BANK OF CANADA

Monetary Policy Report

October 2006

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 announced 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. That inflation-control target range was extended a number of times, most recently in May 2001, in this last case to the end of 2006. Monetary policy aims to keep future inflation at the 2 per cent target midpoint of this range, both to maximize the likelihood that inflation stays within the target range and to increase the predictability of inflation over the longer term (Crawford 2001).

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 focuses on a *core* measure of CPI inflation that excludes eight of the most volatile components of the CPI and adjusts the remaining components to remove the effect of changes in indirect taxes. Core inflation also tends to be a better predictor of underlying inflationary pressures than the latest twelve-month rate of increase in the total CPI (Macklem 2001; Armour and Laflèche 2006).

Bank of Canada
234 Wellington Street
Ottawa, Ontario
K1A 0G9

5315
CN ISSN 1201-8783

Printed in Canada on recycled paper

BANK OF CANADA

MONETARY POLICY REPORT

— October 2006 —

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

It is important to remember that when it comes to setting monetary policy, the Bank always tries to develop a complete picture of the economy. We do not react unduly to any individual piece of information. Rather, we put all the pieces together to get to the underlying trends in the economy.

David Dodge

Governor, Bank of Canada
21 June 2006

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1. Overview

The Canadian economy continues to operate just above its full production capacity, and the near-term outlook for core inflation has moved slightly higher. However, with the U.S. economy slowing more quickly than expected, the base-case projection for Canadian economic growth has been revised down slightly from that in the July *Monetary Policy Report Update*. Lower energy prices have led to a downward revision of the projection for total consumer price inflation. They have also contributed to moving the Canadian dollar into a somewhat lower trading range.

Although domestic demand in Canada has continued to grow at a robust pace, GDP growth in the second and third quarters of 2006 has been slower than expected, largely because of weaker net exports. A weaker near-term outlook for the U.S. economy has curbed the near-term prospects for Canadian exports and growth. As well, the Bank has lowered its assumption for potential growth to 2.8 per cent for the 2006–08 period, given recent developments in labour productivity. As a result of these factors, the Bank's base-case projection for Canadian GDP growth has been lowered to 2.8 per cent this year and 2.5 per cent in 2007. But with the U.S. economy projected to recover by the end of 2007, growth should pick up to 2.8 per cent in 2008. Such a profile implies that the small amount of excess demand now in the economy will be eliminated by the second half of 2007 and that the economy will then remain roughly in balance through to the end of the projection period.

With the economy currently in slight excess demand and with strong momentum in housing prices, core inflation is expected to move slightly above 2 per cent in the coming months. As the economy returns to potential and pressures from housing prices ease, core inflation should return to 2 per cent by the middle of 2007 and stay there through to the end of 2008.

Total CPI inflation will continue to be affected by the cut in the Goods and Services Tax (GST) and by developments in energy markets. Based on prices embedded in markets for energy futures, total inflation will likely average about 1 1/2 per cent through to the second quarter of 2007, before returning to the 2 per cent target and remaining there through to the end of the projection period.

The Bank of Canada left the target for the overnight rate unchanged at 4.25 per cent on 6 September and 17 October. The

This report includes information received up to the fixed announcement date on 17 October 2006.

current level of the policy rate is judged, at this time, to be consistent with achieving the inflation target over the medium term.

As noted in the press release of 6 September, the risks around the base-case projection are judged to be a little greater than at the time of the July *Update*. The main upside risk relates to the momentum in household spending and housing prices. The main downside risk is that the U.S. economy could slow more sharply than expected, leading to lower Canadian exports. The Bank judges that the upside and downside risks to its inflation projection are roughly balanced.

The correction of global imbalances is unfolding in a benign, albeit slow, manner. However, in the absence of further appropriate policy actions, there remains a possibility of a disorderly resolution of these imbalances. Consequently, the balance of risks for global and Canadian growth is tilted slightly to the downside late in the projection period.

2. Recent Developments in Inflation

CPI inflation fell to 2.1 per cent in August from 2.8 per cent in May . . .

The 12-month rate of increase in the total CPI fell to 2.1 per cent in August from 2.8 per cent in May. This drop largely reflected the impact on consumer prices of the GST reduction in July 2006, as well as lower year-to-year increases in energy prices at the consumer level. If the effect of changes in indirect taxes is excluded, the rate of increase in the total CPI was 2.6 per cent in August.[1] The core rate of inflation, which also removes the effects of changes in indirect taxes, moved up to 2.0 per cent in July and August, after remaining at about 1.7 per cent over the first four months of this year.[2]

Inflation and the 2 per cent target

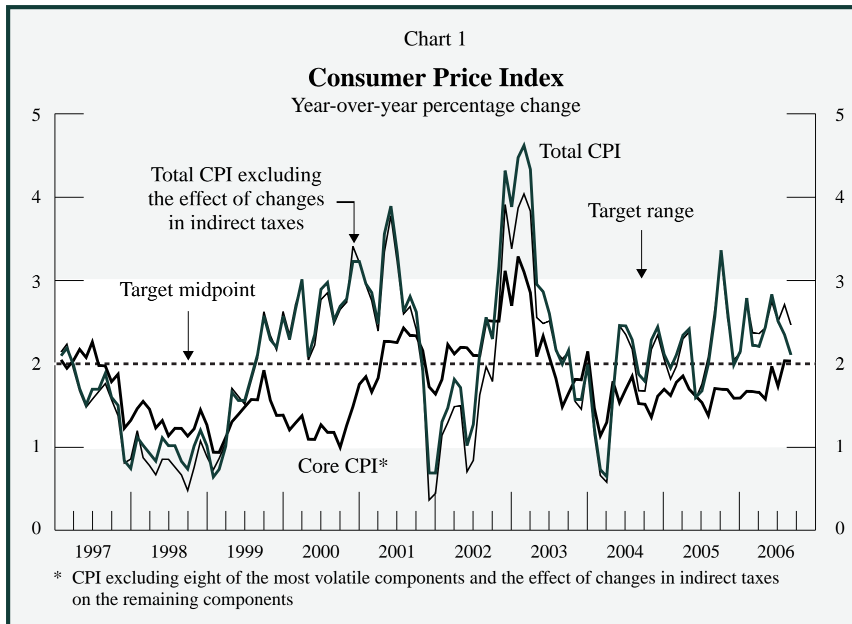
. . . but the August inflation rate was somewhat higher than expected.

While the rate of increase for the total CPI moved down close to the 2 per cent inflation target in August (Chart 1), it was somewhat higher than projected in the July *Update*. There was an upward surprise in the price of gasoline. As well, prices in the housing and service sectors increased at a slightly higher rate than

Chart 1

Consumer Price Index

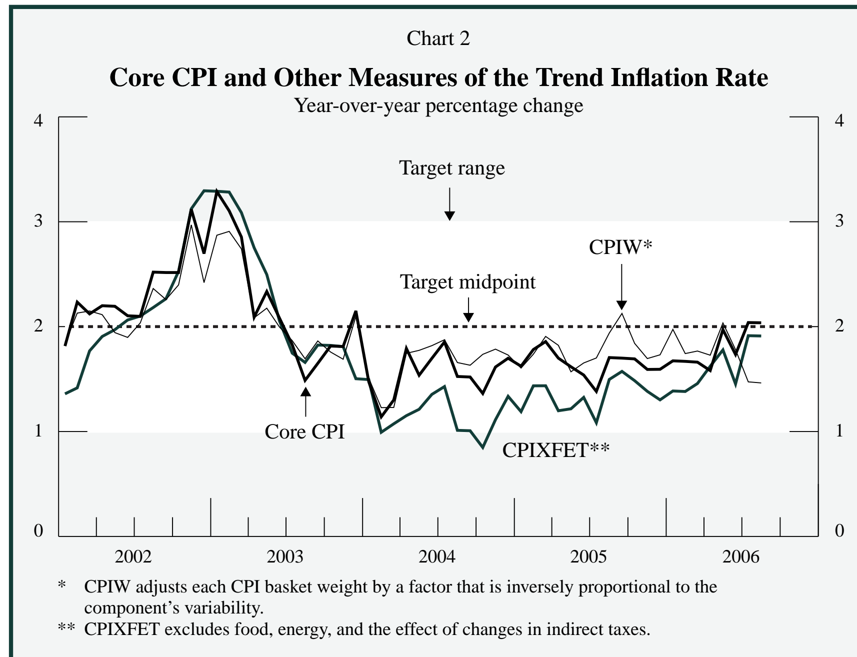
Year-over-year percentage change



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

1. The combined direct effect of the 1-percentage-point GST reduction and small increases in other indirect taxes is now estimated to be a decrease of 0.5 per cent in the total CPI in July and August 2006. The magnitude of the decrease arising from the effect of changes in indirect taxes is slightly smaller than the previous estimate of 0.6 per cent, mainly because of increases in federal excise taxes on tobacco products and alcoholic beverages.

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



expected. For instance, homeowners' replacement costs (an important component of core prices for shelter) have risen at a faster pace this year as a result of considerably higher prices for new housing, particularly in Alberta. Prices for other services have also increased at a slightly faster rate, mainly because of a modest rebound in automobile insurance premiums. Partially offsetting these upward pressures has been the decrease in the prices of many import-intensive goods, which reflects the effects of further declines in the world prices of many manufactured goods and the past appreciation of the Canadian dollar.

Core inflation moved up to 2 per cent in July and August.

The core rate of inflation moved up to 2.0 per cent in July—earlier than expected—and remained there in August. Other measures of the trend rate of inflation that the Bank monitors have also tended to edge up close to 2 per cent, if the effects of changes in indirect taxes are excluded (Chart 2).[3] These increases in trend inflation measures are consistent with the Bank's view that the economy has recently been operating just above its production capacity.

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3. It should be noted that CPIW, one of the trend inflation measures shown in Chart 2, is affected by changes in the GST and other indirect taxes.

Factors at work on inflation

Aggregate demand

Canadian real GDP, after growing at an annual rate of 3.6 per cent in the first quarter of 2006, rose by only 2.0 per cent in the second quarter, less than the 3.2 per cent projected in the July *Update*. Currently available information suggests that real GDP grew by about 2 per cent in the third quarter of 2006. This is also less than previously anticipated and reflects evidence suggesting considerably weaker inventory accumulation by businesses than in the second quarter.

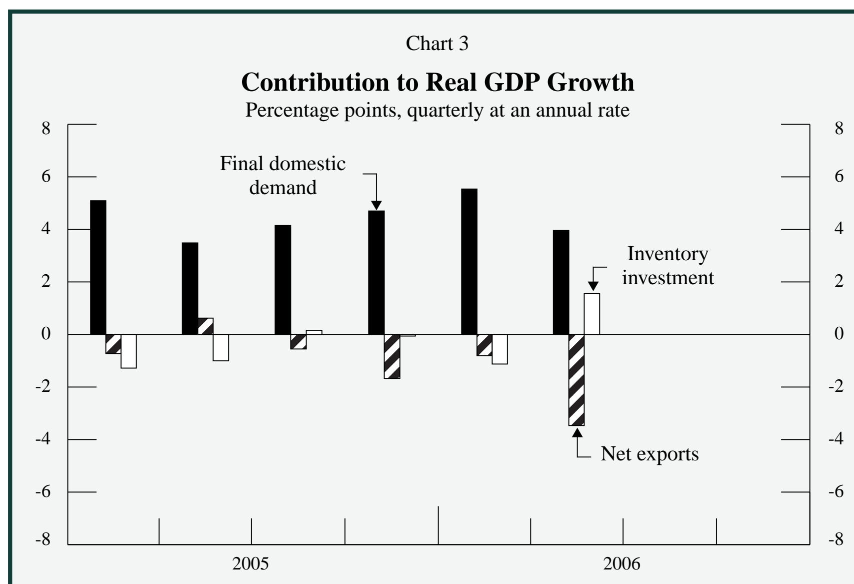
Real GDP growth was weaker than expected in the second quarter.

Final domestic demand continued to be the major contributor to GDP growth in the first half of 2006, while net exports decreased over the period (Chart 3). Strong overall profitability and capacity pressures in a number of industries, combined with ongoing reductions in the prices of imported machinery and equipment and favourable financing conditions, supported marked increases in capital spending by businesses. With further substantial increases in real personal disposable income and household net worth (partly reflecting a considerable rise in housing prices), the growth of household expenditures was also quite robust over this period, picking up from the pace seen in the second half of 2005.

There were strong gains in final domestic demand in the first half of 2006 . . .

Despite ongoing strength in the global economy, there was a broad-based decline in Canada's exports in the first half of 2006, which appears to be related to several factors (Technical Box 1). Exports of automotive products returned to more normal levels after being unusually high towards the end of 2005. Exports of

. . . but exports fell back, despite ongoing strength in the global economy.



Technical Box 1

Interpreting the Recent Behaviour of Exports

After experiencing vigorous growth during the second half of 2005, exports of Canadian goods and services fell in the first half of this year. This pattern is not well explained by standard macro export equations used by the Bank. Rather, it appears to be more related to specific factors, particularly developments in the automotive sector.

The expansion of the U.S. economy has been a positive factor for Canadian exports over the past several years, while the appreciation of the Canadian dollar has had a dampening effect. According to an estimated error-correction model,[1] the negative impact of the exchange rate moderated somewhat during the first half of 2006, and thus does not explain the slowdown in exports. Indeed, the model underpredicted growth during the second half of 2005, while overestimating it more recently. Thus, many of the recent movements in exports seem to be attributable to shocks that are not captured by this model.

An examination of the sectoral composition of exports suggests that developments in the automotive sector can explain in large part the difference between actual data and the model simulations. Exports in this sector experienced very strong growth during the second half of 2005. Canadian automobile exports relative to U.S. sales reached exceptional highs at the end of the year. During the first half of 2006, exports in this sector declined, and their relationship to U.S. sales started to return to more normal levels. Two further factors contributed to the strength of exports during the second half of 2005: the reopening of the U.S. border to live cattle from Canada and increased exports of lumber in anticipation of post-hurricane reconstruction. Conversely, during the second quarter of 2006, exports of machinery and equipment posted a sharp drop that the model did not predict.

For the second half of 2006, the model predicts robust export growth. According to the model, the dampening effect of the exchange rate will continue to abate, while the boost provided by expanding demand in the United States will diminish somewhat, reflecting in part the slowdown in the U.S. housing sector. Nonetheless, in the base-case projection presented in this *Report*, exports grow more slowly than the 6 per cent predicted by the model, largely because of further adjustments in the automotive sector.

Actual and Simulated Export Growth
(Annualized growth, per cent)

	05H2	06H1	06H2
Actual growth in exports	7.4	-2.5	n.a.
Simulated growth	3.9	5.3	6.0
Contribution of U.S. demand	6.7	6.6	4.6
Contribution of relative prices	-4.5	-3.2	-1.1
Contribution of other factors	1.7	1.9	2.5

1. This econometric model links the rate of growth in exports to movements in the principal components of U.S. demand, a measure of relative prices, and a measure of openness to foreign trade. It should be noted that the current version of the model differs slightly from that presented in Box 1 of the article “Exports, Imports, and the Appreciation of the Canadian Dollar,” in the autumn 2005 issue of the *Bank of Canada Review*. In the current version of the model, residential construction has been added as a component of U.S. demand.

machinery and equipment also fell sharply in the second quarter of 2006. As well, the appreciation of the Canadian dollar over the past four years continued to restrain growth in the demand for Canadian exports. There are, however, indications that export growth revived in the third quarter of 2006, suggesting that some of the weakness in the first half of the year reflected transitory factors. With ongoing firm growth in final domestic demand, imports continued to rise markedly in the first half of 2006, although at a slower pace than was observed in the second half of last year.

Estimated pressures on capacity

Most capacity indicators suggest an economy in slight excess demand.

Although there has been some moderation of growth in recent months, most indicators of capacity pressures suggest that the economy was operating slightly above its production capacity in the third quarter of 2006.

With observed weakness in labour productivity growth, the Bank's conventional measure of potential output for the period since the beginning of 2005 was revised down slightly from the estimate used in the last *Update*.[4] At the same time, the weaker economic growth in the second quarter of 2006, combined with projected growth of 2 per cent in the third quarter (compared with a projection of 3 per cent in the July *Update*), implies that the level of activity in the third quarter was also somewhat lower than expected. These developments are reflected in the Bank's conventional measure of the output gap, which indicates that the economy was operating about 0.2 per cent above its production capacity in the third quarter of 2006 (Chart 4). This estimate is subject to a considerable degree of uncertainty, but the broad picture of an economy in slight excess demand is consistent with a range of other capacity indicators.

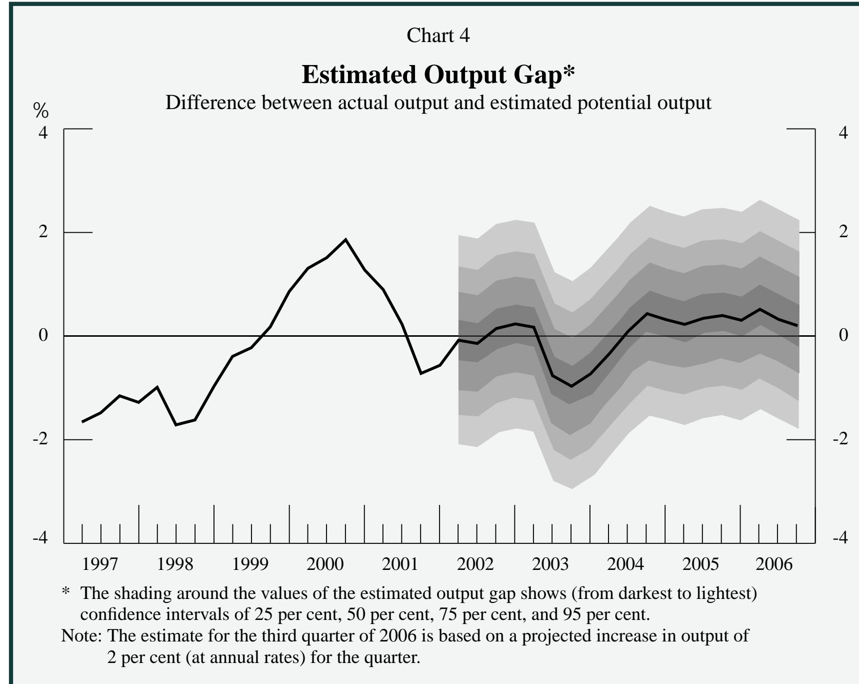
In the Bank's autumn *Business Outlook Survey*, the percentage of firms reporting difficulties in meeting an unanticipated increase in demand remained above average (Chart 5). Statistics Canada's measure of capacity utilization in the non-farm, goods-producing sector also indicated above-average pressure on production capacity in the second quarter of 2006.

The employment-to-population ratio in September remains very high by historical standards, while the unemployment rate has stayed low. The underlying trend increase in wages seems to have risen further in recent months and now appears to be more

4. Potential output is now estimated to have increased at an annual rate of 2.7 per cent in 2005 and 2.8 per cent for the first half of 2006, compared with respective rises of 2.8 per cent and 2.9 per cent assumed in the last *Update*. The Bank's assessment of the underlying trend in labour productivity growth going forward has also been revised down, as discussed in the next section.

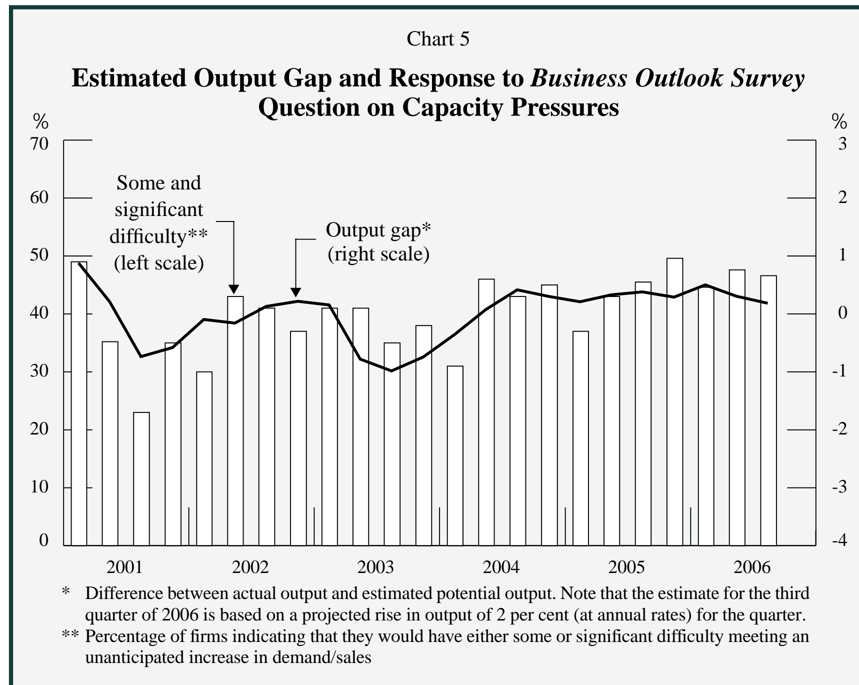
consistent with the indicators of tightness in labour markets than was previously the case.

Core inflation has been close to 2 per cent since May, despite ongoing downward pressure on the prices of globally traded durable and semi-durable goods. This appears to be consistent



* The shading around the values of the estimated output gap shows (from darkest to lightest) confidence intervals of 25 per cent, 50 per cent, 75 per cent, and 95 per cent.

Note: The estimate for the third quarter of 2006 is based on a projected increase in output of 2 per cent (at annual rates) for the quarter.



* Difference between actual output and estimated potential output. Note that the estimate for the third quarter of 2006 is based on a projected rise in output of 2 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

with an economy that has been operating slightly above its production capacity.

Within these national measures, it is evident that capacity pressures continue to be strongest in the western provinces. There has been a marked pickup in housing price increases in Alberta and Vancouver and, at the same time, some moderation in price gains for housing in certain urban centres in Central and Atlantic Canada. Wage increases in Alberta also continue to be markedly higher than those in other parts of the country, reflecting the differing pressures in labour markets. The Bank's autumn *Business Outlook Survey* confirms that capacity pressures remain much more intense in the western provinces than elsewhere, with little change from the preceding survey.

After a review of all the indicators of capacity pressures, it is the judgment of the Governing Council that overall, the economy was operating just above its production capacity in the third quarter of 2006.

The economy was operating just above its production capacity in the third quarter of 2006.

Labour compensation and productivity

The trend growth in wages has continued to move higher in recent months and, as already noted, is now more consistent with other indicators of the degree of tightness in labour markets. This assessment is based on the 12-month change in average hourly earnings of permanent workers reported by Statistics Canada in the Labour Force Survey, which is considered to be a good indicator of the underlying change in wages. This measure suggests that the

Wage increases have moved up to between 3 1/2 and 4 per cent in recent months.

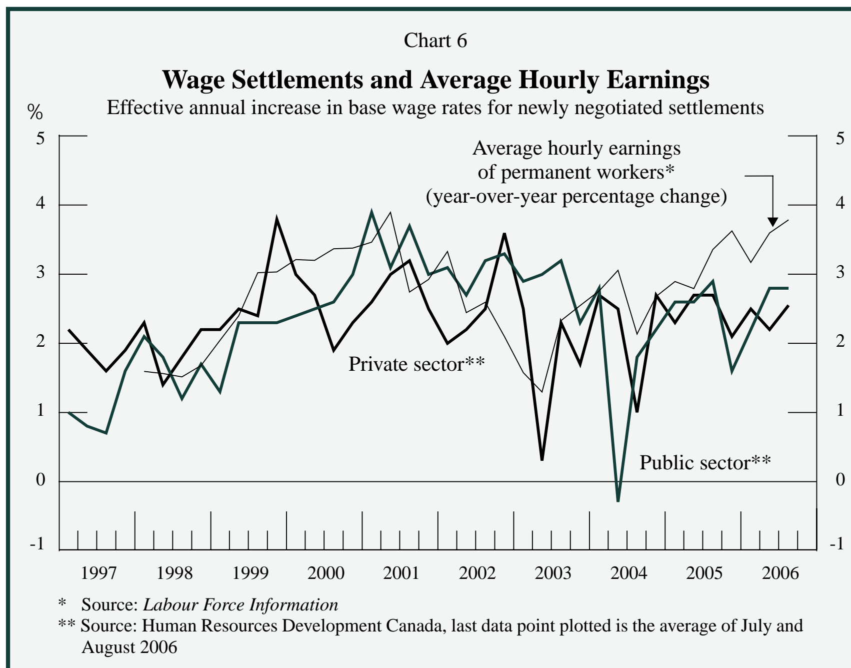


Chart 6

Wage Settlements and Average Hourly Earnings

Effective annual increase in base wage rates for newly negotiated settlements

* Source: *Labour Force Information*

** Source: Human Resources Development Canada, last data point plotted is the average of July and August 2006

rate of increase in aggregate wages has risen to between 3 1/2 and 4 per cent (Chart 6). The year-to-year increase in another indicator of compensation—hourly labour compensation from Statistics Canada's Productivity Accounts—which earlier on had been boosted by unusually large one-time payments, was also about 4 per cent in the second quarter of 2006 (Chart 7).

Labour productivity growth has been averaging below the assumed trend growth of 1 3/4 per cent . . .

Over the past three and a half years, productivity growth in the business sector has averaged 1.0 per cent. After little change in 2003 and 2004, productivity picked up considerably in 2005, growing by 2.4 per cent.[5] However, productivity growth appears to have slowed once again in the first half of 2006. In the absence of a sustained period with productivity growth above 2 per cent to offset the virtual absence of productivity growth in 2003 and 2004, the balance of risks around the Bank's previous assumption for trend productivity growth of about 1 3/4 per cent has shifted to the downside.

While assessments of trend productivity growth are difficult, the modest realized pace of productivity growth is consistent with an economy that is undergoing significant structural adjustment in the face of large movements in commodity prices, the marked appreciation of the Canadian dollar, and new sources of competition from emerging Asia. As discussed in previous *Monetary Policy Reports*, this adjustment involves a reallocation of labour and capital towards the production of commodities with significantly higher prices, and towards the non-tradable goods and services sectors.[6] During the adjustment period, capital and labour are likely to be less productive. Observed trends in productivity growth suggest that this adjustment is ongoing and may be having a larger and more protracted impact on productivity growth than previously projected. With this in mind, something closer to 1 1/2 per cent would appear to be a more balanced assumption for trend productivity growth over the next couple of years. With the assumption regarding trend labour input growth remaining at about 1 1/4 per cent, this implies potential growth of about 2.8 per cent.

. . . leading the Bank to revise down its assumption for trend labour productivity growth to 1 1/2 per cent.

When the modest observed productivity gains are taken into account, unit labour costs in the second quarter of 2006 were up 2.6 per cent from their level a year earlier. With recent compensation increases at between 3.5 and 4 per cent and with trend productivity growth now assumed to be about 1 1/2 per cent, underlying

5. The year-to-year increase in productivity in the fourth quarter of 2005 had originally been estimated by Statistics Canada to be 1.5 per cent. This estimate has been revised upwards to 2.2 per cent, chiefly as a result of corrections to the estimates of hours worked in 2005.

6. See Technical Box 1 in the April 2005 *Monetary Policy Report* and Technical Box 2 in the October 2005 *Monetary Policy Report*.

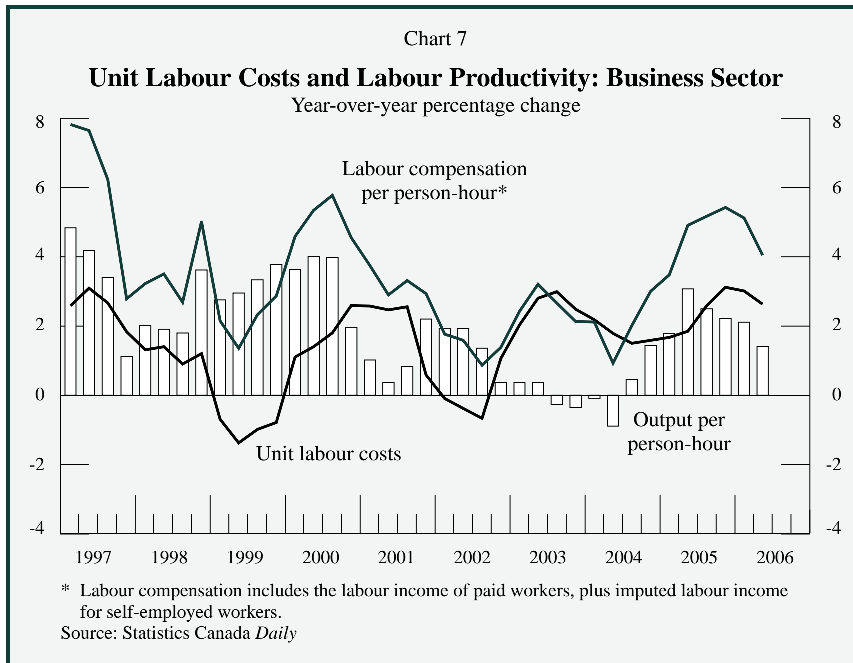


Chart 7

Unit Labour Costs and Labour Productivity: Business Sector

* Labour compensation includes the labour income of paid workers, plus imputed labour income for self-employed workers.

Source: Statistics Canada *Daily*

increases in unit labour costs have risen but still appear to be in the range of 2 per cent.

Commodity and output prices and the terms of trade

The prices of non-energy commodities have remained firm, overall, since early July . . .

The prices of non-energy commodities have remained firm since the July *Update* (Chart 8). Metals prices have risen a little further, reflecting strengthening global demand and further production disruptions. Lumber prices, in contrast, have eased as a result of the downturn in the U.S. housing market.

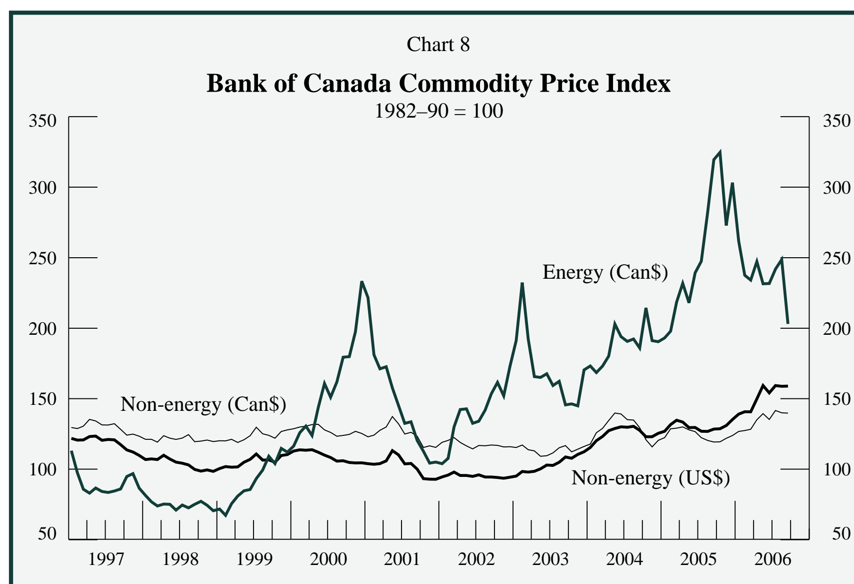
. . . while the prices of crude oil and natural gas have fallen back.

The price of light crude oil (West Texas Intermediate), which was US$74 per barrel at the time of the July *Update*, averaged US$59 in the ten days ending on 13 October 2006. This decrease appears to reflect market expectations of a reduced supply risk and some easing in the prospects for global oil demand (resulting from the effect of persistently high oil prices). In recent weeks, natural gas prices were also somewhat lower than in early July, reflecting relatively high inventories following lower-than-expected demand for cooling in the late summer.

With the marked reduction in natural gas prices since the end of 2005, Canada's terms of trade fell back in the first half of 2006 (Chart 9). As a result, the four-quarter change in the chain price index for GDP (a broad price measure of the goods and services produced in Canada) decreased from 4.1 per cent in the fourth quarter of 2005 to 2.8 per cent in the second quarter of 2006

(Chart 10). Consequently, the year-to-year increase in nominal GDP moderated during this period, although still rising by some 5.7 per cent in the year ending in the second quarter of 2006. The resulting above-average increase in real income (defined as the difference between the year-to-year rise of nominal GNP and that of the deflator for final domestic demand) was still providing support for the considerable gain in final domestic demand.[7]

The recent decline in the prices of crude oil and natural gas will likely lead to a further reduction in Canada's terms of trade over the remainder of 2006 and, therefore, to slower growth in nominal GDP. In turn, this reduced rate of nominal income growth can be expected to put some downward pressure on the growth of corporate profits and government revenues.



7. For a detailed discussion of the important role of terms-of-trade movements in explaining changes in real incomes in Canada, see Duguay (2006).

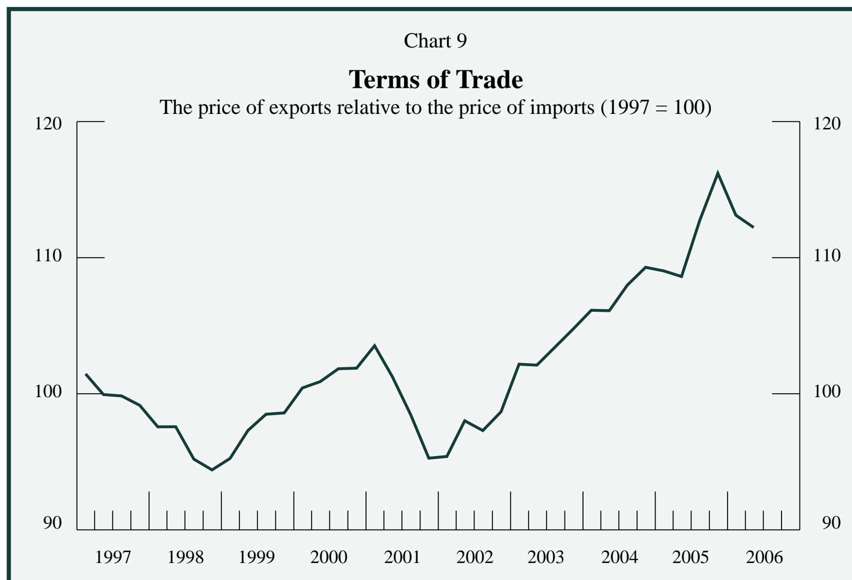


Chart 9
Terms of Trade
The price of exports relative to the price of imports (1997 = 100)
120
110
100
90
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006

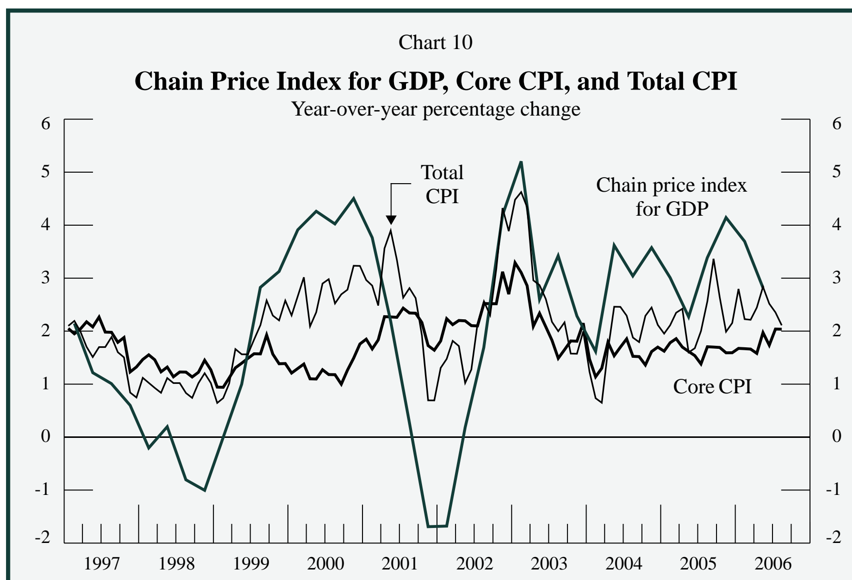


Chart 10
Chain Price Index for GDP, Core CPI, and Total CPI
Year-over-year percentage change
6
5
4
3
2
1
0
-1
-2
Total CPI
Chain price index for GDP
Core CPI
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006

3. Financial Developments

Interest rates and exchange rates

Policy rates in industrialized countries outside North America continued to move up . . .

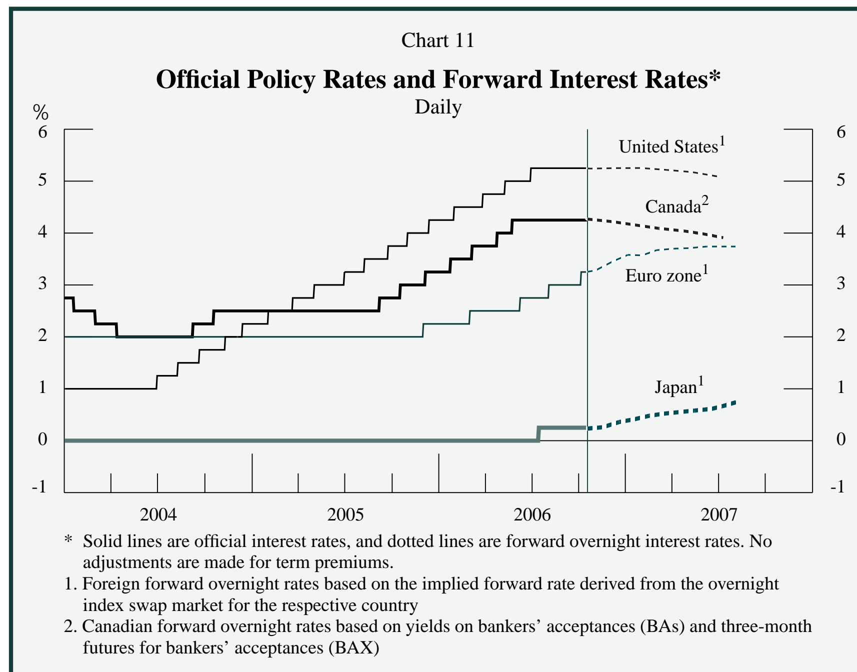
Since the July *Update*, policy interest rates have continued to move higher in a number of industrialized countries outside North America. The European Central Bank, the Bank of England, and the Reserve Bank of Australia have all raised their respective policy rates, and financial markets expect further policy tightening in 2006 and early 2007 (Chart 11). The Bank of Japan has also raised its policy rate, effectively ending its "zero interest rate policy," now that the Japanese economy appears to be on a sustainable growth path. In contrast, policy rates in both Canada and the United States have recently been left unchanged, following a number of consecutive increases. Short-term interest rates embody expectations that policy rates in these two countries will remain at their current levels for the rest of 2006 but decline somewhat in 2007.

. . . but in both Canada and the United States, policy rates have recently been left unchanged.

Chart 11

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. Foreign forward overnight rates based on the implied forward rate derived from the overnight index swap market for the respective country
2. Canadian forward overnight rates based on yields on bankers' acceptances (BAs) and three-month futures for bankers' acceptances (BAX)

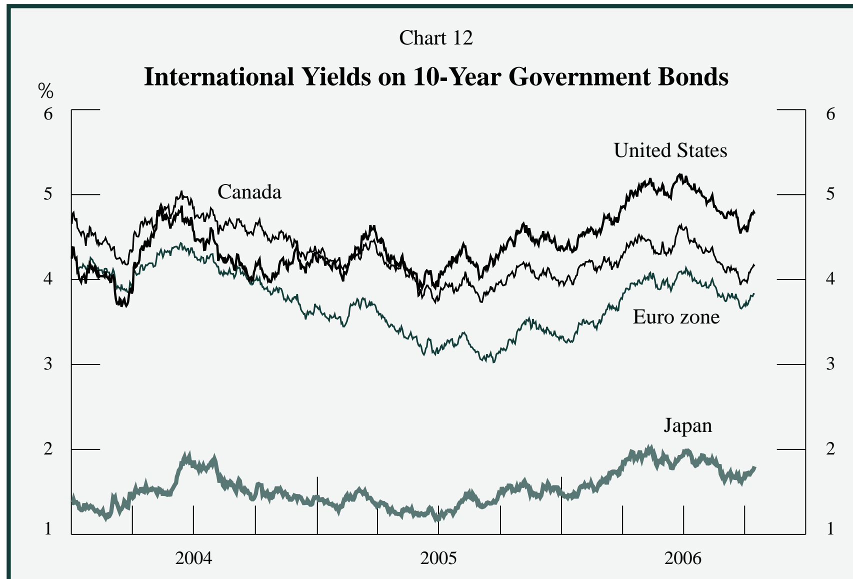
Yields on long-term bonds have decreased.

Despite some heightened inflationary concerns among market participants at the time of the last *Update*, inflation expectations in major industrialized countries have since moderated, partly reflecting the recent decline in energy prices and the weaker growth outlook for the U.S. economy. Such developments have

contributed to the decrease in the yields on the long-term government bonds of major industrialized countries since mid-year (Chart 12).

Chart 12

International Yields on 10-Year Government Bonds



Currency markets have been relatively steady since the July *Update*, with many currency pairs trading in relatively narrow ranges. Over this period, the Canadian dollar has generally been within a range of 87.5 to 90.5 cents U.S., compared with the range of 88.5 to 91.5 cents U.S. for May to mid-July assumed in the projection in the *Update*. It would appear that the impact on the Canadian dollar from the decline in energy prices since July has been partly offset by an increase in currency flows related to cross-border mergers and acquisitions in Canada. Since the end of 2005, the Canadian dollar has also traded within a fairly steady range against the currencies of its other major trading partners (Chart 13 and Technical Box 2).

***The Canadian dollar has traded in a somewhat lower range than assumed in the July* Update.**

Technical Box 2

A New Exchange Rate Index for the Canadian Dollar[1]

The Bank has developed a new Canadian-dollar effective exchange rate index (CERI), to replace its C-6 index.[2] This new index better reflects the profile of Canada's international trade, including the increased importance of China and Mexico.

The CERI offers a major advantage over the C-6 index. It is calculated using a weighted average of multilateral trade weights, while the C-6 index uses simple bilateral trade weights. Unlike bilateral trade weights, multilateral weights account for third-market competition which, when added to information from bilateral trade numbers, gives a more accurate picture of the importance of a particular country in Canada's international trade. Third-market export weights capture the competition between two countries (domestic and foreign country) in all other markets. They are calculated by multiplying the foreign country's share of total supply in each third market by the relative importance of the third markets as destinations for the domestic country's exports.

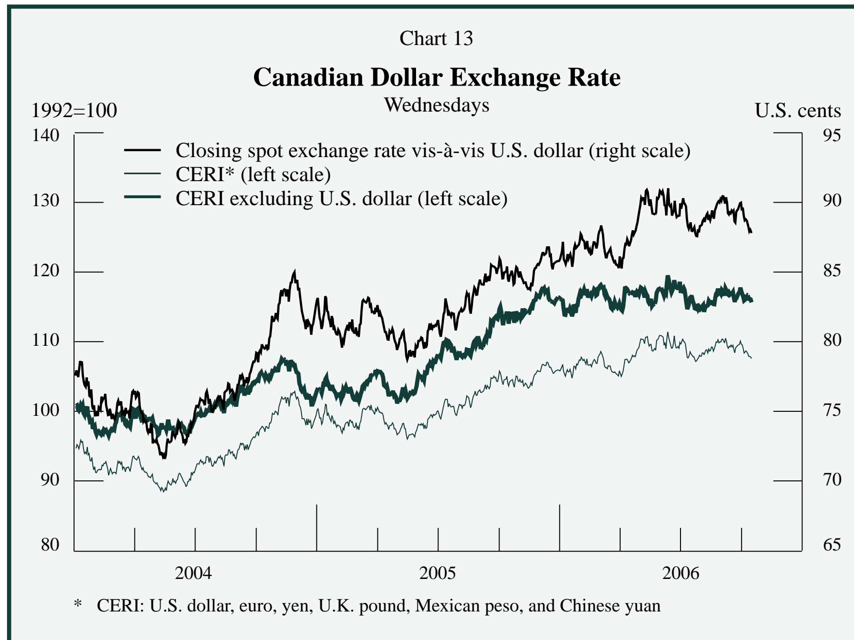
The CERI also uses a broader measure of trade, which includes services trade, and is not restricted to industrialized countries. The Bank has taken the opportunity of moving to a new index to use more recent data in calculating the trade weights.

In choosing the currencies to be included in the new index, the Bank decided to use the currencies of countries with trade weights of 2 per cent or higher based on trade data for 1999–2001. From a set of 184 countries, five countries plus the euro zone satisfy this criterion. These six jurisdictions account for 86 per cent of Canadian trade based on the 1999–2001 data. The following table gives the weights for the currencies in the CERI.

Currency Weightings in the CERI and the C-6

Currency	CERI weights 1996–present (based on 1999–2001 multilateral trade data)	CERI weights prior to 1996 (based on 1989–91 multilateral trade data)	C-6 weights (based on 1994–96 bilateral trade data)
U.S. dollar	0.7618	0.5886	0.8584
Euro	0.0931	0.1943	0.0594
Japanese yen	0.0527	0.1279	0.0527
Chinese yuan	0.0329	-	-
Mexican peso	0.0324	0.0217	-
U.K. pound	0.0271	0.0368	0.0217
South Korean won	-	0.0307	-
Swiss franc	-	-	0.0043
Swedish krona	-	-	0.0035

1. An article describing the CERI in more detail can be found on the Bank's website at <www.bankofcanada.ca/en/rates/ceri.html>. It will also be in the forthcoming autumn issue of the *Bank of Canada Review*.
2. See <www.bankofcanada.ca/en/rates/mci2.html> for the definition of the C-6 index. Use of the C-6 index will be discontinued at the end of 2006.



Credit conditions and other financial developments

Business credit conditions remain very favourable . . .

Access to credit for the non-financial business sector has remained very favourable, at a cost comparable to, or in the case of debt financing, more favourable than that at the time of the April *Report*. Although strong cash flow has moderated firms' borrowing requirements, business credit has continued to grow at a rate above its historical average because of a marked increase in capital expenditures.

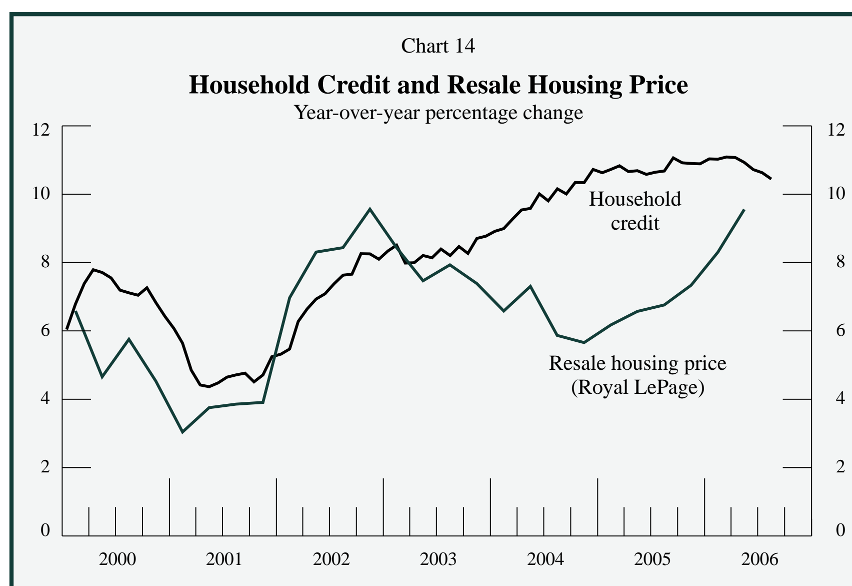
. . . owing to the health of the financial and non-financial business sectors.

Favourable credit conditions have been supported by above-average profit margins and the generally sound balance sheets of the non-financial business sector. There is, however, growing disparity in the profitability of various sectors, with resource-producing and domestically oriented sectors outperforming non-resource-based sectors exposed to trade.

Financial institutions continue to be in a good position to lend, as a result of their strong profitability, healthy balance sheets, and the low level of impaired loans. Financial markets also continue to have a healthy appetite for the security offerings of Canadian corporations. With Canada's economic outlook boding well for the business sector's profitability, firms should continue to have ready access to the funding needed for robust investment.

Marked gains in house prices have allowed households to continue to finance additional spending through secured borrowing.

Financial conditions also continue to provide strong support to household spending. Increases in house prices and household credit continue to be well above historical averages (Chart 14). This is allowing households to finance consumption with loans secured by home equity. This phenomenon is more pronounced in Western Canada, where house prices have risen dramatically over the past two years. Despite this strong credit growth, the debt-service burden of households continues to be modest, since rates on mortgages and consumer loans remain historically low.[8] These conditions continue to point to a strong underpinning for continued growth in household spending.



Since the last *Report*, growth in narrow money (M1+) has remained stable, driven by sustained strength in non-personal deposits resulting from firms' accumulation of cash balances. Narrow money growth suggests that near-term output growth will be slightly below the growth of production capacity (Chart 15).

8. The Bank has begun to examine the distribution of debt-service ratios across households. From a macro point of view, changes in this distribution over the past six years have been relatively small. In particular, there has been no significant increase in the percentage of households with high debt-service ratios. This December's *Financial System Review* will discuss this distribution from a financial stability perspective.

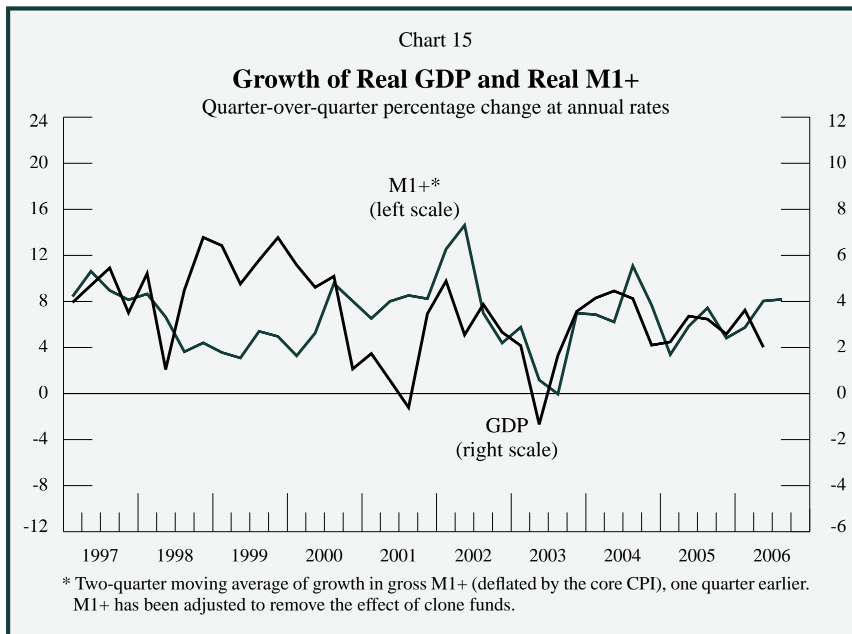


Chart 15
Growth of Real GDP and Real M1+
Quarter-over-quarter percentage change at annual rates
M1+*
(left scale)
GDP
(right scale)
24
20
16
12
8
4
0
-4
-8
-12
12
10
8
6
4
2
0
-2
-4
-6
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
* Two-quarter moving average of growth in gross M1+ (deflated by the core CPI), one quarter earlier.
M1+ has been adjusted to remove the effect of clone funds.

4. The Outlook

This section outlines the Bank's outlook for the global economy through to the end of 2008, followed by the associated projection for the Canadian economy. This base-case projection has been developed assuming a slow and orderly resolution of global imbalances resulting from supportive policy actions to rebalance global demand and a gradual real effective depreciation of the U.S. dollar. Energy prices are assumed to evolve along a path that is consistent with current futures prices, and the Canadian dollar is assumed to remain within the recent range of 87.5 to 90.5 cents U.S. The section concludes with a discussion of the risks to the base-case projection.

International background

The global economy continues to expand at a solid pace . . .

The robust global expansion, under way for the past four years, is expected to moderate only slightly over the next two years. Overall, real global GDP is projected to grow solidly: by 5.1 per cent in 2006, 4.7 per cent in 2007, and 4.5 per cent in 2008 (Table 1). Economic growth in emerging markets has been particularly strong, with many countries benefiting from earlier increases in export earnings stemming from high commodity prices and from the continued expansion of domestic demand. The growth of the U.S. economy, which has been an important source of global demand in recent years, has moderated. The gradual slowing in overall global growth through the projection period reflects growing capacity constraints and the associated tightening in monetary policy by the major industrial economies.

. . . but growth in the U.S. economy has moderated.

GDP growth in China continues to surprise on the upside.

Growth in Asia (excluding Japan) continues at a robust pace, with China's vigorous economy still boosting regional growth rates. The outlook for real GDP growth in China and emerging Asia remains buoyant, with only a moderate slowing over the next two years. In Japan, solid growth in investment, and to a lesser extent, in consumer expenditures, is expected to underpin economic activity over the next few years through what is likely to be an extended period of fiscal consolidation. In the euro zone, output continues to grow, although the pace of expansion will be limited by the modest growth in productive capacity.

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]			
		2005	Projection		
			2006	2007	2008
United States	20	3.2 [0.64]	3.3 [0.66]	2.6 [0.52]	3.2 [0.64]
European Union	19	1.6 [0.29]	2.5 [0.46]	2.0 [0.37]	2.0 [0.38]
Japan	6	2.6 [0.17]	2.7 [0.17]	2.0 [0.13]	2.0 [0.13]
China and Asian NIEs[c]	19	9.2 [1.72]	9.5 [1.77]	8.6 [1.61]	7.9 [1.47]
Others	36	5.7 [2.06]	5.7 [2.07]	5.7 [2.06]	5.3 [1.92]
World	100	4.9	5.1	4.7	4.5

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

Slower near-term U.S. growth . . .

In the United States, real GDP is expected to grow 3.3 per cent in 2006, slightly lower than projected in the July *Update*. In recent months, there has been a pronounced slowdown in the housing sector, as well as weakness in the motor vehicle sector. The slowing evident in the second quarter is projected to continue through the second half of this year, with GDP growth likely to be in the range of 2 to 2 1/2 per cent at annual rates—below the level of potential growth of the economy, which is now estimated at about 3.0 per cent.[9]

. . . should reduce inflationary pressures in the United States.

The base-case scenario projects that U.S. real GDP growth will remain below potential output growth into 2007 before moving above potential through 2008. This implies that a small degree of excess supply would build in the United States before being gradually absorbed in 2008. With excess supply opening up in the U.S. economy, core inflation should move gradually lower.

9. Historical revisions to U.S. data from the first quarter of 2003 to the first quarter of 2006 indicate that real GDP growth over the period was weaker than earlier reported. Since much of the downward revision reflects lower investment growth, our base-case projection now includes less capital deepening and thus lower growth in U.S. potential output than previously estimated.

U.S. growth is projected to recover in 2008.

Domestic demand growth in the United States is expected to continue to slow into 2007, owing largely to a downturn in household spending on interest-sensitive goods, such as housing, motor vehicles, and other durables. At the same time, the low cost of corporate financing and strong growth in corporate profits are expected to continue to support investment. The projected strengthening of GDP growth in 2008 stems largely from two factors. First, the housing and auto sectors are expected to stop subtracting from growth. Second, with a further assumed real effective depreciation of the U.S. dollar of about 7 per cent over the projection horizon, and a strengthening in global investment which raises demand for U.S. capital goods, the growth in U.S. exports is projected to accelerate. This strengthening in export growth would contribute to a gradual improvement in the U.S. current account deficit.

There are signs of a rotation in global demand.

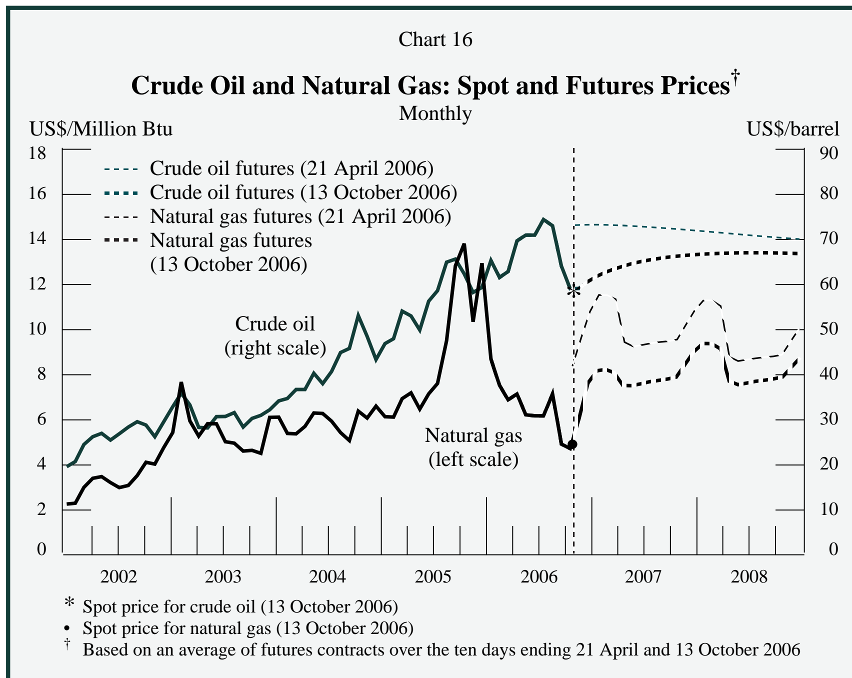
More broadly, with domestic demand expected to grow more slowly in the United States but more quickly in the rest of the world, demand is expected to be better balanced around the globe. In the base-case scenario, this rotation of demand is supported by the assumed depreciation of the U.S.-dollar real effective exchange rate, which is expected to occur mainly against the currencies of emerging Asia, Japan, and some of the oil-exporting countries that did not experience a significant appreciation in the 2002–04 period. These developments are consistent with an orderly resolution of global imbalances.

Futures prices for energy are much lower than in July.

Futures prices for crude oil and natural gas over the projection period are lower than those in the July *Update* (Chart 16). In the case of crude oil, this implies that prices would move up from their current level of just under US$60 per barrel to US$65 per barrel by the middle of 2007 and rise gradually to US$67 in 2008.

Base metals prices should remain relatively high.

The price index for non-energy commodities is expected to decline over the projection period from the high levels reached in the third quarter of 2006. This partly reflects anticipated reductions in metals prices as increases in global capacity come on stream. With the weakness in U.S. housing activity, lumber prices are likely to remain low. Even so, with global demand for commodities projected to remain relatively strong, in line with robust global growth, the overall level of non-energy commodity prices is projected to stay high in relation to historical norms.



Aggregate demand and supply in Canada

Growth in final domestic demand is expected to underpin the economic expansion in Canada.

In Canada, growth in final domestic demand is expected to continue to contribute importantly to economic expansion in the second half of 2006 and through 2007 and 2008.

Consumer spending is expected to grow at a robust pace over the projection period as a result of further gains in real disposable income and increases in household net worth. Housing investment, after another substantial gain in 2006, is projected to decline slightly in 2007 and 2008.

Business investment is projected to grow strongly. Factors supporting a strong expansion include current capacity constraints, expectations of ongoing growth in the global economy, indications that energy and metals prices will stay relatively high for some time, continued favourable financial conditions, strong profit levels overall and very solid balance sheets, and further reductions in the prices of imported machinery and equipment.

The base-case projection assumes that the government sector will run a balanced budget over the projection period. Consistent with slowing nominal GDP growth, growth in government revenues is expected to slow. The large surpluses that have been evident recently would imply that projected growth in spending by all levels of government will be above projected revenue growth for a period of time.

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

With the expected slowing in the growth of U.S. domestic demand into 2007 and the lagged effects from the past appreciation of the Canadian dollar, export growth is projected to be weak over the projection period. At the same time, continued substantial increases in investment in machinery and equipment, combined with the further impact of the past rise of the Canadian dollar, should help to boost imports. As a result, net exports should exert a significant drag on overall growth in 2006 and 2007, although this effect should ease over the projection period.

Canada's GDP is projected to grow by 2.8 per cent in 2006, 2.5 per cent in 2007, and 2.8 per cent in 2008.

The Bank's base-case outlook calls for economic growth, on an average annual basis, to be 2.8 per cent in 2006, 2.5 per cent in 2007, and 2.8 per cent in 2008 (Table 2, Chart 17). The outlook for both 2006 and 2007 is lower than that in the July *Update*. This lower growth mainly reflects two factors. First, the weaker U.S. economic outlook means that the projection for net exports and, to a lesser extent, investment has been revised down. Second, since the recent trend in labour productivity has been lower than expected (as discussed in section 2), the assumption for growth in production capacity from 2006 to 2008 has been revised down to 2.8 per cent.

This profile for GDP growth implies that the economy would stay in slight excess demand over the near term, before moving back to its production capacity in the second half of 2007. The economy would then continue to operate at about full capacity through to the end of 2008. In this base-case projection, it is the near-term slowing and the subsequent pickup in the U.S. economy, combined with the lagged effects of past interest rate and exchange rate movements, that bring aggregate supply and demand back into balance and keep them there. Hence, in this projection, the current level of the policy rate is consistent with achieving the 2 per cent inflation target.

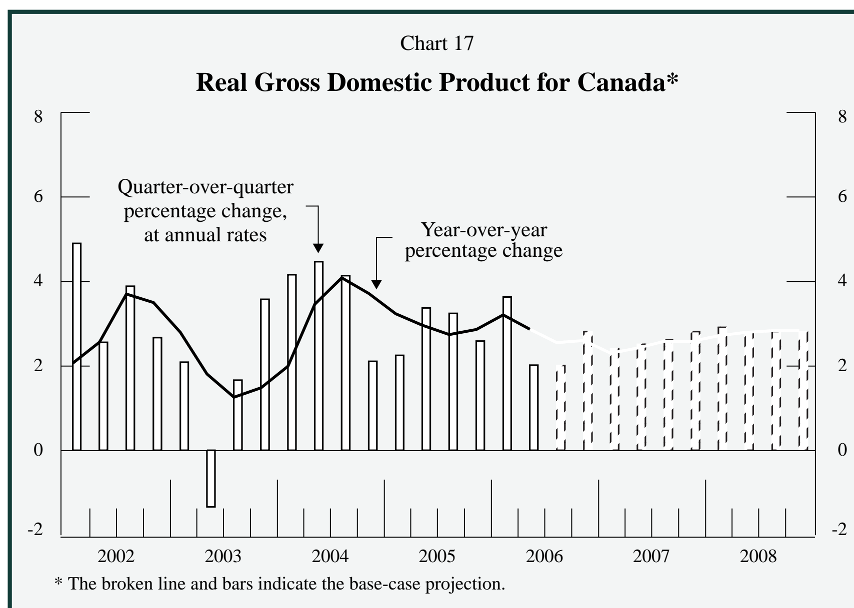
Table 2
Contributions to Average Annual Real GDP Growth*
Percentage points

	2006	2007	2008
Consumption	2.2 (2.0)	1.8 (1.8)	1.7 (1.6)
Housing	0.2 (0.2)	-0.1 (-0.1)	-0.1 (-0.1)
Government	0.8 (0.8)	0.8 (0.8)	0.7 (0.7)
Business fixed investment	1.0 (1.0)	0.7 (0.9)	0.5 (0.6)
Subtotal: Final domestic demand	4.2 (4.0)	3.2 (3.4)	2.8 (2.8)
Exports	0.6 (1.1)	0.7 (1.2)	1.1 (1.2)
Imports	-1.9 (-2.0)	-1.4 (-1.7)	-1.1 (-1.2)
Subtotal: Net exports	-1.3 (-0.9)	-0.7 (-0.5)	0 (0)
Inventories	-0.1 (0.1)	0 (0)	0 (0)
GDP	2.8 (3.2)	2.5 (2.9)	2.8 (2.8)

*Figures in parentheses are from the base-case scenario in the July *Update*.

Chart 17

Real Gross Domestic Product for Canada*



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

The outlook for inflation

Most indicators of inflation expectations remained stable over the past six months.

Most indicators of inflation expectations that the Bank follows have remained quite stable since the time of the April *Report*, and key medium- and longer-term measures continue to be close to 2 per cent. In the Bank's autumn *Business Outlook Survey*, 78 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. This percentage of respondents was almost the same as in the previous three surveys. Furthermore, the average private sector forecast for total CPI inflation in 2007 was just under 2 per cent, and consensus forecasts of inflation over the longer term remained very close to 2 per cent.

Broad money (M2++) growth has risen to around 7 per cent (Chart 18), a rate which, if maintained, would be consistent with core inflation at about 2 per cent over the next year.

Total CPI inflation is projected to average close to 2 per cent after mid-2007.

The outlook for the 12-month rate of increase in the total CPI is importantly affected by the cut in the GST from 7 per cent to 6 per cent that took effect on 1 July 2006, and by developments in the markets for crude oil, gasoline, and natural gas (Chart 16). Available indicators suggest that total CPI inflation fell below 1 per cent in September 2006 as a result of the recent decline in crude oil and gasoline prices and the base-year effects stemming from the hurricane-related surge in energy prices in September of 2005. The prices of both crude oil and natural gas are assumed to follow the path given by futures prices, which are below the levels in the July *Update*. As a result, total CPI inflation is now expected to average close to 1.5 per cent from the fourth quarter of 2006 to the second quarter of 2007, a little lower than projected in the *Update* (Table 3).

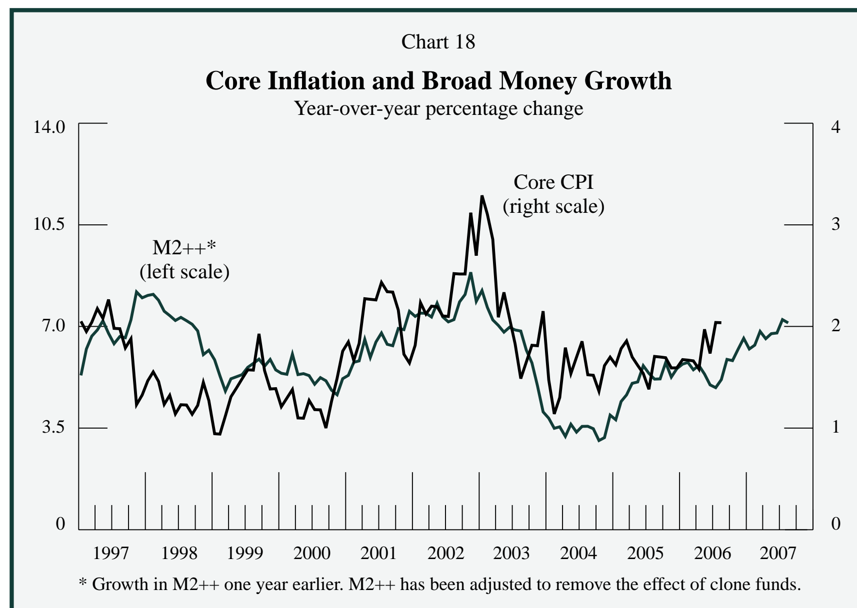


Table 3
Summary of the Base-Case Projection*

	2006			2007		2008
	Q2	Q3	Q4	H1	H2	
Real GDP (quarterly growth or average quarterly growth at annual rates)**	**2.0** *(3.2)*	**2.0** *(3.0)*	**2.8** *(3.0)*	**2.5** *(2.8)*	**2.7** *(2.7)*	**2.8** *(2.8)*
Real GDP (year-over-year percentage change)	**2.9** *(3.2)*	**2.5** *(3.1)*	**2.6** *(3.2)*	**2.4** *(2.9)*	**2.6** *(2.8)*	**2.8** *(2.8)*
Core inflation (year-over-year percentage change)	**1.8** *(1.8)*	**2.0** *(2.0)*	**2.1** *(2.0)*	**2.2** *(2.0)*	**2.0** *(2.0)*	**2.0** *(2.0)*
Total CPI (year-over-year percentage change)	**2.6** *(2.7)*	**1.7** *(1.5)*	**1.5** *(1.8)*	**1.4** *(1.6)*	**2.0** *(2.0)*	**2.0** *(2.0)*
Total CPI excluding the effect of changes in indirect taxes (year-over-year percentage change)	**2.6** *(2.7)*	**2.2** *(2.1)*	**2.0** *(2.4)*	**1.9** *(2.2)*	**2.0** *(2.0)*	**2.0** *(2.0)*
WTI*** (level)	**71** *(71)*	**71** *(73)*	**60** *(75)*	**64** *(76)*	**66** *(75)*	**67** *(73)*

* Figures in parentheses are from the July *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 13 October 2006

After the direct effect of the GST cut disappears in mid-2007, total CPI inflation is expected to average close to the 2 per cent target over the remainder of the projection period.

Core inflation is expected to move slightly above 2 per cent before returning to 2 per cent in the second half of 2007.

The core rate of inflation is expected to move slightly above 2 per cent through to mid-2007, given the small amount of excess demand currently in the economy and continued momentum in the price of housing. These sources of upward pressure should continue to be partly offset by further downward pressure arising from ongoing decreases in the prices of manufactured goods, although these price decreases are expected to moderate over time. As the economy returns to its production potential and housing pressures ease, core inflation is projected to move back to 2 per cent by the second half of 2007 and remain there.

Increases in labour compensation are expected to average about 4 per cent over the early part of the projection period before easing somewhat. Given the assumed growth of trend labour productivity of 1.5 per cent, the expected year-to-year increase in unit labour costs is projected to be slightly above 2 per cent in the early part of the projection period, declining to 2 per cent by the end of the period.

Risks to the outlook

The risks around the projection are judged to be somewhat greater than in July.

The main upside risk relates to the momentum in household spending and housing prices.

The main downside risk is that the U.S. economy could slow more sharply.

The Bank's base-case projection continues to be subject to important upside and downside risks. As noted in the press release of 6 September, these risks are judged to be somewhat greater than at the time of the July *Update.*

The main upside risk to the Canadian economy continues to relate to the momentum in household spending and housing prices. This momentum is linked to strong consumer credit growth. By increasing home equity and thus expanding the availability of collateral, the recent strong increases in house prices have contributed to robust growth in consumer credit (Technical Box 3). There is a risk that these linkages could be stronger than assumed or that house prices could continue to grow more rapidly than expected, resulting in higher-than-projected household spending and, hence, greater upward pressures on inflation.

The main downside risk to the Canadian economy relates to the possibility of a sharper slowdown in the housing sector in the United States and a broadening of the weakness in the housing sector to consumption and investment. A larger decline in domestic demand in the United States would lead to decreased demand for Canadian exports and broader weakness in the Canadian economy. This development would lead to lower inflation than in the base-case projection.

Related to these main risks, there are a number of other risks to the base-case projection, two of which are described below.

An upside risk relates to sectoral and regional capacity pressures arising from the price boom in several commodities, which are being most intensely felt in Western Canada (especially in Alberta). These pressures have led to considerable upward momentum in labour costs in that region. There is a risk that prices and wages could increase even more rapidly in Western Canada or that the transmission of inflationary pressures from there to the rest of the country could be stronger.

A downside risk relates to the effects of the projected slowing in U.S. economic growth on the rest of the world, particularly in those emerging economies that are currently experiencing very strong growth. To the extent that business investment in these countries is being undertaken to meet prospective consumer demand in the United States, domestic demand growth in these countries may not be sufficient to offset the projected weaker U.S. demand. A greater-than-expected slowing in the global economy would likely result in weaker commodity prices and a weaker profile for Canadian exports over the projection period, thus putting downward pressure on Canadian inflation.

Technical Box 3

Linkages between House Prices, Credit, and Household Spending

By increasing home equity and thus expanding the availability of collateral, the recent strong increases in house prices have contributed to robust growth in consumer credit. This, in turn, has significantly supported household spending.

Resale house prices in Canada have been very strong since 2001, growing by an annual average of 4.4 per cent, in real terms, compared with an average of -1.5 per cent over the 1990s.[1] From the beginning of 2005 to the end of June 2006, the cumulative rate of increase in real house prices has been 10.7 per cent on a national basis. This reflects much faster growth in Alberta and British Columbia, together with growth of over 5 per cent in the rest of the country over the same period.

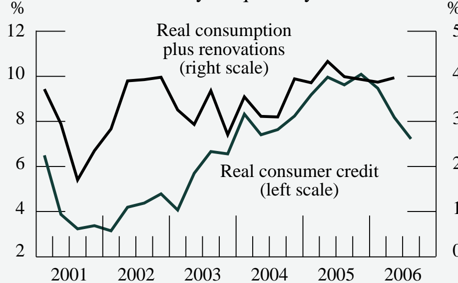
The pickup in consumer credit growth coincided with the strong gains in house prices. Growth is particularly strong for personal lines of credit (PLCs), which are often secured by home equity, averaging about 15 per cent in real terms in 2006. So far in 2006, PLCs have grown faster in Alberta and British Columbia than in the rest of the country. While many factors, such as income and population growth, have contributed to this faster growth in credit, the rapid rise in house prices has been a significant factor.

Since 2001, household spending has remained robust as house prices and consumer credit have shown strong increases. While it is difficult to quantify the links from house prices to credit and spending, useful information can be gained by assessing the contribution of PLCs to increased spending, since PLCs are the type of consumer credit most directly linked to house prices.[2] Industry reports and survey data suggest that a significant amount of PLCs are used to finance consumption. This link provides evidence that the recent rise in house prices has contributed to the strong growth in consumer credit and household spending.

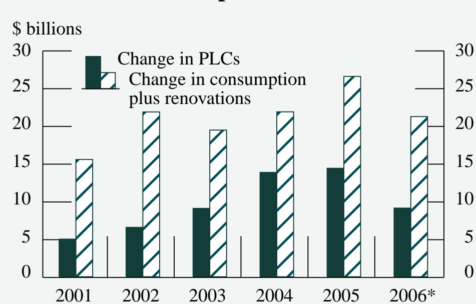
So far in 2006, house prices have grown much more than anticipated by market observers, particularly in Alberta and British Columbia. As well, growth in consumer credit and PLCs has remained strong, and Canadian households are generally in good financial health. While strength in household spending related to these factors is built into the base-case scenario, there is a risk that the linkages could be stronger than assumed or that house prices could continue to grow rapidly, particularly in Alberta and British Columbia, resulting in even higher household spending.

Growth of Real Consumer Credit and Real Consumption Plus Renovations

Year-over-year quarterly basis



Annual Changes in Real Personal Lines of Credit (PLCs) and Real Consumption Plus Renovations



* Annualized changes using available data from 2006H1

1. Data for resale house prices are from Royal LePage and are deflated by the total CPI.
2. Since 2001, the share of PLCs in consumer credit has increased to over 50 per cent. Although some of the PLCs represent a substitution from other types of loans, higher house prices have also contributed to a net increase in total consumer credit. Contributions to spending from mortgage refinancing, which are linked to higher house prices, are not included here because of data limitations.

Overall, risks are judged to be roughly balanced.

Overall, the Bank judges that the risks relative to its projection for inflation are roughly balanced.

The correction in global imbalances is unfolding in a benign, albeit slow, manner. However, in the absence of further appropriate policy actions, there remains a possibility of a disorderly resolution of these imbalances. Consequently, the balance of risks for global and Canadian growth is tilted slightly to the downside late in the projection period.

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The Bank of Canada's *Monetary Policy Report* is published semi-annually in April and October. Regular *Updates* are published in July and January. Copies of the full *Report*, the *Summary*, and the *Update* may be obtained by contacting Publications Distribution, Communications Department, Bank of Canada, Ottawa, Ontario, Canada K1A 0G9.

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