Bank decided to achieve price stability by directly targeting inflation. That inflation-targeting system worked so well that it has been renewed four times, most recently near the end of last year. This means that we will continue with our goal of holding inflation to 2 per cent . . . over the coming five years.

David Dodge

Governor, Bank of Canada
8 March 2007

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1. Overview

Growth in the Canadian economy has been essentially in line with the expectations set out in the Bank's January *Monetary Policy Report Update*. But inflation has been higher than expected because pressures on capacity over the past year have been stronger than previously judged, and the prices of food and gasoline have recently risen more than expected. After considering the full range of indicators, the Bank now judges that the Canadian economy was operating just above its production capacity in the first quarter of this year.

Robust domestic demand continues to support Canada's economic growth, and there has also been stronger-than-expected growth outside North America, which has led to rising demand for, and prices of, many commodities. However, the slowing U.S. economy has had a moderating effect on economic growth in Canada.

Over the projection horizon, domestic demand should remain robust, although not as strong as in recent years. With the U.S. slowdown now expected to be somewhat more prolonged than previously projected, net exports should exert a slightly greater drag on growth in 2007. All told, the Canadian economy is expected to expand at a rate slower than potential through 2007, and in line with potential through 2008 and 2009.

With the excess demand in the economy expected to disappear in the second half of this year, and with pressures on housing prices expected to continue to ease, core inflation is projected to decline to 2 per cent by the end of 2007 and remain there through the projection period. If energy prices evolve in line with those currently reflected in futures markets, total inflation should average just below 2 per cent in the second quarter of 2007 before moving above the 2 per cent target and peaking below 3 per cent near the end of 2007. Total inflation should then return to target by mid-2008.

The upside risk to the Bank's inflation projection is that the recent strength of inflation could be more persistent than projected. Pressures on capacity could be greater and more prolonged than currently judged. The strong growth in household credit and broad money continues to point to this upside risk. As well, the downward pressure on inflation from the prices of imported goods could diminish more quickly than expected, and global food and energy prices could put more upward pressure on inflation.

This report includes information received up to the fixed announcement date on 24 April 2007.

The downside risk to inflation continues to come from the possibility of a slowdown in the U.S. economy that is more pronounced than that already incorporated in the Bank's base-case projection.

The Bank continues to judge that the risks to its inflation projection are roughly balanced, although there is now a slight tilt to the upside.

The Bank left its key policy interest rate unchanged at 4.25 per cent on 6 March and 24 April. The current level of the target for the overnight rate is judged, at this time, to be consistent with achieving the inflation target over the medium term.

2. Recent Developments in Inflation

Inflation and the 2 per cent target

CPI inflation rose to 1.9 per cent in the first quarter of 2007 . . .

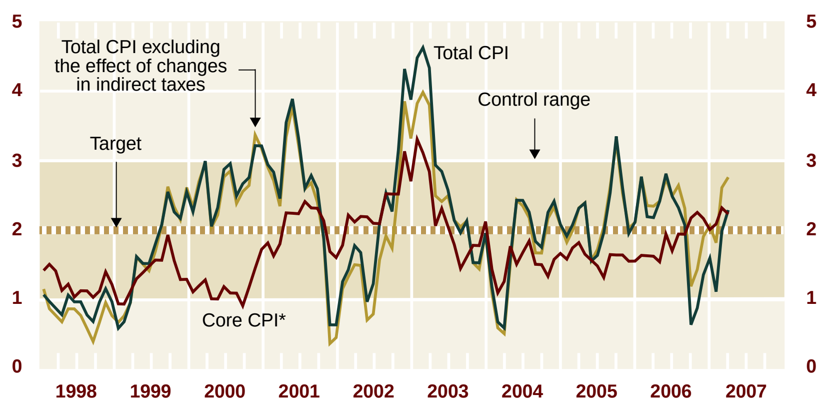
. . . which was higher than expected.

The year-over-year rate of increase in the total CPI has been higher than projected in the January *Update*, having risen from 1.3 per cent in the last quarter of 2006 to 1.9 per cent in the first quarter of 2007. If the effect of changes in indirect taxes is excluded, the rate of increase in the total CPI in the first quarter of 2007 was 2.4 per cent. The core rate of inflation increased to 2.3 per cent over the same period (Chart 1), also slightly higher than expected.[1]

The core rate of inflation has been moving up since the spring of 2006. Capacity pressures stemming from strong domestic demand have contributed to an increase in inflationary pressures, especially on the prices of components such as shelter services and, to a lesser extent, of services other than shelter.[2] As well, the downward pressure on the core rate coming from reduced prices for many import-

Chart 1 Consumer Price Index

Year-over-year percentage change



* CPI excluding eight of the most volatile components and the effect of changes in indirect taxes on the remaining components

1. The core measure of inflation excludes eight of the most volatile components of the CPI and removes the effect of changes in indirect taxes on the remaining components. The eight volatile components are fruit, vegetables, gasoline, fuel oil, natural gas, intercity transportation, tobacco, and mortgage-interest costs.

2. It should be emphasized that the effect of changes in indirect taxes is removed for the analysis of the changes in the components of the core CPI.

intensive goods (such as clothing and durable goods other than automobiles) has lessened somewhat.

In addition to higher-than-expected increases in the prices of several components of the core rate of inflation . . .

In the first quarter of 2007, the year-over-year rate of increase in housing prices eased slightly more than anticipated at the time of the January *Update*. However, this was more than offset by higher-than-expected increases in the prices of several other components of the core rate of inflation. In particular, the recent surge in the prices of grains and oilseeds, stemming partly from the persistent rise in the demand for biofuels, has contributed to higher core food prices. Prices of imported clothing, durable goods excluding autos, and of core services other than housing have also come in higher than anticipated.

. . . there have been unanticipated increases in the prices of more volatile components.

The higher-than-expected increase in total CPI inflation in the first quarter of 2007 reflected both the higher-than-projected core rate and increases in the prices of some of the more volatile components. Fruit and vegetable prices rose unexpectedly as a result of weather-related reductions in North American supplies. Gasoline prices were higher than projected, partly owing to temporary production disruptions at oil refineries, although the impact of higher prices for crude oil also played a role.

The underlying trend of inflation has been running slightly above 2 per cent.

Other measures of the trend rate of inflation that the Bank follows have also moved up above 2 per cent when the effect of changes in indirect taxes is excluded (Chart 2).[3]

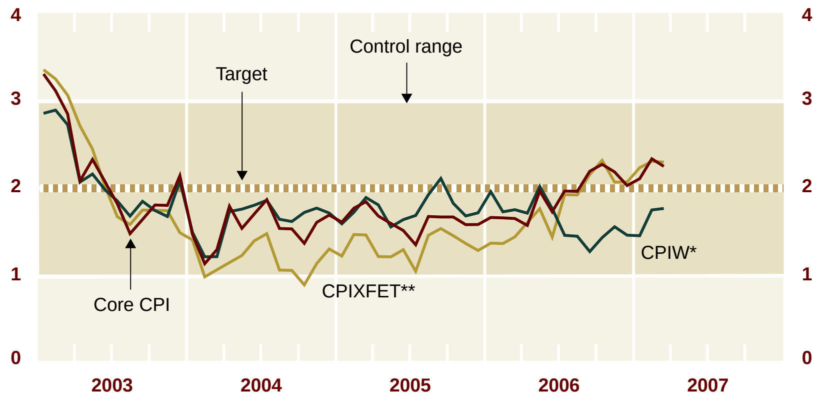
Key medium- and longer-term indicators of inflation expectations remain quite close to 2 per cent.

Key medium- and longer-term measures of inflation expectations continue to be close to 2 per cent. In the Bank's spring *Business Outlook Survey*, 88 per cent of firms expected CPI inflation to be within a range of 1 to 3 per cent, on average, over the next two years. Consistent with the temporary reduction in CPI inflation stemming from the cut in the GST, the average private sector forecast for total CPI inflation in 2007 was slightly below 2 per cent, while consensus forecasts of inflation over the longer term continued to be very close to 2 per cent.

3. Note that CPIW is affected by changes in the GST and other indirect taxes. Removing this effect would push the rate of change of CPIW above 2 per cent.

Chart 2 **Core CPI and Other Measures of the Trend Inflation Rate**

Year-over-year percentage change



* CPIW adjusts each CPI basket weight by a factor that is inversely proportional to the component's variability, but does not exclude the effect of changes in indirect taxes.
** CPIXFET excludes food, energy, and the effect of changes in indirect taxes.

Factors at work on inflation

Aggregate demand

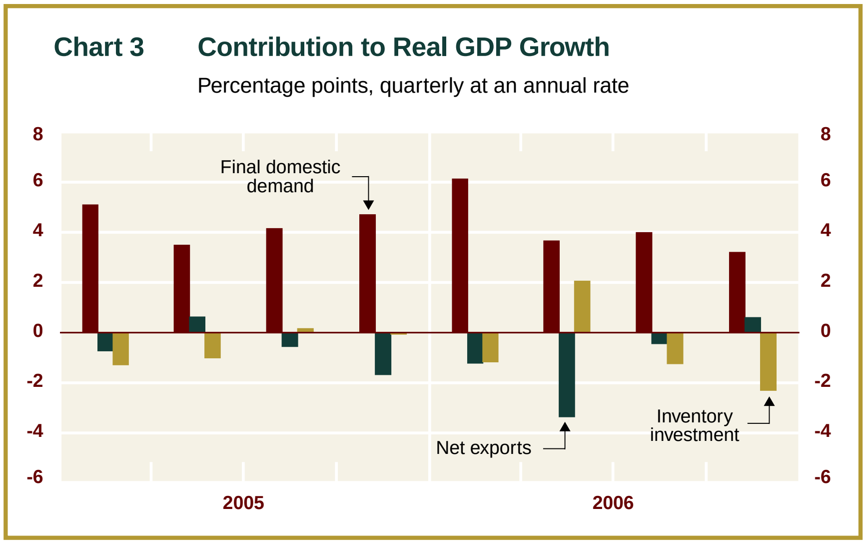
Real GDP growth in Canada slowed modestly in the second half of 2006, increasing by 2.0 per cent in the third quarter and by 1.4 per cent in the fourth quarter. The outcome for the fourth quarter was very close to the 1.5 per cent projected in the January *Update,*[4] with a decrease in inventory investment exerting a significant drag on growth (Chart 3). The inventory correction appears to have been largely completed by the end of 2006. Currently available information suggests that real GDP grew by about 2.5 per cent in the first quarter of 2007, close to the 2.4 per cent rate projected in the last *Update*.

As projected, growth in Canada's real GDP slowed further in the fourth quarter of 2006.

Although the growth of final domestic demand has slowed since the middle of 2006 from the very strong pace registered in the first half, it remained the chief driver of GDP growth. Further substantial increases in capital spending by businesses reflected relatively high overall profitability, earlier reductions in the prices of imported machinery and equipment, and continued favourable financing conditions. With solid employment growth, real personal disposable income continued to rise, as did household net

While final domestic demand has slowed somewhat since the middle of 2006, it remained the chief driver of GDP growth.

4. The level of real GDP was marginally higher than expected, owing to a small upward revision to growth in the third quarter.



worth and household credit, contributing to ongoing strength in consumer spending. In contrast, the growth of government spending on goods and services lessened appreciably. Residential construction decreased as expected.

Inventory investment in Canada's motor-vehicle-related industries decreased appreciably . . .

The U.S. economic slowdown has continued to affect Canada's economic growth. In particular, the weak level of motor vehicle sales in the United States contributed to significant production cuts in the Canadian auto industry. Consequently, inventory investment in motor-vehicle-related industries in Canada decreased sharply, especially in the fourth quarter of the year. As well, further large declines in residential investment in the United States resulted in reductions in Canadian exports of lumber and, to a lesser extent, other building materials. (See Technical Box 1.)

. . . while exports recovered in the second half of 2006.

Nevertheless, Canada's total exports recovered in the second half of 2006. Exports of machinery and equipment, metals and minerals, and agricultural and fish products all rose strongly after mid-2006. At the same time, after another strong gain in the third quarter of 2006, imports eased towards year-end and into this year, partly as a result of the reduced inventory investment by Canadian businesses.

Technical Box 1

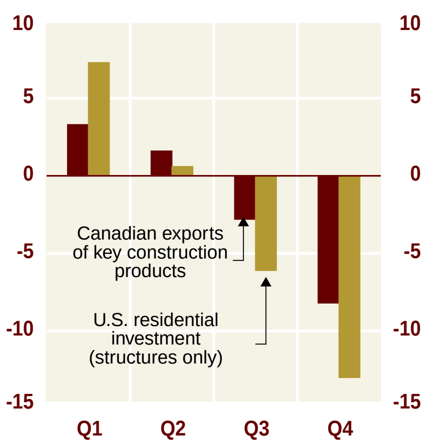
Developments in the U.S. Housing Market and Their Implications for Canada

After several years of rapid sales growth, large price increases, and rising construction, the U.S. housing sector began to contract in 2006. Sales of new and existing homes declined early in the year, causing a sharp increase in inventories of unsold homes. Builders consequently cut construction of new homes, leading to a 13 per cent decrease in real residential investment in new structures through the four quarters of 2006. Recent data on the U.S. housing sector point to a further contraction of real residential investment. The Bank's base-case projection calls for real residential investment to decrease by another 12 per cent during 2007, with much of the decline occurring in the first two quarters. In the first half of 2008, however, the inventory of unsold new homes is expected to return to its long-term average, and growth in residential construction is projected to resume thereafter.[1]

The decline in U.S. residential investment through 2006 had an important impact on Canadian exports, especially wood products, since construction materials used in the United States have a very high Canadian content relative to other goods. However, this impact could have been affected by changes in Canada's relative competitiveness, by price and inventory movements, and by sector-specific developments, such as the October 2006 softwood lumber agreement. Although these and other factors introduce a large degree of uncertainty, the Bank's analysis suggests that the projected decline of 12 per cent in U.S. residential investment in 2007 could lead to an additional drop in Canadian exports of construction-related products[2] of about 13 per cent on a year-over-year basis by the fourth quarter of 2007. This would translate into an adverse impact on Canadian real GDP of about -0.3 percentage points over the same period. If the downturn in U.S. housing was to significantly affect U.S. consumer spending, other types of exports would also be affected, and the negative impact on GDP would be larger.

Canadian Exports of Key Construction Products and U.S. Residential Investment in 2006

(Year-over-year percentage change)



Canadian Exports of Key Construction Products by 2006Q4

(Constant 1997 dollars)

	Year-over-year percentage change	Contribution to total growth of exports of key construction products (Percentage points)
Total	-8.2	
Wood	-17.2	-7.6
Other	-1.1	-0.6
Non-metallic minerals	-0.7	-0.1
Metals	-2.7	-0.6
Rubber and plastics	0.2	0.0

1. An additional factor affecting the U.S. housing market is the recent rise in the rate of delinquencies and defaults on subprime mortgages, which will bring more houses onto the market. While the macroeconomic impacts from these developments currently seem limited, there is a risk that lenders may respond by tightening overall mortgage lending, which could prolong the decline in the U.S. housing market.

2. The measure of Canadian exports of key construction-related products includes products that are heavily influenced by U.S. residential investment, but it also includes products that may be used in other sectors of the U.S. or global economy.

Aggregate supply

Growth in labour input has been higher than expected . . .

In recent years, most of the growth in output has come from increases in labour input (as indicated by hours worked), rather than from gains in labour productivity. For the 2004–06 period, annual growth in hours worked in the business sector averaged about 1.8 per cent, which was well above expectations. Most of this growth came from the expansion of the working-age population. In the fourth quarter of 2006, hours worked continued to increase solidly, with year-over-year growth of 1.8 per cent.

. . . while growth in labour productivity has been weaker than expected.

Annual growth in labour productivity in the business sector averaged about 1.2 per cent for the 2004–06 period, down from 2.3 per cent over the 1996–2000 period. One factor contributing to the slowdown in productivity growth could be the large amount of structural adjustment under way in the Canadian economy in the face of rising global competition and stronger demand for commodities, which has pushed up commodity prices and the trade-weighted value of the Canadian dollar. In particular, labour and capital have been moving towards commodity production and the non-tradable goods and services sectors. It is reasonable to expect that labour and capital could be somewhat less productive during the transition period. Also, higher commodity prices encourage the production of resources that are more difficult and costly to extract, dampening productivity in those sectors.

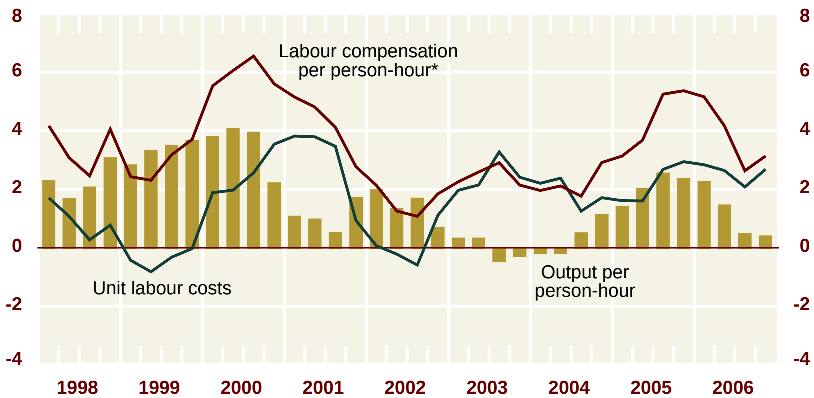
Productivity growth was particularly slow in the second half of 2006, with measured productivity in the fourth quarter up only 0.4 per cent from a year earlier (Chart 4). In addition to the factors noted above, some of this weakness would also appear to be cyclical in nature, reflecting the inventory correction and more general weakness in the manufacturing sector. As well, productivity in the services sector continues to be below expectations. All told, especially given the recent strength in investment, the extent of the weakness in overall productivity remains somewhat puzzling.

Growth in potential output over the 2004–06 period is now estimated to have averaged 2.6 per cent.

The Bank estimates potential output over history by breaking out movements in labour supply and labour productivity into their trend and cyclical components. Using its conventional measure, the Bank currently estimates that average growth in potential output over the 2004–06 period was 2.6 per cent. This is somewhat lower than the 2.8 per cent to 3 per cent that had been assumed in projections of potential output growth over that period. This slower pace of growth in potential output over the past several years largely reflects the weakness in the growth of actual labour productivity, which has more than offset higher-than-expected growth in labour input.

Chart 4 Unit Labour Costs and Labour Productivity: Business Sector

Year-over-year percentage change



* Labour compensation includes the labour income of paid workers, plus imputed labour income for self-employed workers.
Source: Statistics Canada *Daily*

Estimated pressures on capacity

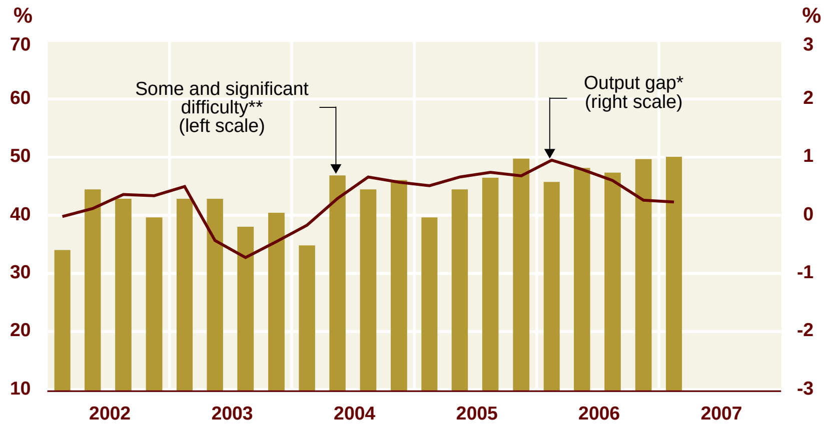
Some indicators suggest that the economy has been operating in slight excess demand . . .

Several indicators of capacity pressures continue to suggest that the economy has been operating in slight excess demand. In the spring *Business Outlook Survey* from the Bank's regional offices, the percentage of firms reporting that they would have difficulty in meeting an unanticipated increase in demand remained above average (Chart 5). The employment-to-population ratio in March 2007 was at its highest level in 31 years, and the unemployment rate in both February and March was at a 31-year low. The Bank's conventional measure of the output gap, which is subject to a substantial degree of uncertainty, indicates that the economy was operating about 0.2 per cent above its production potential in the first quarter of 2007 (Chart 5), slightly higher than was expected in the January *Update*.[5]

The fact that the core rate of inflation has averaged slightly above 2 per cent since September 2006 is also consistent with an economy operating slightly above its production capacity.

5. This change is due to the slight downward revision in the conventional measure of production capacity over history, such that the estimated level in the fourth quarter of 2006 is about 0.1 per cent lower than the previous estimate. As discussed in the previous section, this downward revision in the estimated level of production capacity reflects the sustained weakness in actual labour productivity growth, which has not been fully offset by the observed strength in labour input.

Chart 5 Estimated Output Gap and Response to *Business Outlook Survey* Question on Capacity Pressures



* Difference between actual output and estimated potential output. Note that the estimate for the first quarter of 2007 is based on a projected rise in output of 2.5 per cent (at annual rates) for the quarter.
** Percentage of firms indicating that they would have either some or significant difficulty meeting an unanticipated increase in demand/sales

. . . while others point to an economy either in balance or in slight excess supply.

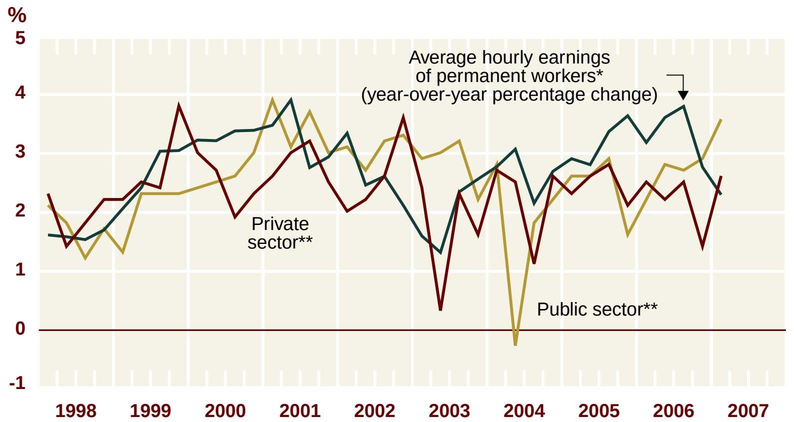
In contrast, other indicators suggest that the economy may be either in balance or even in slight excess supply. The percentage of firms reporting labour shortages in the Bank's spring survey, while up slightly from the previous survey, was still only about average on a historical basis. Statistics Canada's measure of capacity utilization in the non-farm, goods-producing sector suggested below-average pressure on production capacity by the fourth quarter of 2006.

The underlying trend increase in aggregate wages (based on the 12-month change in average hourly earnings of permanent workers reported by Statistics Canada in the Labour Force Survey) has fallen to between 2 1/4 per cent and 3 per cent since the third quarter of 2006 (Chart 6). The year-to-year rise in another wage indicator—hourly labour compensation from Statistics Canada's Productivity Accounts—decreased to just over 3 per cent in the fourth quarter of 2006 (Chart 4).[6]

6. The marked reduction in the average annual wage increase in the unionized private sector in the fourth quarter of 2006 resulted chiefly from low settlements negotiated in the retail sector.

Chart 6 Wage Settlements and Average Hourly Earnings

Effective annual increase in base wage rates for newly negotiated settlements



* Source: Statistics Canada *Labour Force Information*

** Source: Human Resources Development Canada, last data point plotted is the average of January and February 2007

Given the very low gains in productivity, unit labour costs in the fourth quarter of 2006 were up 2.7 per cent from their level a year earlier. With recent compensation increases ranging between 2 1/4 per cent and 3 per cent and with trend productivity growth estimated at about 1 per cent in 2006, underlying increases in unit labour costs seem to have been lower, at just under 2 per cent.

After reviewing all the indicators of capacity pressures, it is the Governing Council's judgment that, overall, the economy was operating just above its production capacity in the first quarter of 2007.

The Governing Council judges that the economy was operating just above its production capacity in the first quarter of 2007.

Commodity and output prices and the terms of trade

Canada's terms of trade decreased further in the second half of 2006, owing to somewhat lower prices for energy commodities after the middle of the year (Chart 7). Consequently, the four-quarter change in the chain price index for GDP (a broad price measure of the goods and services produced in Canada) eased from 3.0 per cent in the second quarter of 2006 to 0.5 per cent in the fourth quarter (Chart 8). This contributed to further moderation in the annual increase in nominal GDP, which rose by only 2.8 per cent in the year ending in the fourth quarter of 2006.

Chart 7 **Terms of Trade**

The price of exports relative to the price of imports (1997 = 100)

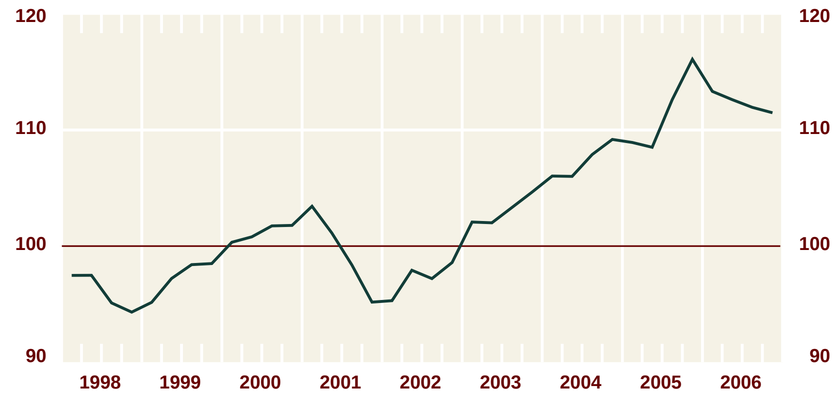
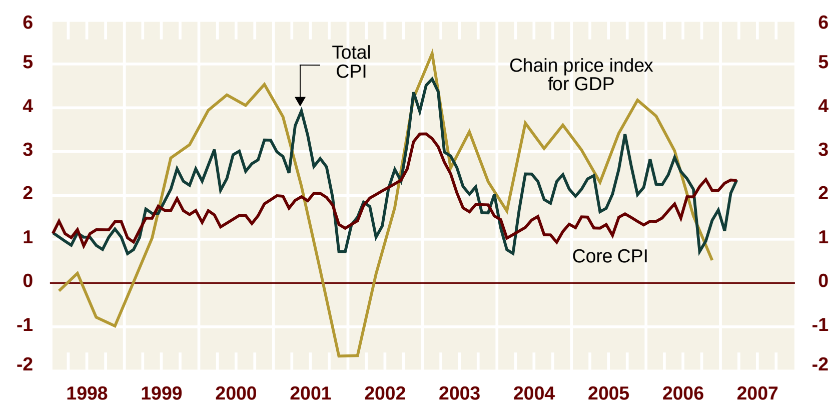


Chart 8 **Chain Price Index for GDP, Core CPI, and Total CPI**

Year-over-year percentage change



The prices of non-energy commodities have continued to rise since mid-January . . .

Growth in global demand for commodities continues to be underpinned by the strong global economy, particularly in the emerging-market economies led by China and India. Combined with delays in several major projects intended to expand supplies, this has led to further increases in the world prices of many non-energy commodities since the January *Update* (Chart 9).

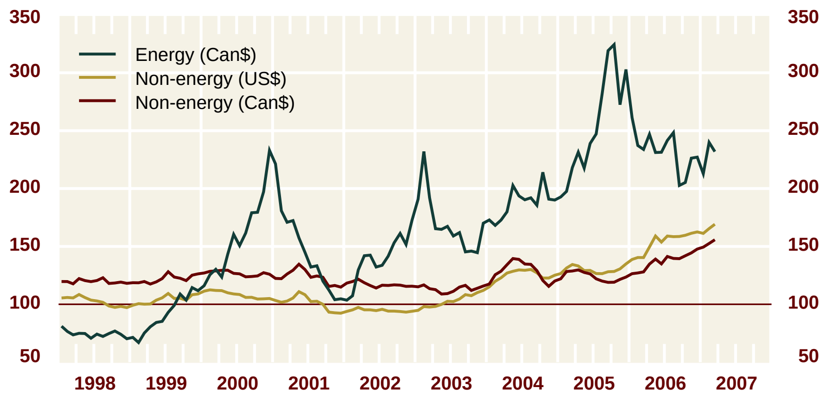
. . . as has the price of crude oil.

The price of light crude oil (West Texas Intermediate), which was about US$53 per barrel at the time of the January *Update*, averaged US$63 in the ten days ending on 20 April 2007. This increase was chiefly caused by strengthening North American demand with the return of normal winter weather conditions, as well as by somewhat greater geopolitical uncertainties. Natural gas prices are also up a little relative to January.

This recent improvement in most commodity prices should lead to a recovery in Canada's terms of trade in early 2007 and, thus, to somewhat stronger growth in nominal GDP. This strengthened rate of nominal income growth should, in turn, help to increase the growth of corporate profits and government tax revenues in the near term.

Chart 9 Bank of Canada Commodity Price Index

1982–90 = 100



3. Financial Developments

The global economy continues to be characterized by high levels of desired savings relative to desired investment. This has contributed to a financial environment that exhibits low levels of long-term interest rates and strong investor appetite for risk, reflected in the low level of risky spreads. Moreover, equity markets and debt issuance around the world have been buoyant. In February and March, volatility and risk premiums rose in many markets from historically low levels, but have since largely returned to those low levels. The main exception is the U.S. subprime mortgage market, where some difficulties persist and further deterioration is possible.

Policy interest rates and exchange rates

In Canada, financial market expectations are for no change in the policy rate in 2007.

Policy rates in both Canada and the United States have remained unchanged since the middle of 2006 (Chart 10). Short-term interest rates in the United States reflect expectations of a modest decline in the federal funds rate in the second half of 2007. In Canada, market expectations derived from short-term interest rates imply no change in the policy rate in 2007.

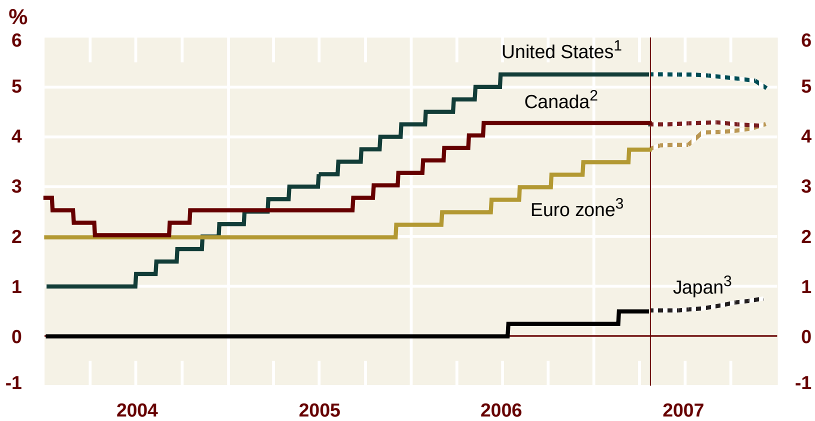
Responding to the sustained strength of their economies, several central banks, including the Bank of England, the European Central Bank, and the Bank of Japan, have continued to raise their policy rates since the beginning of the year. Financial markets expect a further tightening of monetary policy in these countries over the remainder of 2007 and into early 2008.

The recent strength of the Canadian dollar reflects a number of developments.

Through the first quarter of 2007, the Canadian dollar traded in the range of about 84.5 to 87.5 cents U.S. assumed in the projection presented in the January *Update* (Chart 11). However, since early April, the Canadian dollar has moved above this range as a result of several developments, including the rise in commodity prices and relatively stronger economic data in Canada than in the United States.

Chart 10 Official Policy Rates and Forward Interest Rates*

Daily

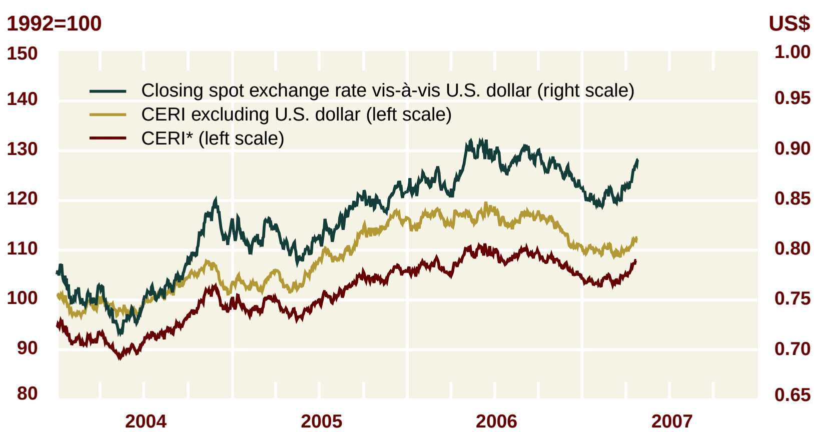


* Solid lines are official interest rates, and dotted lines are forward overnight interest rates. No adjustments are made for term premiums.

1. U.S. forward overnight rates based on federal funds futures prices
2. Canadian forward overnight rates based on yields on bankers' acceptances (BAs) and three-month futures for bankers' acceptances (BAX)
3. Euro and Japanese overnight rates based on the implied forward rate derived from the respective overnight index swap markets

Chart 11 Canadian Dollar Exchange Rate

Wednesdays



* CERI: U.S. dollar, euro, yen, U.K. pound, Mexican peso, and Chinese renminbi

Credit conditions and other financial developments

Corporate profitability in Canada remains robust. Balance sheets in the Canadian non-financial business sector continue to improve, buoyed by rising profit margins. Profits have also been very strong in the financial sector since the October *Report*.

Business borrowing conditions remain accommodative.

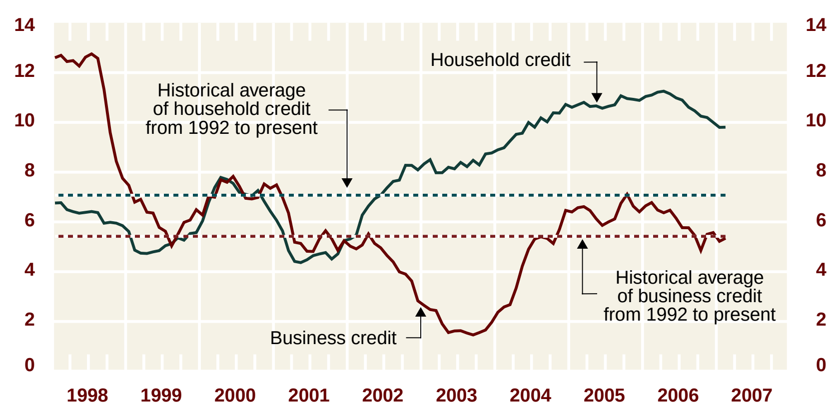
Against this backdrop, credit conditions for businesses remain accommodative (Chart 12). Despite high corporate profits, which have dampened the demand for credit, business borrowing since the January *Update* has expanded at a rate close to its historical average, partly reflecting increased demand for short-term financing related to mergers and acquisitions, as well as robust capital spending. The healthy outlook for the global economy should help to sustain the strong profitability of Canadian businesses. To the extent that credit spreads remain low, firms should continue to have ready access to funding for investment.

Healthy household balance sheets and rising house prices are enabling households to borrow to help support spending.

Household credit continues to expand at a rate well above its historical average (Chart 12). This has been partly due to borrowing against home equity. Rising house prices have improved the net worth of households and have facilitated cheaper access to borrowed funds. Total new borrowing against home equity has tripled in volume since 2001 (Technical Box 2) and has contributed to the strength of household spending over this period. Since the January *Update*, the growth in housing prices has moderated somewhat, but past increases have allowed household borrowing to remain robust.

Chart 12 Business and Household Credit

Year-over-year percentage change



Technical Box 2

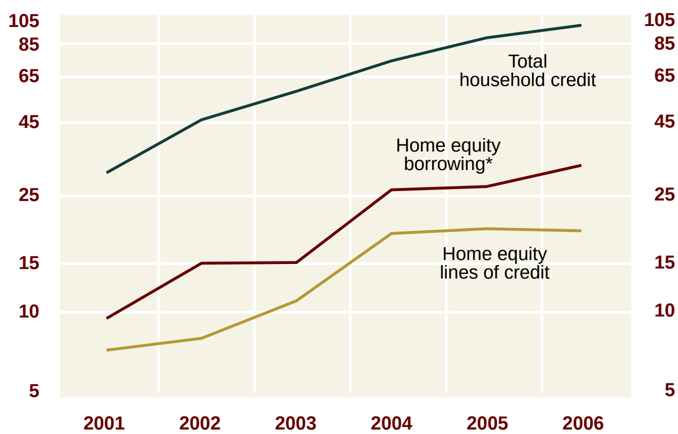
Total Home Equity Borrowing in Canada

Homeowners can take advantage of increases in housing equity by raising the amount of their borrowing against home equity. This occurs through two main channels: borrowing through a home equity line of credit or increasing the amount of the original mortgage (mortgage refinancing).

There is no single source of information on total home equity borrowing in Canada. It is therefore necessary to derive this series from several sources. Estimates by Bank staff of home equity lines of credit, which include lending by both chartered banks and non-bank financial institutions, are based on Bank of Canada credit data and information from a household survey undertaken by Ipsos Reid market research. Estimates of mortgage refinancing are calculated using survey data from Altus Clayton consulting services.

Changes in Household Credit

$ billions (logarithmic scale)



* Home equity borrowing is the total of home equity lines of credit and mortgage refinancing.

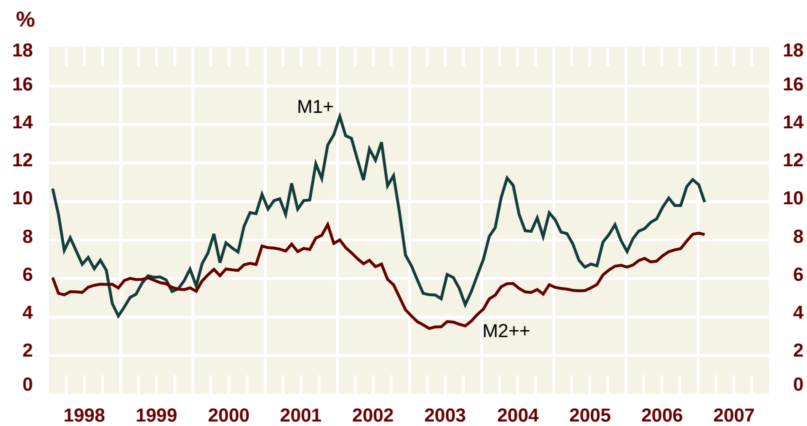
Despite higher indebtedness, households remain in sound financial health, with a relatively low debt-service ratio for the sector as a whole and only a small proportion of financially vulnerable households.[7] Healthy household balance sheets, together with favourable employment conditions and ready access to borrowed funds, suggest that robust credit growth should continue to support household spending.

Growth in the monetary aggregates remains high.

Since January, the growth rate of the monetary aggregates has remained high (Chart 13). The growth of broad money (M2++) is consistent with a core rate of inflation slightly above 2 per cent at the end of 2007 and into early 2008. At the same time, the break-even inflation rate implicit in the spread between nominal and Real Return government bonds has moved up slightly. Liquidity and technical factors, however, make this spread difficult to interpret.

Chart 13 Growth of M1+ and M2++

Year-over-year percentage change



Note: M1+ and M2++ have been adjusted to remove the effect of clone funds.

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7. See "An Analysis of the Financial Position of the Household Sector Using Microdata" by Faruqui, Lai, and Traclet in the Bank of Canada's *Financial System Review* (December 2006): 14–17.

4. The Outlook

Demographic developments will reduce the future growth of potential output in the major economies.

This section describes the Bank's outlook for the global and Canadian economies through to the end of 2009. The base-case projection has been developed assuming a slow and orderly resolution of global imbalances, predicated on further supportive policy actions to rebalance global demand and a gradual real effective depreciation of the U.S. dollar. Energy prices are assumed to evolve in line with current futures prices, and the Canadian dollar is assumed to trade within the range of 86.5 to 89.5 cents U.S., evident since early April. With the projection horizon extended to 2009, demographic effects related to an aging workforce begin to modestly reduce the assumption for the growth of potential output, not only in Canada, but for many industrialized countries.[8] The section concludes with a discussion of the risks to the base-case projection.

International background

Economic momentum remains strong in the major overseas economies . . .

Since the January *Update*, global economic growth has been slightly stronger than expected, with slower growth in U.S. real GDP more than offset by stronger-than-expected growth outside North America. As global capacity becomes fully absorbed and monetary policy tightens, this vigorous expansion is projected to moderate gradually from 5.3 per cent in 2006, to 4.8 per cent in 2007 and 2008, and to 4.6 per cent in 2009 (Table 1). This growth projection is slightly higher than that presented in the October *Report* and the January *Update*.

Growth in Japan and the major European economies is expected to remain solid over the projection period, with more growth coming from domestic consumption and investment demand, rather than from net exports. The outlook for growth in emerging-market countries over the same period also remains very strong, particularly for China and India.

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8. The negative impact of aging populations on labour supply growth is projected to occur over different periods and to varying degrees among the advanced economies. For example, with the oldest U.S. baby boomers becoming eligible for pension benefits in 2008, the contribution of labour to potential growth is expected to diminish over coming years. Shifts in the working-age population are also expected to reduce potential growth rates in the major overseas economies, although this may be partly offset by gains in labour productivity from capital deepening and from the adoption of more efficient technologies. See Technical Box 3 for a discussion of the impact of demographics on trend labour input in Canada.

. . . but the U.S. slowdown is expected to be more prolonged than previously projected.

The slowdown in the U.S. economy in 2007 is expected to be more prolonged than projected in the January *Update.* As a result, U.S. GDP growth is expected to slow to 2.1 per cent in 2007, before picking up to 2.8 per cent in 2008 and to 3.1 per cent in 2009. The downward revision in 2007 (from 2.5 per cent in the January *Update* to 2.1 per cent) largely reflects a more prolonged downturn in residential investment and weaker business investment. The growth rate of U.S. potential output is now expected to slow from about 3 per cent over recent years to slightly below 3 per cent over the 2007–09 period.

Table 1 Global Growth Projection

	Share of real global GDP[a] (per cent)	Expected growth (per cent) and percentage point contribution to economic growth[b]			
		2006	Projection		
			2007	2008	2009
United States	20	3.3 [0.66]	2.1 [0.42]	2.8 [0.56]	3.1 [0.62]
European Union	19	2.8 [0.52]	2.3 [0.42]	2.2 [0.40]	2.2 [0.40]
Japan	6	2.2 [0.14]	2.3 [0.15]	1.9 [0.12]	1.8 [0.12]
China and Asian NIEs[c]	19	9.7 [1.82]	9.0 [1.68]	8.6 [1.60]	8.2 [1.53]
Others	36	6.0 [2.17]	5.9 [2.15]	5.7 [2.07]	5.3 [1.92]
World	100	5.3	4.8	4.8	4.6

a. GDP shares are based on the purchasing-power-parity (PPP) valuation of country GDPs for 2005. Source: IMF, WEO Database, April 2006

b. Numbers in square brackets represent the contribution of each region to the global economic growth rate in percentage points.

c. NIEs are newly industrialized economies. These include Hong Kong (Special Administrative Region), South Korea, Taiwan (Province of China), and Singapore.

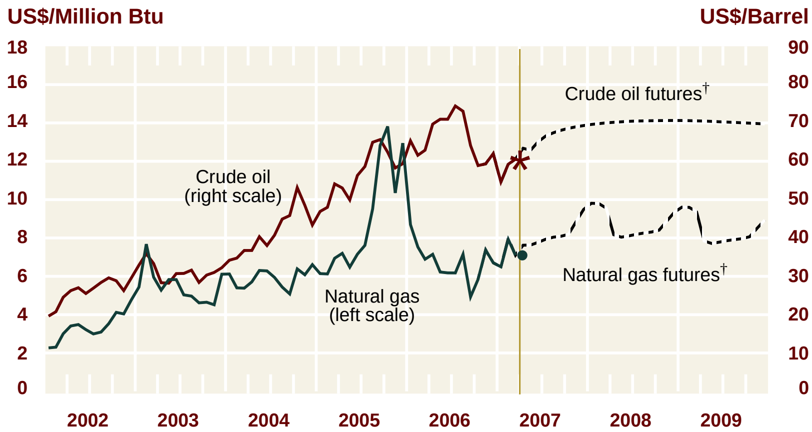
Source: Bank of Canada

With the slowing of U.S. GDP growth to well below potential growth since the middle of 2006, some excess supply has started to emerge in the U.S. economy. Thus, core inflation should gradually fall, although less quickly than previously expected. As inventory adjustments in the manufacturing sector are completed and the drag from weak residential and business investment dissipates, U.S. GDP growth is expected to recover to close to potential growth by the end of 2007.

Over the projection horizon, growth in U.S. household consumption is expected to moderate, as savings return to a more sustainable level. The depreciation of the U.S. dollar in real effective terms since 2002, as well as a further expected depreciation of about 8 per cent over the projection horizon, should continue to

Chart 14 Crude Oil and Natural Gas: Spot and Futures Prices

Monthly



* Spot price for crude oil (20 April 2007)

• Spot price for natural gas (20 April 2007)

† Based on an average of futures contracts over the ten days ending 20 April 2007

stimulate U.S. net exports.[9] Strong foreign demand should further support U.S. exports, contributing to a gradual reduction in the U.S. current account deficit.

Prices of energy futures are higher than in January.

Futures prices for crude oil and natural gas over the projection period are higher than those in the January *Update* (Chart 14). They indicate that crude oil prices will move up from their current level of about US$63 per barrel to US$70 per barrel by early 2008 and then stay there for the remainder of next year and through 2009.

Non-energy commodity prices should stay relatively high before declining modestly.

The price index for non-energy commodities is high and is expected to remain higher than projected in January, before declining gradually over the projection period. In particular, while strong global demand is boosting metals prices, these prices are expected to decrease slowly as increases in global capacity come online. Lumber prices are likely to ease over the remainder of this year, given the projected weakness of U.S. housing activity. On the other hand, prices for grains and oilseeds are anticipated to remain strong for some time as a result of the surging demand for biofuels.

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9. In its April 2006 *Monetary Policy Report*, the Bank assumed a real effective depreciation of the U.S. dollar over the 2007–08 period of 7 per cent. Since then, the U.S. dollar has depreciated by about 3 per cent. The Bank's outlook for the U.S. economy now extends through to the end of 2009.

Aggregate demand and supply in Canada

Final domestic demand is expected to be the primary engine of growth in Canada.

In Canada, final domestic demand is expected to continue to be the primary engine of growth over the projection period, growing at a robust, though more moderate, pace than in 2005 and 2006 (Table 2).

Table 2 Contributions to Average Annual Real GDP Growth
Percentage points*

	2006	2007	2008	2009
Consumption	2.2	1.8 (1.7)	1.6 (1.7)	1.7
Housing	0.2	-0.1 (-0.1)	-0.1 (-0.1)	0
Government	0.8	0.6 (0.7)	0.7 (0.7)	0.6
Business fixed investment	1.1	0.7 (0.7)	0.5 (0.5)	0.4
Subtotal: Final domestic demand	4.3	3.0 (3.0)	2.7 (2.8)	2.7
Exports	0.5	0.4 (0.5)	1.3 (1.1)	1.0
Imports	-1.7	-1.3 (-1.3)	-1.3 (-1.1)	-1.0
Subtotal: Net exports	-1.2	-0.9 (-0.8)	0 (0)	0
Inventories	-0.4	0.1 (0.1)	0 (0)	0
GDP	2.7	2.2 (2.3)	2.7 (2.8)	2.7

* Figures in parentheses are from the base-case scenario in the January *Monetary Policy Report Update*.

Consumer spending is expected to grow solidly over the projection period, reflecting further gains in real disposable income and increases in household net worth. Housing investment, after reaching a very high level last year, is projected to decline slightly in 2007 and 2008 and then to steady out in 2009.

Gains in business investment are expected to remain strong in 2007 and 2008, with growth averaging just over 5 per cent. Factors contributing to higher investment spending this year and next include near-term pressures on production capacity, expectations of relatively strong global economic growth and high levels for most commodity prices, ongoing supportive financial conditions, and generally strong profit levels with solid balance sheets. However, capital spending in the oil and gas industry is expected to ease somewhat in the near term, owing to a weaker outlook for gas drilling. In 2009, overall growth in investment is projected to ease as a result of the anticipated moderation in global economic growth and lower prices for non-energy commodities.

In the base-case projection, it is assumed that the government sector will run balanced budgets throughout the projection period, and that the real growth of government spending on goods and services will decelerate to average just under 3 per cent through 2009.

Net exports are expected to continue to exert a drag on growth through 2007.

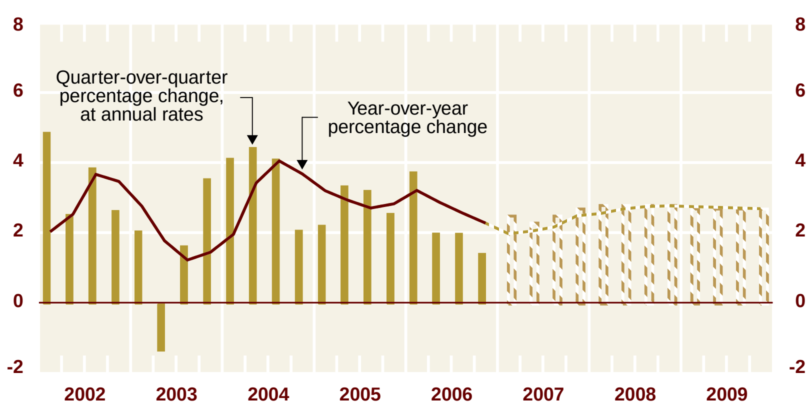
As growth in U.S. domestic demand slows through mid-2007, Canadian exports are expected to ease slightly in the first half of 2007. But with the projected subsequent strengthening of U.S. growth, Canada's exports should pick up over the remainder of the projection period. In contrast, further substantial increases in investment in machinery and equipment should contribute to continued strong growth in imports throughout 2007 and 2008. Hence, net exports are projected to exert a slightly greater drag on overall growth in 2007 than projected in the January *Update*, with this drag diminishing over the course of the year.

GDP growth in Canada is projected to be 2.2 per cent in 2007 and 2.7 per cent in both 2008 and 2009.

In the Bank's base-case projection, economic growth increases through 2007, with quarterly growth averaging just below 2 1/2 per cent in the first half of the year and just above 2 1/2 per cent in the second half (Chart 15). This implies average annual growth for 2007 of 2.2 per cent, slightly lower than in the January *Update*, largely reflecting the impact of the weaker U.S. economic outlook on Canadian export growth. For 2008 and 2009, GDP growth is projected at 2.7 per cent.

In the base-case scenario for Canada, the assumption for potential output growth in both 2007 and 2008 remains unchanged at 2.8 per cent.[10] For 2009, growth of the labour supply is assumed

Chart 15 Real Gross Domestic Product for Canada*



* The broken line and bars indicate the base-case projection.

10. This continues to reflect an assumed rate of trend labour productivity growth of 1 1/2 per cent and trend growth in labour input of 1 1/4 per cent.

to ease slightly by 0.1 per cent from 1 1/4 per cent in 2007 and 2008, implying potential growth of about 2.7 per cent. This 0.1 percentage point reduction in potential growth in 2009 reflects the Governing Council's judgment regarding the impact on the labour force of increased retirements as the first members of the baby-boom generation enter their early sixties. (See Technical Box 3.)[11]

With these growth profiles for GDP and potential growth, the economy would move back to its production capacity in the second half of 2007 and stay there for the remainder of the projection period. In this base-case projection, it is chiefly the recent slowdown and subsequent pickup of the U.S. economy that bring aggregate supply and demand in Canada back into balance and keep them there.

The outlook for inflation

Core inflation is expected to return to 2 per cent by the end of 2007.

The Bank's projection is that core inflation will remain above 2 per cent in the coming months, but return to 2 per cent by the end of 2007 and stay there for the rest of the projection period (Table 3). With medium- and longer-term expectations of inflation well anchored, the inflation projection largely reflects the combined influence of the balance between aggregate demand and supply, and relative price developments. Excess demand through late 2006 and into 2007, combined with the projected momentum in core food prices, is expected to keep core inflation above 2 per cent in the near term. But two factors are expected to bring core inflation back to 2 per cent, despite a projected lessening of the downward pressure from import prices. First, the upward pressure coming from the economy operating slightly above its potential output is expected to dissipate, since excess demand is projected to be eliminated in the second half of 2007. Second, the significant contribution to inflation coming from housing price increases is expected to continue to decline.

Total CPI inflation is expected to return to 2 per cent by mid-2008 and remain there over the rest of the projection period.

The projected path for the 12-month rate of increase in the total CPI reflects both the slightly higher projected track for core inflation in 2007 and expectations for energy prices, as well as changes in indirect taxes. Total CPI inflation is expected to be 1.9 per cent in the second quarter of 2007. With the direct effect of the GST cut ending in July 2007, upward-sloping futures curves for crude oil and natural gas prices and marked year-over-year

11. Technical Box 3 describes model-based estimates and projections of trend labour input growth. These estimates, together with judgments regarding the implications of various factors that are not captured by the estimated model, informed the Governing Council's assumptions regarding the growth of trend labour supply.

increases in gasoline prices, total CPI inflation is projected to move up in the second half of 2007, peaking in the fourth quarter of 2007 at about 2.8 per cent.[12] Thereafter, total CPI inflation is expected to decline, returning to the 2 per cent target by mid-2008 and staying there for the remainder of the projection period.

This inflation projection is consistent with an unchanged target for the overnight interest rate, largely because the impact of the current slowdown in U.S. GDP growth on the Canadian economy is sufficient to bring total demand for goods and services in Canada back into line with supply.

Table 3 Summary of the Base-Case Projection*

	2006	2007			2008	2009
	Q4	Q1	Q2	H2		
Real GDP (quarterly growth or average quarterly growth at annual rates)**	**1.4** *(1.5)*	**2.5** *(2.4)*	**2.3** *(2.6)*	**2.6** *(2.8)*	**2.8** *(2.9)*	**2.7**
Real GDP (year-over-year percentage change)	**2.3** *(2.3)*	**2.0** *(1.9)*	**2.1** *(2.1)*	**2.4** *(2.5)*	**2.7** *(2.8)*	**2.7**
Core inflation (year-over-year percentage change)	**2.2** *(2.2)*	**2.3** *(2.1)*	**2.2** *(2.0)*	**2.1** *(2.0)*	**2.0** *(2.0)*	**2.0**
Total CPI (year-over-year percentage change)	**1.3** *(1.3)*	**1.9** *(1.2)*	**1.9** *(1.0)*	**2.6** *(1.7)*	**2.1** *(2.0)*	**2.0**
Total CPI (excluding the effect of changes in indirect taxes) (year-over-year percentage change)	**1.8** *(1.8)*	**2.4** *(1.7)*	**2.4** *(1.5)*	**2.6** *(1.7)*	**2.1** *(2.0)*	**2.0**
WTI *** (level)	**60** *(60)*	**58** *(56)*	**64** *(58)*	**68** *(61)*	**70** *(63)*	**70**

* Figures in parentheses are from the January *Monetary Policy Report Update*.
** For half and full years, the number reported is the average of the respective quarter-to-quarter percentage growth at annual rates.
*** Assumption for the price of West Texas Intermediate crude oil (US$ per barrel), based on an average of futures contracts over the two weeks ending 20 April 2007

12. The year-over-year rate of increase in gasoline prices is expected to spike up in the last quarter of 2007, owing partly to base-year effects related to a temporary easing in gasoline prices in 2006.

Technical Box 3

Estimates of Trend Labour Input

Over the next two years, the leading edge of the baby boom cohort—those born between 1946 and 1964—will reach 62 years of age, the average age of retirement in Canada. This development will put downward pressure on the growth of labour supply and, hence, on that of potential output over the coming decades.

Since 1980, growth in labour input has accounted for just over half of real GDP growth.[1] Most of this rise in labour input growth can be attributed to an increase in the working-age population and to the strong increase in the labour force participation of women. These two factors have been partially offset by a declining trend in average hours worked.

Bank staff have estimated the trend in labour input over the next decade by combining Statistics Canada projections of the working-age population with models of the average length of the workweek and the labour force employment rate. Statistics Canada projects that growth in the working-age population will begin declining in 2007 and will continue to decline over the next decade because of the cumulative impact of past decreases in the national fertility rate (Chart A).[2] Bank modelling projects average hours worked to remain relatively stable over the next decade. Using a cohort-based model,[3] Bank staff estimate that the aggregate trend employment rate began to fall in 2006, owing to the increased share in the workforce of individuals 62 and over whose average employment rates are lower than those of younger workers (Chart B). This analysis also suggests that the recent increase in the employment rates of women aged 55 and over is mainly a structural phenomenon that will likely continue in the years to come. This should help moderate the drop in the aggregate employment rate.

Accordingly, the model-based estimate of trend labour input growth falls from 1.5 per cent over the 2004–06 period to 1.1 per cent over the 2007–09 period and to 0.6 per cent over the 2013–15 period.

Several factors that could help to offset some of the estimated decline in the employment rate are not accounted for in the model. As the labour pool shrinks, employers and governments may take further measures to reduce or eliminate barriers to continued labour force participation beyond the conventional retirement age. Continued improvements in health and life expectancy, together with the changing nature of work towards jobs that are less physically demanding, might raise the employment rates of older workers. If couples are making joint retirement decisions, the projected increase in the employment rates of older women might have a positive spillover effect on the employment rates of older men (although this effect could also work in the other direction). Finally, the projected reduction in the labour supply might increase the real wage, creating an incentive for more young workers to enter the labour market and for older workers to delay their retirement. For these and other reasons, some judgment is applied to the model-based estimates in coming to a balanced view of trend labour supply growth going forward.

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1. Real output growth can be divided into labour productivity growth and labour input growth. The latter can be decomposed further into growth of the working-age population, the change in the labour force employment rate, and the change in the average length of the workweek. The labour force employment rate is defined as the number of people employed divided by the labour force. Trend labour input is driven by the trend in labour supply.
2. The medium scenario from Statistics Canada's population projections is used to project the size and composition of the working-age population. For more details on the assumptions underlying the population projection, see Statistics Canada (2005), *Population Projections for Canada, Provinces and Territories*.
3. The trend employment rate is projected using a birth-cohort-specific model that captures movements in labour demand, age effects, wealth effects, the impact of the E.I. system, and a birth-cohort effect for females. A more detailed description will be provided in an upcoming *Bank of Canada Review* article.

Technical Box 3 (continued)

Components of Model-Based Trend Canadian Labour Input Growth

	Model-based trend rate of labour input growth	Statistics Canada's projection for the working-age population	Model-based trend employment rate	Model-based trend average hours worked
1998–00	1.6	1.2	61.1	34.3
2001–03	1.9	1.4	62.2	34.2
2004–06	1.5	1.4	62.7	34.1
2007–09	1.1	1.2	62.5	34.1
2010–12	0.9	1.0	62.3	34.1
2013–15	0.6	0.9	61.8	34.1

Chart A

Contribution to Trend Labour Input Growth

Year-over-year percentage change

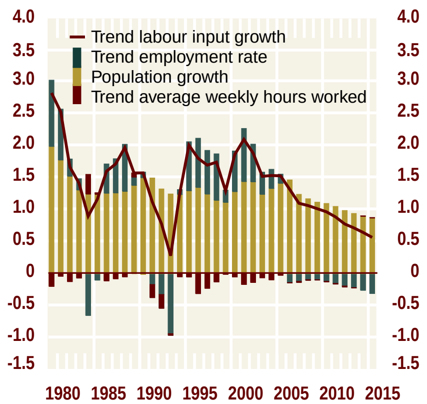
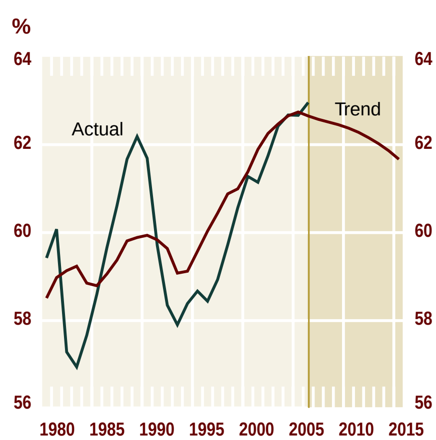


Chart B

The Actual and Trend Canadian Employment Rate



Risks to the outlook

There are both upside and downside risks to the Bank's base-case outlook for inflation.

The upside risk relates to the persistence of the recent increase in inflation.

The upside risk is that the recent strength in inflation could prove to be more persistent than is envisaged in the base-case projection. Pressures on capacity may be greater than judged and may be more persistent than projected. The observed strength in household credit growth and broad money growth in Canada continues to point to this upside risk. There is also a risk of greater international price pressures. The downward pressure on the core inflation rate from decreases in the prices of internationally traded manufactured goods could diminish more quickly than projected, especially if global growth continues to come in stronger than expected. Global food and energy prices could also boost inflation more than projected in the base case.

The downside risk continues to be lower-than-expected growth in the U.S. economy.

The downside risk to the outlook for Canadian growth and inflation continues to be that growth in the U.S. economy could be lower than expected. This arises from the possibility of an even more pronounced slowdown in residential and business investment in the United States, which could spill over into weaker consumption growth. Weaker growth in domestic demand in the United States would further reduce demand for Canadian exports and would lower inflation relative to the base-case projection.

The risks to the inflation projection are roughly balanced, with a slight tilt to the upside.

The Bank continues to judge that the risks to its inflation projection are roughly balanced, although there is now a slight tilt to the upside.

Finally, from a longer-term perspective, there remains a small probability of a disorderly resolution of global imbalances. While the improving balance in the global distribution of domestic demand will be helpful in supporting necessary adjustment, further policy actions are required internationally to facilitate an orderly resolution of global imbalances.

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