BANK OF CANADA
BANQUE DU CANADA

Monetary Policy Report

July 2011

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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, stable and predictable 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 pre-specified 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.

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* See "Joint Statement of the Government of Canada and the Bank of Canada on the Renewal of the Inflation-Control Target" and background information. Reprinted in the *Bank of Canada Review* (Winter 2006–2007): 45–59.

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July 2011

This is a report of the Governing Council of the Bank of Canada:
Mark Carney, Tiff Macklem, John Murray, Timothy Lane, Jean Boivin and Agathe Côté.

Overall, a broad rebalancing of demand in Canada is under way as the economic expansion progresses. Business investment is now growing strongly, and contributions to growth from both household consumption and government spending are diminishing.

—Mark Carney

Governor, Bank of Canada
22 June 2011
Ottawa, Ontario

Contents

Technical Boxes

Overview

The global economic expansion is proceeding broadly as projected in April, with modest growth in major advanced economies and robust expansions in emerging economies. The U.S. economy has grown at a slower pace than expected and continues to be restrained by the consolidation of household balance sheets and slow growth in employment. While growth in core Europe has been stronger than expected, necessary fiscal austerity measures in a number of countries will restrain growth over the projection horizon. The Japanese economy has begun to recover from the disasters that struck in March, although the level of economic activity in that country will remain below previous expectations. In contrast, growth in emerging-market economies, particularly China, remains very strong. As a consequence, commodity prices are expected to remain at elevated levels, following recent declines. These high prices, combined with persistent excess demand in major emerging-market economies, are contributing to broader global inflationary pressures. Widespread concerns over sovereign debt have increased risk aversion and volatility in financial markets.

In Canada, the economic expansion is proceeding largely as projected, although the expected rotation of demand is somewhat slower than had been anticipated. Household spending remains solid and business investment robust. Net exports remain weak, reflecting modest U.S. demand and ongoing competitiveness challenges, particularly the persistent strength of the Canadian dollar. Despite increased global risk aversion, financial conditions in Canada remain very stimulative and private credit growth is strong.

Following an anticipated slowdown in growth during the second quarter due to temporary supply-chain disruptions and the impact of higher energy prices on consumption, the Bank expects growth in Canada to re-accelerate in the second half of 2011. Over the projection horizon, business investment is expected to remain strong, household spending to grow more in line with disposable income and net exports to become more supportive of growth. Relative to the April projection, growth in household spending is now projected to be slightly firmer, reflecting higher household income, and net exports to be slightly weaker, reflecting more subdued U.S. activity. Overall, the Bank projects the economy will expand by 2.8 per cent in 2011, 2.6 per cent in 2012 and 2.1 per cent in 2013, returning to capacity in the middle of 2012.

Total CPI inflation is expected to remain above 3 per cent in the near term, largely reflecting temporary factors such as significantly higher food and energy prices. Core inflation is slightly firmer than anticipated, owing to temporary factors and to more persistent strength in the prices of some services. Core inflation is now expected to remain around 2 per cent over the projection horizon. Total CPI inflation is expected to return to the 2 per cent

This report includes data received up to 15 July 2011.

target by the middle of 2012 as temporary factors unwind, excess supply in the economy is gradually absorbed, labour compensation growth stays modest, productivity recovers and inflation expectations remain well anchored.

The Bank's projection assumes that authorities are able to contain the ongoing European sovereign debt crisis, although there are clear risks around this outcome.

More broadly, there are a number of risks to the outlook for inflation in Canada. The three main upside risks to inflation in Canada relate to the possibility of higher-than-projected commodity prices and global inflation, stronger momentum in Canadian household spending, and the possibility that there is less excess capacity in the Canadian economy.

The three main downside risks to inflation in Canada relate to sovereign debt concerns in Europe, headwinds from the persistent strength of the Canadian dollar and the possibility that growth in Canadian household spending could be weaker than projected.

Overall, the Bank judges that the risks to the inflation outlook in Canada are roughly balanced over the projection horizon.

Reflecting all of these factors, on 19 July, the Bank maintained the target for the overnight rate at 1 per cent. To the extent that the expansion continues and the current material excess supply in the economy is gradually absorbed, some of the considerable monetary policy stimulus currently in place will be withdrawn, consistent with achieving the 2 per cent inflation target. Such reduction would need to be carefully considered.

The Global Economy

The global economic expansion is proceeding broadly as expected at the time of the April *Monetary Policy Report*. Growth prospects in many advanced economies continue to be affected by the ongoing repair of household, bank and government balance sheets. Although high commodity prices and the disasters in Japan contributed to weaker growth in the first half of 2011, economic activity in these economies is expected to rebound through the second half of the year and continue to grow at a steady pace through 2012–13, although on a somewhat lower track. Unlike the situation in most advanced economies, growth in emerging-market economies has remained exceptionally strong. Excess demand in many of these economies, coupled with past increases in commodity prices, is creating broader global inflationary pressures.

The global economic expansion is proceeding broadly as expected

Widespread concerns over sovereign debt have increased risk aversion and volatility in financial markets. Contagion from recent developments in Greece has been felt most acutely in euro-area financial markets, impacting banks, non-financial corporations and other euro-area sovereigns. Financial conditions for banks, non-financial corporations and sovereigns in other countries generally remain very supportive.

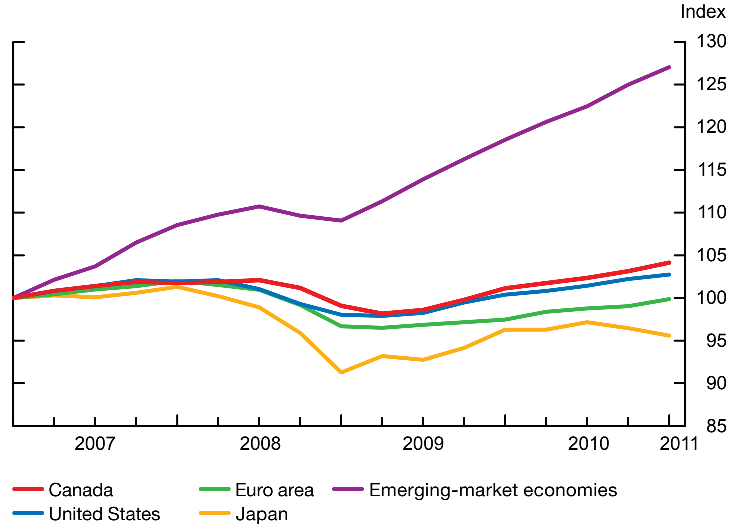
Recent Developments

Developments during the first half of 2011 differed significantly across economic regions. Growth has slowed in the United States, but has been fairly solid in the euro area as a whole. In Japan, the disasters triggered on 11 March caused a marked contraction in economic activity as well as disruptions to global production networks. Growth in emerging-market economies, in contrast, continues to be robust (**Chart 1**). Increasing demand from these countries has been the principal driver of the rise in world commodity prices, unlike in earlier periods when demand from advanced economies accounted for most of the movements in these prices.

Growth has slowed in the United States

Real GDP growth in the United States decelerated to slightly below 2.0 per cent in the first half of 2011, owing to a pronounced slowing in household spending. Growth in U.S. consumption continues to be constrained by the ongoing repair of household balance sheets. In addition, consumption spending has been restrained by a number of temporary factors, including the rapid rise in oil and food prices and supply-chain disruptions from Japan, which limited the available stock of Japanese motor vehicles in the United States. These temporary effects are expected to dissipate in coming months and growth is projected to pick up in the second half of the year, albeit at a somewhat slower pace than was anticipated at the time of the April *Report*. Historical revisions indicate that, consistent with sluggish labour market conditions, growth in U.S. real personal disposable income since the fourth

Chart 1: Growth in emerging-market economies continues to be robust
Real GDP, 2007Q1 = 100, quarterly data



Sources: Statistics Canada, U.S. Bureau of Economic Analysis, Eurostat, Japan Statistics Bureau and International Monetary Fund

Last observation: 2011Q1

quarter of 2010 has been weaker than initially reported (**Chart 2**). The personal savings rate fell from a recent peak of 6.3 per cent in June 2010 to 5.0 per cent in May 2011, suggesting that household balance-sheet repair has not progressed as far as anticipated, especially in the context of falling housing prices and lower equity prices.

U.S. residential investment fell further in the first half of the year

U.S. residential investment fell further in the first half of the year as persistently high unemployment and the weak financial situation of households continued to dampen housing demand. The inventory of vacant homes also remained elevated, leading to additional downward pressure on house prices with further negative implications for household and bank balance sheets.

Non-residential construction remains weak, but conditions in this sector appear to be stabilizing. The most recent survey of bank lending conditions noted a slight easing in standards for commercial real estate loans for the first time since 2005 as well as an increase in the demand for loans.

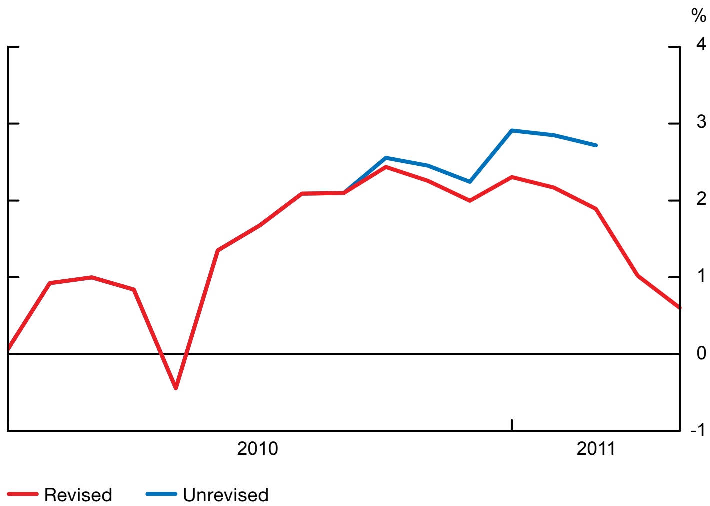
Strong growth in exports and business investment in equipment and software continued to underpin U.S. economic growth over the first half of the year (**Chart 3**). Business investment has been bolstered by healthy corporate balance sheets and the low cost of capital. U.S. exports have benefited from robust external demand and improved international price competitiveness, brought about by solid productivity growth and a sizable depreciation in the U.S. real effective exchange rate.

Fundamentals remain strong in the core European economies. . . . peripheral economies continue to face significant challenges

In the euro area, real GDP growth rebounded to 3.4 per cent in the first quarter, following weather-related disruptions at the end of 2010. Available indicators point to slower, but still solid, growth in the second quarter. Overall, economic activity in the first half of the year was stronger than anticipated in the April *Report*, mainly reflecting more robust growth in investment. Fundamentals remain strong in the core economies, most notably in Germany, where the unemployment rate is at a post-unification low. Some peripheral economies continue to face significant challenges, however. Greece, in particular, has had difficulty delivering the fiscal adjustments required as part of the financing programs that it received from the International Monetary Fund and the European Union. Weak macroeconomic

Chart 2: Growth in U.S. real personal disposable income has been revised down

Year-over-year percentage change in U.S. real personal disposable income, monthly data

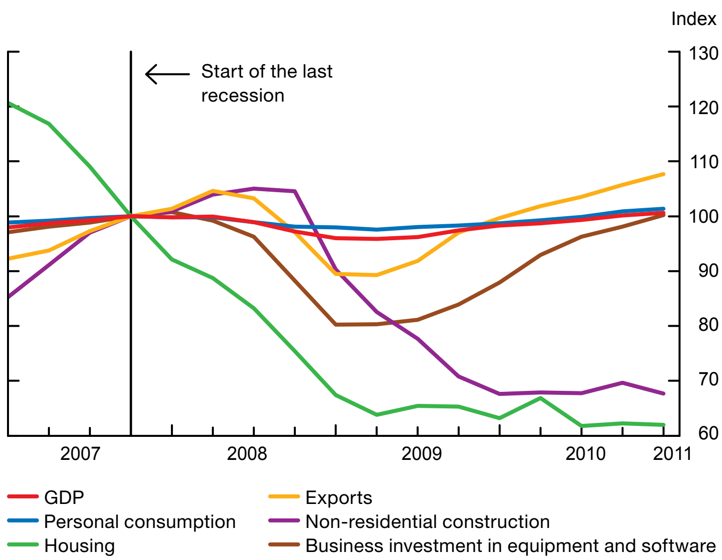


Source: U.S. Bureau of Economic Analysis

Last observations: March and May 2011

Chart 3: Business investment and exports are important drivers of U.S. economic growth

Index: 2007Q4 = 100, chained 2005 U.S. dollars, quarterly data



Source: U.S. Bureau of Economic Analysis

Last observation: 2011Q1

performance in the periphery is leading to rising debt and deficits, exacerbating the underlying fiscal sustainability problems and intensifying financial stability concerns.

Real GDP growth in Japan contracted sharply in the first quarter. Damage caused by the earthquake and tsunami in March constrained the growth of exports and led to a significant decline in private domestic demand. Falling inventories also had a negative effect on growth, since the disruptions to production forced firms to run down their existing stocks to meet demand. Real GDP is estimated to have contracted again in the second quarter, with supply bottlenecks and weakness in private domestic demand continuing to weigh on growth. Although the drop in Japan's economic activity was much

Although the drop in Japan's economic activity was much more severe than anticipated, recent indicators suggest that it has bottomed out more severe than anticipated in the April *Report*, recent indicators suggest that it has bottomed out.

Economic growth in China eased slightly from 9.8 per cent in the fourth quarter of 2010 to 9.5 per cent in the second quarter of 2011, owing in part to the monetary tightening undertaken in the past year. Despite the modest deceleration in economic growth, excessive credit expansion, sharp increases in property prices and rapid growth in real estate investment have raised doubts about the sustainability of the current growth path. High local government debt levels, combined with significant government and bank exposures to the property sector, are adding to concerns about financial stability. Excess demand conditions still prevail and inflationary pressures are rising. Consumer price inflation currently stands at 6.4 per cent—its highest level in three years. In the past three months, in an effort to mitigate inflationary pressures, authorities in China have raised the reserve requirement ratio for financial institutions by 150 basis points, bringing it to a historical high of 21.5 per cent for large institutions. Authorities have also raised official interest rates by 25 basis points, to 3.5 per cent in the case of the one-year deposit rate, which remains negative in real terms. Efforts to contain inflationary pressures appear to have been inhibited by the lack of flexibility in the country's exchange rate.

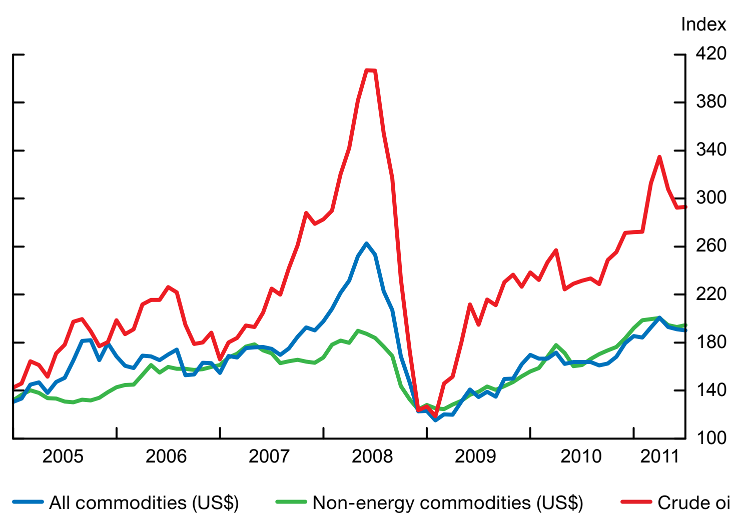
Despite recent declines, global commodity prices remain high by historical standards

Despite recent declines, global commodity prices remain high by historical standards, supported by robust demand from emerging-market economies and tight global supply conditions (**Chart 4**). Prices for oil and metals have fallen sharply since the last *Report*, reflecting market expectations for weaker economic growth, some unwinding of financial positions and, in the case of oil, the release of strategic petroleum reserves by the International Energy Agency. North American natural gas prices, in contrast, are little changed from their levels at the time of the April *Report*, while agricultural prices have experienced a modest correction in response to an improved outlook for grain harvests.

Past increases in food and energy prices continue to exert upward pressure on inflation in both advanced and emerging-market economies (**Chart 5**). These pressures are being exacerbated in many emerging-market economies by excess demand and rapid growth in wages and credit. Monetary

Chart 4: Despite recent declines, global commodity prices remain elevated

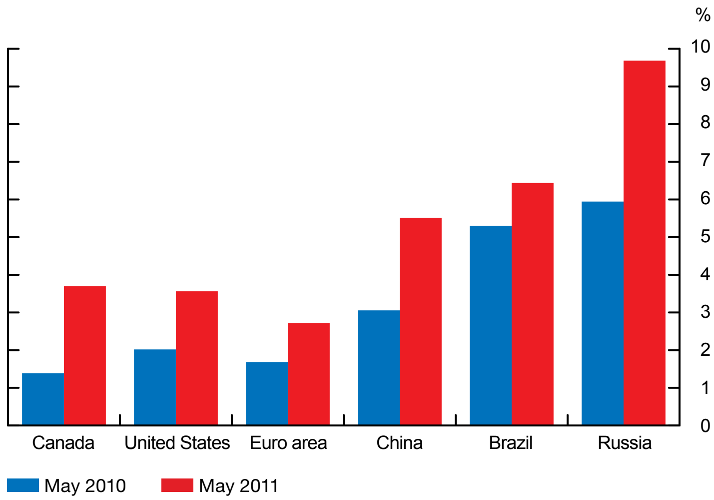
Bank of Canada commodity price index (rebased to January 2003 = 100), monthly data



Note: Values in July 2011 are estimates based on the average daily spot prices up to 15 July 2011.
Source: Bank of Canada
Last observation: July 2011

Chart 5: High food and energy prices continue to exert upward pressure on total inflation

Year-over-year percentage change in total CPI, monthly data

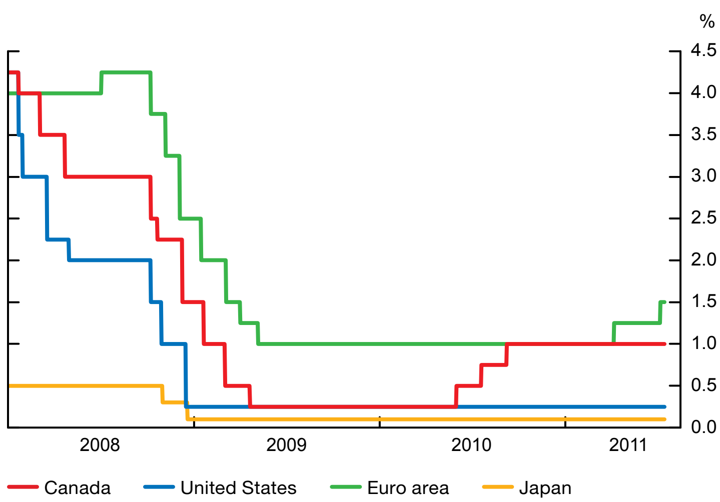


Sources: Statistics Canada, U.S. Bureau of Labor Statistics, Eurostat, the People's Bank of China, Brazilian Institute of Geography and Statistics, and Russian Federal Service for State Statistics (formerly Goskomstat)

Last observation: May 2011

Chart 6: Policy rates remain at or near historic lows in most advanced economies

Daily data



Note: On 5 October 2010, the Bank of Japan changed the target for its policy rate from 0.1 per cent to a range of 0.0 to 0.1 per cent. The U.S. Federal Reserve has been maintaining a target range for its policy rate of 0.0 to 0.25 per cent since 16 December 2008.

Sources: Bank of Canada, U.S. Federal Reserve, European Central Bank and Bank of Japan

Last observation: 15 July 2011

authorities in the emerging-market economies have taken measures to contain these inflation pressures, but monetary conditions nevertheless remain exceptionally stimulative, suggesting that inflation pressures are likely to persist. Major advanced countries have also had to contend with rising commodity prices, but underlying inflation pressures continue to be modest, reflecting the smaller pass-through from commodity prices into core inflation and significant excess capacity. Policy interest rates in these economies have therefore remained low (**Chart 6**).

Monetary conditions remain exceptionally stimulative in emerging-market economies

Developments in Global Financial Markets

Conditions in global financial markets remain supportive. Several developments have weighed on investor sentiment in recent weeks, however, leading to heightened risk aversion and increased volatility.

Equity prices in advanced and emerging-market economies have declined over the past three months in reaction to greater uncertainty about the strength of the global recovery (**Chart 7**). Conditions in corporate credit markets have also deteriorated somewhat. Although corporate bond yields remain close to their historical lows, corporate credit spreads have widened, especially for high-yield issuers. Corporate bond issuance has also fallen sharply, albeit from very elevated levels. Capital has shifted into perceived safe-haven assets and currencies, putting downward pressure on government bond yields in major advanced economies (**Chart 8**).

Market concerns about acute fiscal strains in some euro-area peripheral countries have increased noticeably

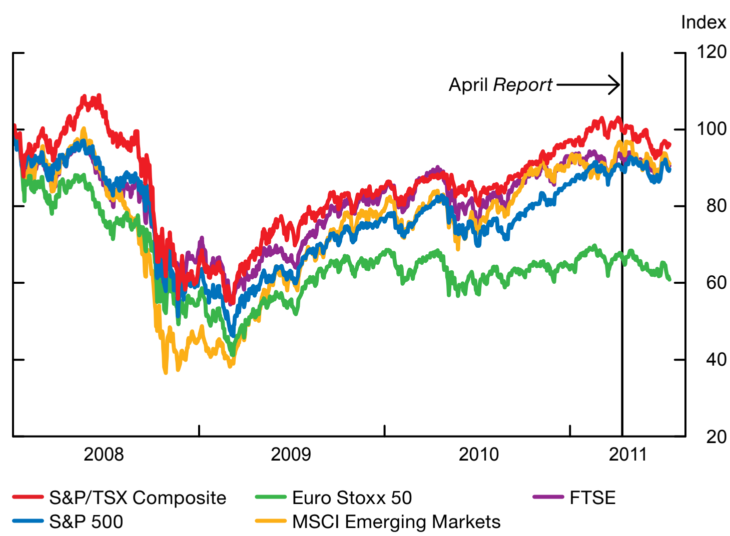
Market concerns about acute fiscal strains in some euro-area peripheral countries, especially Greece, Portugal and Ireland, have increased noticeably, as demonstrated by the sharp widening in their sovereign spreads to new record levels (**Chart 9**). In contrast to the period surrounding the April *Report*, when sovereign debt concerns were mostly confined to the weakest peripheral countries, there have been signs of contagion spreading to other European sovereigns: Spanish and Italian 10-year bond spreads have reached their highest levels since the introduction of the euro.

Contagion has also extended to the European banking sector, with bank stocks falling significantly. Commercial banks in Greece, Ireland and Portugal have experienced serious funding problems and have relied heavily on central bank liquidity. Other European banks have faced some deterioration in wholesale funding conditions, reflecting their direct and indirect exposures to vulnerable sovereigns.

Investor confidence in the fiscal positions of a number of advanced economies has also weakened. Lengthy negotiations in the United States on the debt ceiling and the inability of U.S. policy-makers to agree on a longer-term solution to that country's debt problem have weighed on market sentiment, which was already fragile.

Chart 7: Global equity prices have declined since the April *Report*

Equity indexes (1 January 2008 = 100), daily data

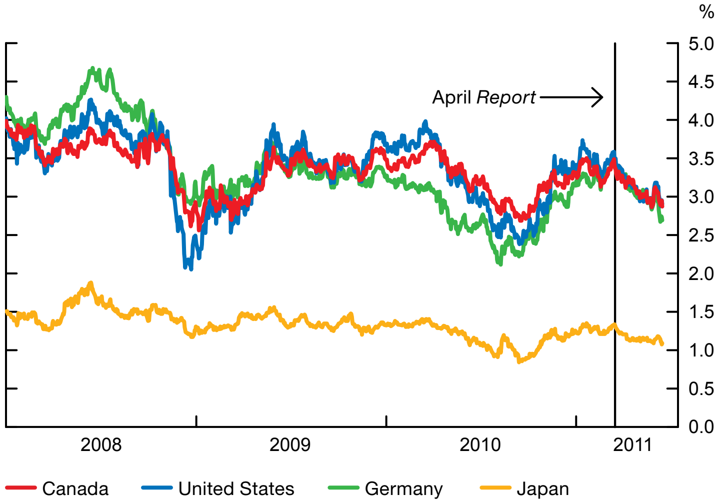


Source: Bloomberg

Last observation: 15 July 2011

Chart 8: Yields on government bonds in major advanced economies have fallen

Yields on 10-year government bonds, daily data

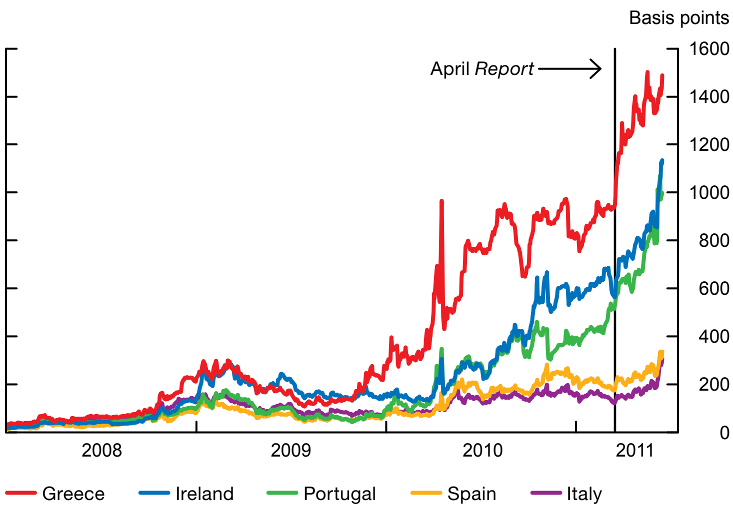


Source: Bloomberg

Last observation: 15 July 2011

Chart 9: Credit spreads for the most vulnerable countries in the euro-area periphery have widened markedly

10-year sovereign yield spreads over German bonds, daily data



Source: Bloomberg

Last observation: 15 July 2011

Outlook for the Global Economy

Growth in the global economy is projected to average about 4.0 per cent annually through 2013 (**Table 1**). Compared with the April *Report*, growth has been marked down in 2011, owing mostly to a weaker near-term outlook for the United States and Japan, but it is broadly similar thereafter. As projected in past reports, deleveraging by households and sovereigns is expected to restrain growth in many advanced economies. The Bank's base-case projection assumes that authorities are able to contain the ongoing European sovereign debt crisis, but includes a slightly lower profile for GDP growth in Europe. A rebalancing of growth within emerging-market countries, with greater reliance on consumption spending, is expected to help support export growth in the advanced economies and set the global recovery on a more sustainable path.

Growth has been marked down in 2011, owing mostly to a weaker near-term outlook for the United States and Japan

Table 1: Projection for global economic growth

	Share of real global GDP[a] (per cent)	Projected growth (per cent)[b]			
		2010	2011	2012	2013
United States	20	2.9 *(2.9)*	2.4 *(3.0)*	3.2 *(3.2)*	3.3 *(3.3)*
Euro area	15	1.7 *(1.7)*	2.0 *(1.8)*	1.6 *(1.7)*	1.9 *(2.3)*
Japan	6	4.0 *(4.0)*	-0.6 *(0.8)*	2.9 *(2.6)*	3.0 *(2.5)*
China	13	10.3 *(10.3)*	9.3 *(9.3)*	8.6 *(8.6)*	8.1 *(8.1)*
Rest of the world	46	5.5 *(5.5)*	4.2 *(4.3)*	3.8 *(3.8)*	3.6 *(3.6)*
World	**100**	**5.0 *(4.9)***	**3.9 *(4.1)***	**4.0 *(3.9)***	**3.9 *(3.9)***

a. GDP shares are based on IMF estimates of the purchasing-power-parity (PPP) valuation of country GDPs for 2010. Source: IMF, WEO, April 2011

b. Numbers in parentheses are projections used for the April 2011 *Monetary Policy Report*.

Source: Bank of Canada

Real GDP growth in the United States is projected to strengthen in the second half of 2011, averaging about 3¼ per cent. The pickup in growth is driven largely by stronger consumption spending, assisted by the recent decline in oil prices, as well as a rebound in manufacturing production as imports of motor vehicle parts from Japan gradually return to normal.

U.S. real GDP is expected to rise modestly by post-recession standards

U.S. real GDP is also expected to rise by about 3¼ per cent on an average annual basis over the 2012–13 period. This growth profile is broadly in line with expectations at the time of the last *Report*, but nevertheless implies a lower GDP track than previously anticipated. The rise in GDP is modest by post-recession standards (**Chart 10**), reflecting the restraining effects of ongoing balance-sheet repair by households as well as an expected tightening in fiscal policy. Significant fiscal consolidation is incorporated into the Bank's base-case projection. This exerts a drag on U.S. GDP growth of roughly 1 percentage point in 2012 and 1.7 percentage points in 2013.

U.S. consumption is projected to grow at a steady pace of approximately 2 per cent through 2013, supported by a gradual recovery in the labour market that more than offsets the dampening effects of ongoing household balance-sheet repair and the drag on personal disposable income coming from fiscal consolidation. The recovery in new residential construction is expected to be further delayed and then to proceed gradually over the projection horizon, given the elevated supply of vacant homes. A modest recovery in the construction of non-residential structures is also expected over this period.

Exports and business investment in equipment and software are expected to remain the key drivers of the U.S. economic expansion

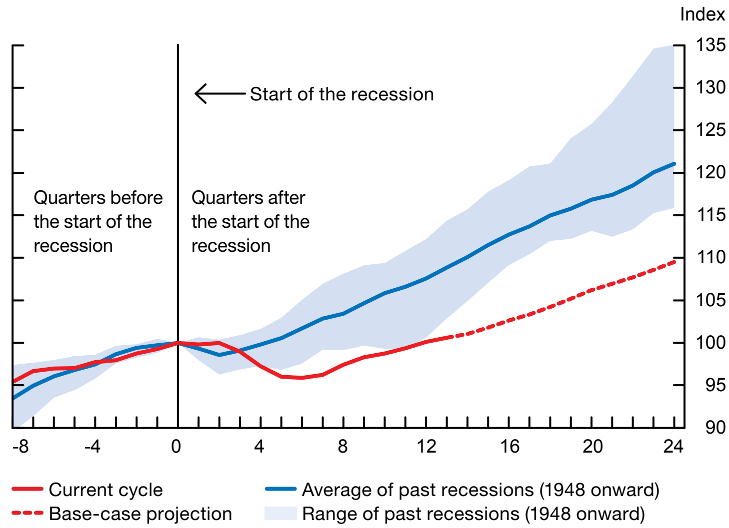
Exports and business investment in equipment and software are expected to remain the key drivers of the U.S. economic expansion. Supported by the low cost of capital and firming economic conditions, business investment should continue to grow at a robust pace through 2013. Growth in net exports is expected to benefit from further improvements in U.S. cost competitiveness and an anticipated rebalancing of GDP growth in the emerging-market economies toward increased domestic demand and higher imports.

Euro-area GDP is expected to expand at a moderate pace through 2013, although at a somewhat weaker rate than projected in the April Report

Euro-area GDP is expected to expand at a moderate pace through 2013, although at a somewhat weaker rate than projected in the April *Report*. Fiscal and financial strains associated with the debt crisis are expected to weigh more heavily on the region's growth prospects over the next three years. As a result, the two-speed pace of the recovery in Europe is projected to continue, with solid momentum in most of the core economies and persistent challenges in the periphery.

Chart 10: U.S. real GDP is expected to rise modestly by post-recession standards

U.S. real GDP across economic cycles; start of recession = 100, quarterly data



Sources: U.S. Bureau of Economic Analysis and Bank of Canada projections

A reconstruction-led recovery is projected for Japan over the forecast horizon. Improving labour market conditions should also support the growth of private domestic demand over this period.

In China, real GDP growth is expected to remain strong, but should moderate through 2012–13 in response to monetary tightening and a further real appreciation of the Chinese currency. These developments, as well as structural reforms, should facilitate a rebalancing of growth away from capital investment and exports and toward consumption. This rotation of demand should help diffuse pressures in the real estate market and dampen inflationary pressures, thereby reducing the probability of a sharper downturn in the future.

In China, real GDP growth is expected to remain strong, but should moderate through 2012–13

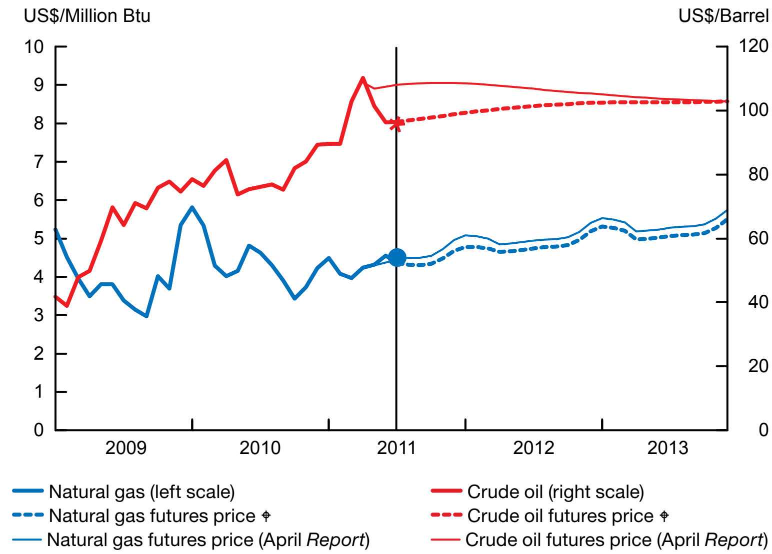
Economic growth in other emerging-market economies is expected to remain robust, reflecting persistent strength in domestic demand and buoyant regional and global trade. Growth is projected to decelerate gradually over the projection period, however, as tighter monetary and fiscal policies reduce excess demand and inflationary pressures. A modest further appreciation of their real exchange rates should also help to restrain export growth.

Although commodity prices are expected to be lower than in the April *Report*, they are projected to remain at historically elevated levels, supported by solid demand from emerging-market economies and limited increases in supply. Based on the latest futures curve, oil prices should remain relatively stable, increasing slightly from current levels and reaching $104 per barrel by the end of 2013. Natural gas prices are also expected to rise, based on the latest futures curve (**Chart 11**), but increased shale production should keep them low relative to their historical relationship with oil prices. Non-energy commodity prices are projected to stay close to their current levels over the next three years, with a steady increase in metals production and a normalization of crop yields offsetting the effects of growing global demand.

Although commodity prices are expected to be lower than in April, they are projected to remain at historically elevated levels

Chart 11: Oil prices are expected to remain relatively stable, rising only modestly

Monthly data



* Spot price for crude oil (15 July 2011)

• Spot price for natural gas (15 July 2011)

⌖ Based on an average of futures contracts over the two weeks ending 15 July 2011

Note: Values for crude oil and natural gas prices in July 2011 are estimates based on the average daily spot prices up to 15 July 2011.

Source: NYMEX

The Canadian Economy

The economic expansion has been proceeding largely as expected

In Canada, the economic expansion has been proceeding largely as expected in the April *Report*. While the supply-chain disruptions resulting from the recent disasters in Japan are leading to volatility in the near-term profile of activity, the broader outlook is little changed, with the Bank continuing to project a moderate pace of growth ahead. The rebalancing of aggregate demand in Canada is gradually unfolding, albeit at a somewhat slower pace than anticipated. Business investment is growing strongly and contributions to growth from government expenditures are diminishing. The Bank continues to project a moderation in the growth of household expenditures, although this is expected to proceed more gradually than in the April projection, reflecting higher personal disposable income. At the same time, net exports have become less of a drag on growth, but further improvement will be restrained by the downwardly revised profile for U.S. growth and ongoing competitiveness challenges.

Core inflation has been slightly firmer than projected

Core inflation has been slightly firmer than projected in the April *Report* and is now expected to remain around 2 per cent over the projection horizon. Total CPI inflation is expected to remain above 3 per cent in the near term, largely reflecting temporary factors. It is expected to return to the 2 per cent target by the middle of 2012 as temporary factors unwind, excess supply in the economy is gradually absorbed, labour compensation growth stays modest, productivity recovers and inflation expectations remain well anchored.

Recent Developments

Economic Activity

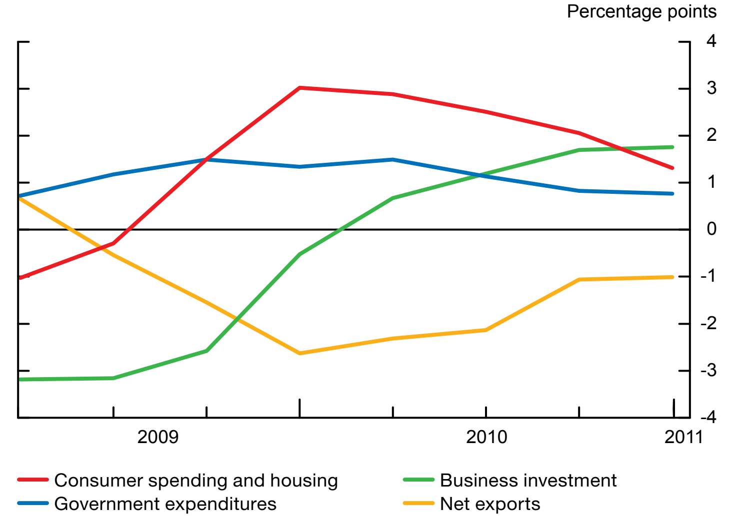
Real GDP in Canada grew at an annual rate of 3.9 per cent in the first quarter of 2011, broadly as expected in the April *Report*. In the second quarter, growth has slowed sharply, as expected, largely as a result of temporary factors.

Growth in overall household expenditures continued to moderate in the first quarter

Growth in overall household expenditures continued to moderate in the first quarter, despite solid growth in personal disposable income and favourable financial conditions (**Chart 12**). Growth in consumer spending was very weak, restrained in part by the adjustment to higher prices for food and energy, while residential investment rebounded strongly, reflecting some pulling forward of activity in advance of changes in mortgage insurance regulations. At 4.2 per cent, the personal savings rate in the first quarter was somewhat higher than had been anticipated at the time of the April *Report*, reflecting both the weakness in consumption and upward revisions to the level of personal disposable income through 2010. Growth in government expenditures also moderated in the first quarter.

Chart 12: Aggregate demand has begun to rebalance toward business investment and net exports, and away from government and household expenditures

Contribution to annualized real GDP growth, 4-quarter moving average

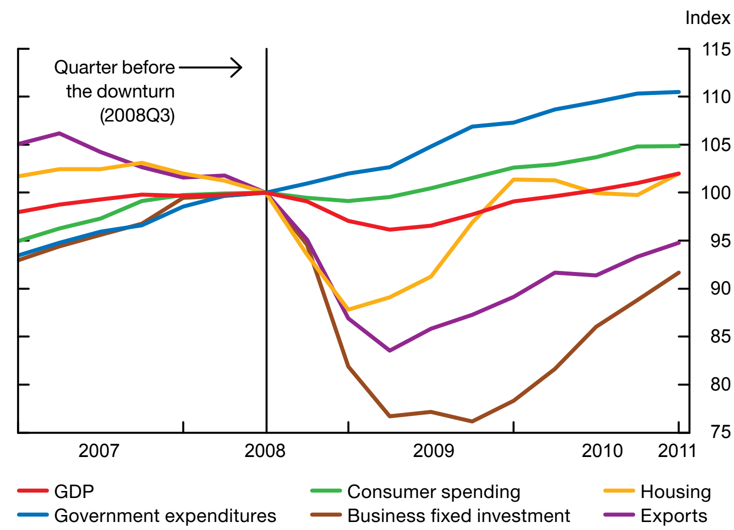


Sources: Statistics Canada and Bank of Canada calculations

Last observation: 2011Q1

Chart 13: Despite rapid growth in recent quarters, business fixed investment remains well below its pre-recession peak

Index: 2008Q3 = 100, chained 2002 dollars, quarterly data



Sources: Statistics Canada and Bank of Canada calculations

Last observation: 2011Q1

Business fixed investment continued to grow at a rapid pace, reflecting higher spending on both machinery and equipment and non-residential structures. Despite its strong rebound since the end of 2009, business fixed investment had recovered only two-thirds of its unusually sharp recessionary decline by the end of the first quarter (**Chart 13**).

Net exports exerted some drag on overall GDP growth in the first quarter, as anticipated in the April *Report*, in part reflecting Canada's ongoing competitiveness challenges. Growth in exports moderated from the rapid pace of late 2010 as exports of non-energy commodities and machinery and equipment eased, although strong increases in exports of autos and energy (related in part to the opening of a new pipeline) supported solid overall growth. Growth in imports reflected a resumption of inventory accumulation, as well as ongoing strength in business investment in machinery and equipment.

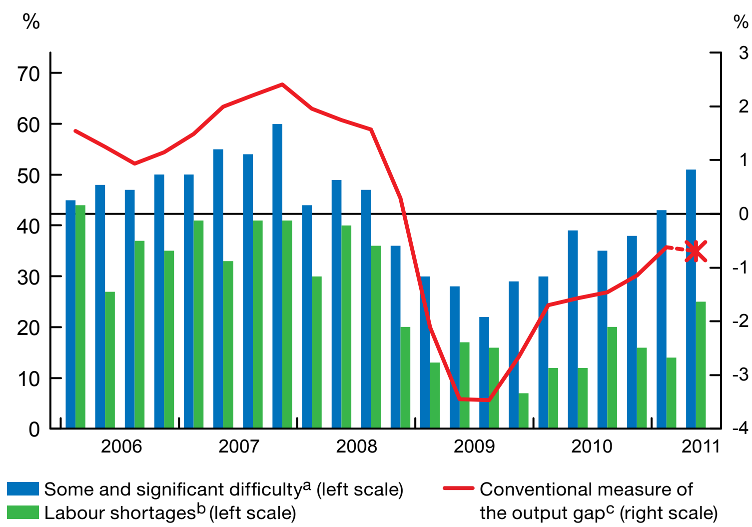
The Bank estimates that economic growth slowed sharply to 1.5 per cent in the second quarter, a slightly greater deceleration than expected in the April *Report*. The slowdown in the second quarter is largely attributable to the expected moderation in government spending as well as to temporary factors, notably the effects of higher food and energy prices on consumer spending in Canada and the United States and supply-chain disruptions related to the Japanese disasters in March. The Bank now estimates that these supply disruptions will subtract roughly three-quarters of a percentage point from GDP growth in Canada in the second quarter, a slightly larger impact than projected in the April *Report*. The boost to activity in the second half of 2011 as conditions normalize is, correspondingly, expected to be slightly greater than previously anticipated.

The Bank estimates that economic growth slowed sharply to 1.5 per cent in the second quarter

Estimated Pressures on Capacity

Indicators of capacity pressures in Canada have been mixed. The level of real GDP has been marginally lower in the first half of 2011 than the Bank had projected, suggesting a greater degree of slack than previously anticipated. However, some indicators of capacity pressures suggest that the economy may be operating closer to its production potential. The Bank's conventional measure of the output gap for the second quarter of 2011 stood at -0.7 per cent (**Chart 14**). In addition, the Bank's summer *Business Outlook Survey* (available on the Bank's website under Publications and Research > Periodicals > BOS Summer 2011) finds that the proportion of firms indicating that they would have difficulty responding to an unexpected increase in demand has risen above its historical average. Nonetheless, the proportion of firms reporting significant capacity constraints remains low. Moreover, key labour market indicators, such as the unemployment rate,

Chart 14: Material excess supply remains in the Canadian economy



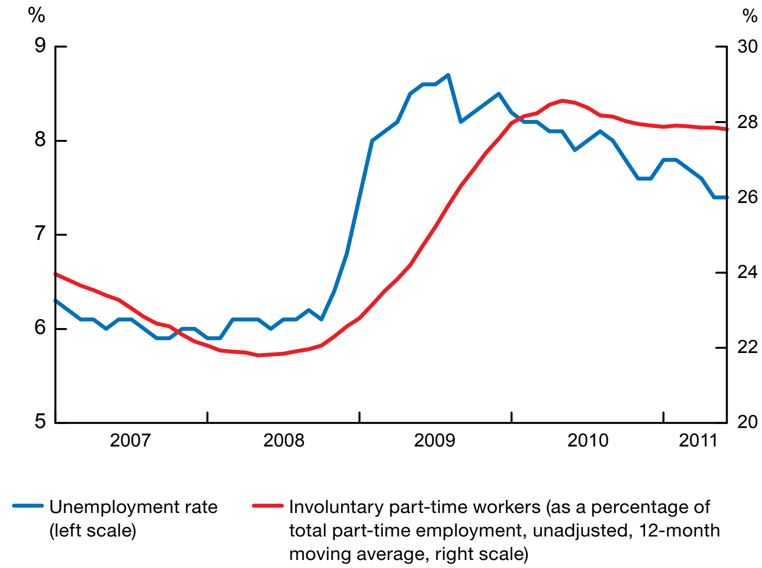
a. Response to *Business Outlook Survey* question on capacity pressures. Percentage of firms indicating that they would have either some or significant difficulty meeting an unanticipated increase in demand/sales.
b. Response to *Business Outlook Survey* question on labour shortages. Percentage of firms reporting labour shortages that restrict their ability to meet demand.
c. Difference between actual output and estimated potential output from the Bank of Canada's conventional measure. The estimate for the second quarter of 2011 (indicated by *) is based on a projected increase in output of 1.5 per cent (at annual rates) for the quarter.

Source: Bank of Canada

Last observation: 2011Q2

Chart 15: Labour market indicators suggest significant slack in the labour market

Monthly data



Source: Statistics Canada

Last observation: June 2011

average hours worked and the proportion of involuntary part-time workers (**Chart 15**), as well as the below-average proportion of firms facing labour shortages as reported in the Bank's survey, point to significant excess capacity.

The Bank judges that the economy was operating at slightly less than 1 per cent below its production capacity in the second quarter of 2011

On balance, the Bank judges that the economy was operating at slightly less than 1 per cent below its production capacity in the second quarter of 2011, roughly the same degree of slack as the Bank had anticipated in April.

Inflation and the 2 Per Cent Target

The gradual pass-through of the surge in world agricultural commodity prices has resulted in a significant rise in core food prices

Core CPI inflation rose to an average of 1.7 per cent in April and May, from 1.3 per cent in the first quarter (**Chart 16**), partly because of the passing of a number of transitory factors that had been dampening it.[1] In addition, the gradual pass-through of the surge in world agricultural commodity prices has resulted in a significant rise in core food prices. While these increases have been consistent with expectations at the time of the April *Report*, price developments for many services have been slightly firmer than expected, although wage growth has remained modest (**Chart 17**). The prices of semi-durable goods have also been slightly firmer than expected. The gap between prices in Canada and the United States for a number of durable and semi-durable goods, adjusted for the exchange rate, remains wide.

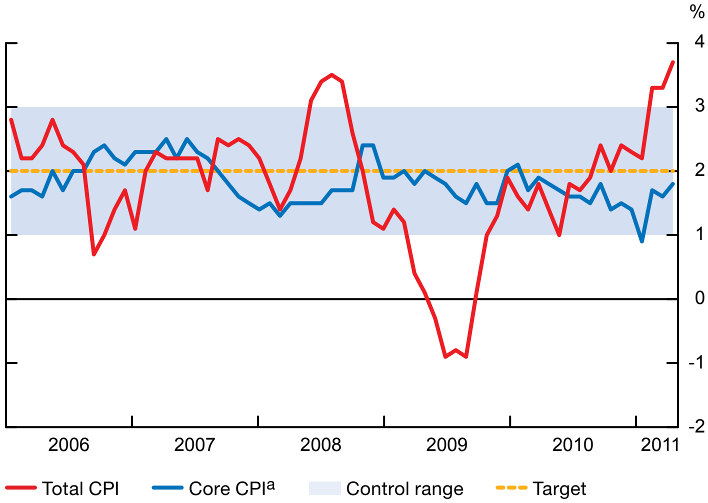
The increase in total CPI inflation from 2.6 per cent in the first quarter to an average of 3.5 per cent in April and May has been larger than anticipated in the April *Report*, owing to a greater-than-expected rise in Canadian gasoline prices, as well as firmer-than-expected core inflation.

Measures of short-term inflation expectations remain consistent with earlier sharp increases in world commodity prices and their observed effects on total CPI. The July Consensus Economics forecast for total CPI inflation was 3.0 per cent in 2011 and very close to the target in 2012 (2.1 per cent).

1 In February, this particularly reflected the effects of unusually large price increases a year earlier for motor vehicles and hotel accommodation (the latter related to the Vancouver Winter Olympics), as well as rebates on electricity prices in Ontario.

Chart 16: Total CPI inflation is being boosted by food and energy prices

Year-over-year percentage change, monthly data



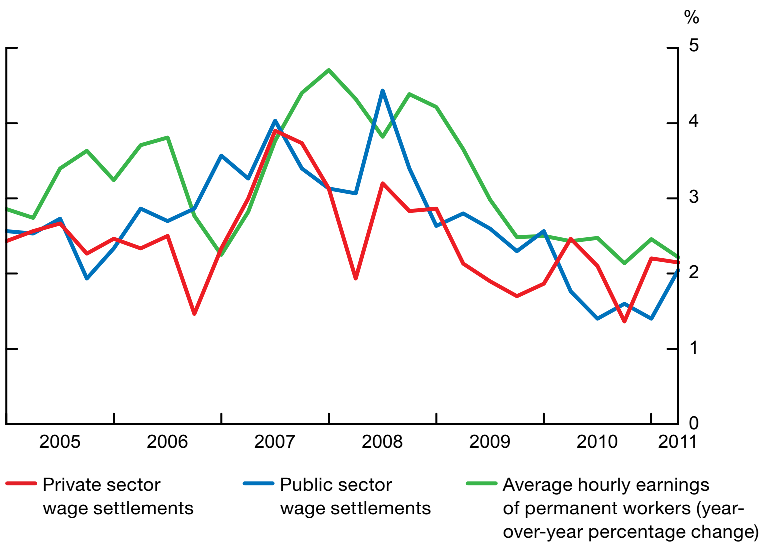
a. CPI excluding eight of the most volatile components and the effect of changes in indirect taxes on the remaining components

Source: Statistics Canada

Last observation: May 2011

Chart 17: Wage growth has been modest

Effective annual increase in base wage rates for newly negotiated settlements, quarterly data



Note: 2011Q2 numbers for wage settlements in the private and public sectors are the average of April and May data.

Sources: Statistics Canada, and Human Resources and Skills Development Canada

Last observation: 2011Q2

Expectations for average inflation over the next two years, as reported in the Bank's summer *Business Outlook Survey*, remain concentrated within the 1 to 3 per cent control range, with a majority of firms continuing to expect inflation to be in the upper half of the range, consistent with the recent rapid increase in commodity prices and in the total CPI. Market-based measures of longer-term inflation expectations remain consistent with the 2 per cent inflation-control target. Overall, the Bank judges that inflation expectations are well anchored at the 2 per cent target.

The Bank judges that inflation expectations are well anchored at the 2 per cent target

Canadian Financial Conditions

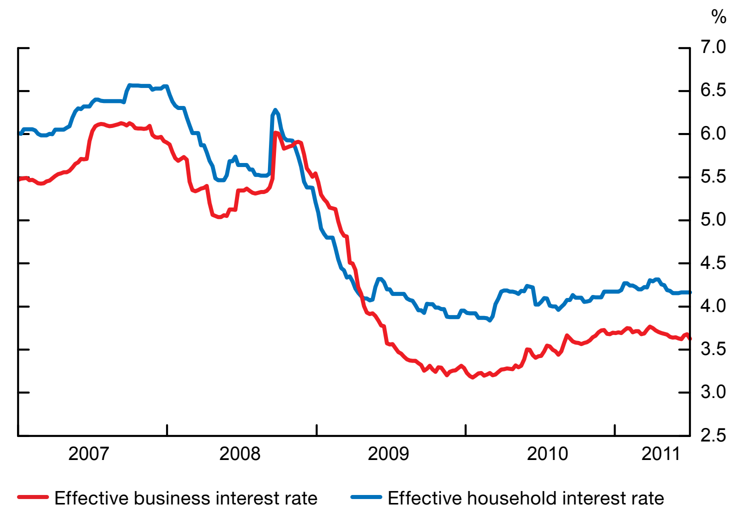
Despite rising global risk aversion, financial conditions in Canada have remained very stimulative

Despite rising global risk aversion, financial conditions in Canada have remained very stimulative in recent months, providing important support to the economic expansion. Effective borrowing costs for households and businesses have edged down further, and remain very low by historical standards (**Chart 18**). As well, there has been an additional easing in access to financing for Canadian firms.

Following a gradual slowing through much of 2010, the growth of household credit picked up markedly in the first quarter of 2011 (**Chart 19**). This re-acceleration appeared to largely reflect transitory factors that boosted the

Chart 18: Borrowing costs for households and businesses remain at exceptionally low levels

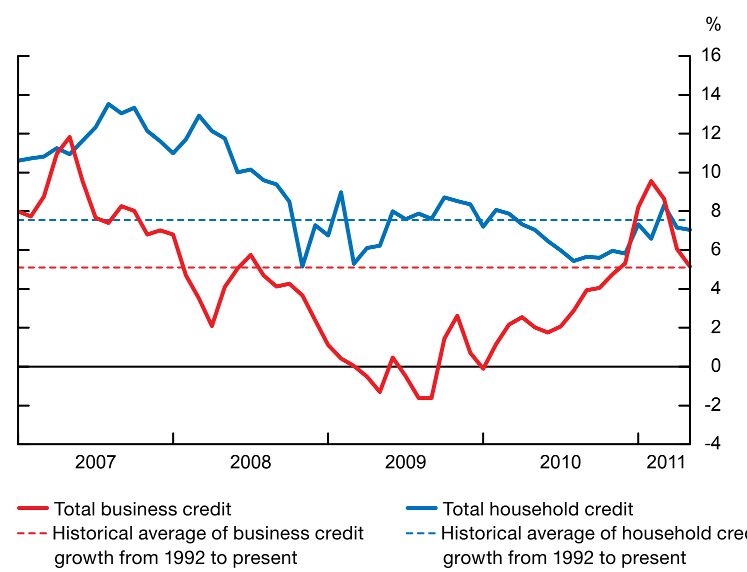
Weekly data



Note: For more information on these series, see <http://credit.bankofcanada.ca/financialconditions>.
Source: Bank of Canada calculations | Last observation: 15 July 2011

Chart 19: The growth rates of household and business credit are close to their historical average

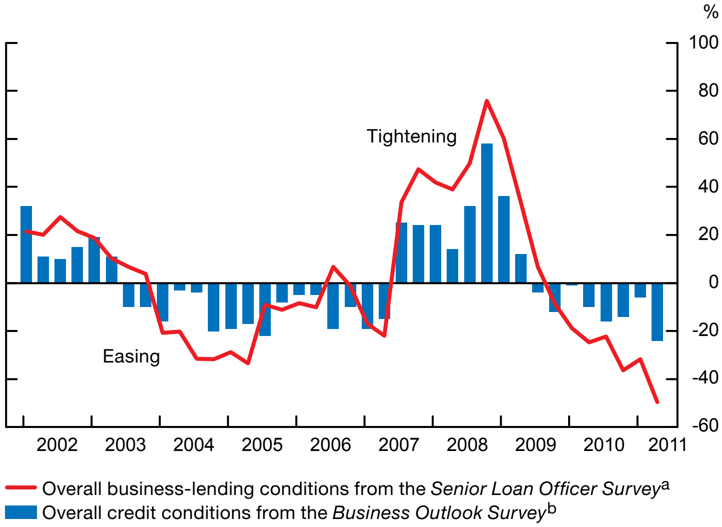
3-month percentage change (at annual rates)



Source: Bank of Canada | Last observation: May 2011

Chart 20: Survey results suggest that credit conditions for Canadian non-financial firms eased further in 2011Q2

Balance of opinion



a. Weighted percentage of surveyed financial institutions reporting tightened credit conditions minus the weighted percentage reporting eased credit conditions

b. Percentage of firms reporting tightened credit conditions minus the percentage reporting eased credit conditions

Source: Bank of Canada

Last observation: 2011Q2

demand for mortgage credit, notably the lagged effects of the surge in sales of existing homes in the fourth quarter of last year, as well as some pulling forward of activity related to recent changes to mortgage insurance regulations. With the passing of these temporary factors, the pace of expansion of household credit has recently moderated somewhat.

The Bank's *Senior Loan Officer Survey* for the second quarter of 2011 (available on the Bank's website under Publications and Research > Periodicals > SLOS 2011Q2) indicated a further easing in the lending conditions faced by a wide range of firms (**Chart 20**), reflecting heightened competition among lending institutions and from capital markets, as well as a more favourable domestic economic outlook. Results from the summer *Business Outlook Survey* also point to a further easing in credit conditions for firms of all sizes.

Investor demand for risky assets in Canada has generally remained strong

Investor demand for risky assets in Canada has generally remained strong, partly reflecting the low level of government bond yields. Accordingly, credit spreads have stayed narrow and corporate bond issuance in Canada has been relatively strong, although issuance has declined in recent weeks amid increased global risk aversion. The Canadian S&P/TSX Composite Index has retreated from its peak earlier in 2011, along with other major world stock markets. In response to favourable financing conditions and the robust ongoing recovery in business investment, growth in total business credit has remained fairly strong in recent months.

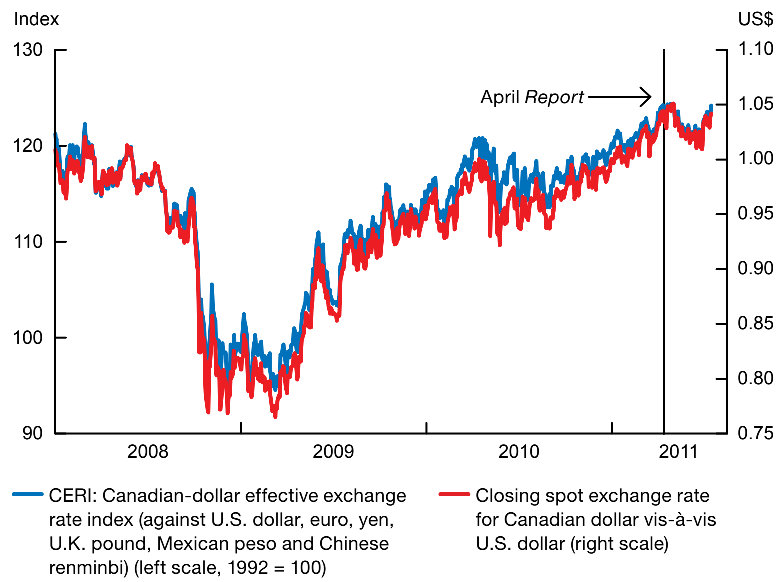
Compared with the unusually rapid pace registered between the end of 2008 and early 2010, growth in the narrow monetary aggregates has been moderate in recent months, consistent with reduced liquidity preference among households and firms. Growth in the broader M2++ aggregate has been edging up but remains below its historical average, continuing to suggest subdued inflation pressures ahead.

Exchange Rate

The Canadian dollar has averaged 103 cents U.S. since the May fixed announcement date, in line with the level assumed in the April *Report*. It has been volatile since the end of June, reflecting broader financial market developments. The Canadian-dollar effective exchange rate index (CERI) has moved in a similar fashion (**Chart 21**).

Chart 21: The Canadian dollar has averaged 103 cents U.S. since May

Daily data



Note: A rise in either series indicates an appreciation of the Canadian dollar.

Source: Bank of Canada

Last observation: 15 July 2011

Outlook for the Canadian Economy

The Bank's base-case projection incorporates the following key assumptions: a Canada/U.S. exchange rate averaging 103 cents U.S.; energy prices in line with recent futures prices; persistently strong prices for non-energy commodities; and supportive global credit conditions.

Aggregate Demand and Supply

Following a rebound in the second half of 2011, economic growth in Canada is expected to slow toward the economy's potential rate of growth

The Bank's outlook for the Canadian economy is little changed from the April *Report*, with a generally moderate pace of expansion expected. Following a rebound in the second half of 2011 related to the unwinding of supply disruptions, economic growth in Canada is expected to slow toward the economy's potential rate of growth over the projection horizon (**Table 2** and **Chart 22**). The Bank continues to expect that the rotation of aggregate demand in Canada away from household and government expenditures toward business fixed investment and net exports will persist over the projection horizon (**Chart 23**). Relative to the April *Report*, growth in household spending is expected to be slightly firmer, while downward revisions to projected U.S. demand and ongoing competitiveness challenges are expected to slow the improvement in Canada's net exports.

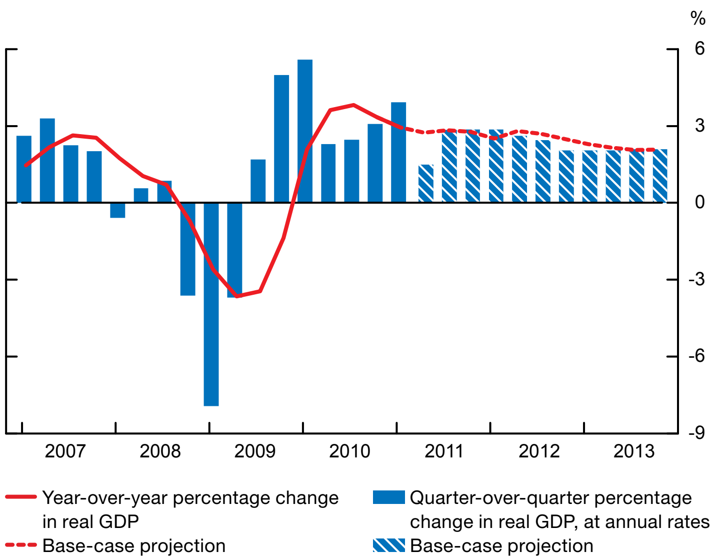
On an average annual basis, real GDP is projected to grow by 2.8 per cent in 2011 and 2.6 per cent in 2012, while growth in 2013 is expected to moderate to 2.1 per cent, with the economy operating at full capacity. This

Table 2: Contributions to average annual real GDP growth
Percentage points[a]

	2010	2011	2012	2013
Consumption	2.0 *(2.0)*	1.3 *(1.6)*	1.6 *(1.4)*	1.1 *(0.9)*
Housing	0.7 *(0.7)*	0.1 *(-0.1)*	0.0 *(0.0)*	0.0 *(0.1)*
Government	1.2 *(1.3)*	-0.1 *(-0.2)*	-0.3 *(-0.6)*	0.2 *(0.2)*
Business fixed investment	0.8 *(0.6)*	1.6 *(1.6)*	1.1 *(1.1)*	0.7 *(0.7)*
Subtotal: Final domestic demand	4.7 *(4.6)*	2.9 *(2.9)*	2.4 *(1.9)*	2.0 *(1.9)*
Exports	1.8 *(1.8)*	1.3 *(2.5)*	1.1 *(1.2)*	1.1 *(1.2)*
Imports	-4.0 *(-4.0)*	-1.7 *(-2.4)*	-0.8 *(-0.7)*	-1.0 *(-1.0)*
Subtotal: Net exports	-2.1 *(-2.2)*	-0.4 *(0.1)*	0.3 *(0.5)*	0.1 *(0.2)*
Inventories	0.6 *(0.7)*	0.3 *(-0.1)*	-0.1 *(0.2)*	0.0 *(0.0)*
GDP	**3.2** *(3.1)*	**2.8** *(2.9)*	**2.6** *(2.6)*	**2.1** *(2.1)*
Memo items:				
Potential output	1.6 *(1.6)*	1.8 *(1.8)*	2.0 *(2.0)*	2.1 *(2.1)*
Real gross domestic income (GDI)	5.0 *(4.9)*	4.1 *(4.7)*	2.9 *(3.1)*	2.2 *(1.9)*

a. Figures in parentheses are from the base-case projection in the April 2011 *Monetary Policy Report*. Those for potential output are from Technical Box 2 in the October 2010 *Report*.

Chart 22: Real GDP is expected to grow at a rate consistent with the gradual absorption of excess supply



Sources: Statistics Canada and Bank of Canada projections

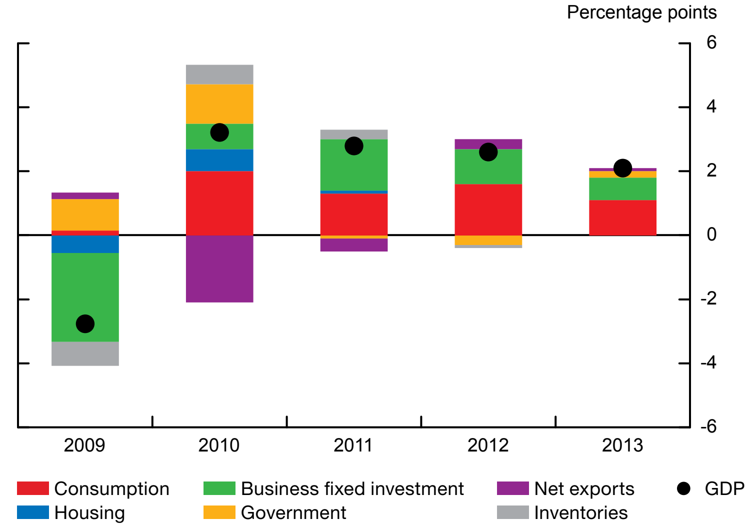
growth profile implies a similar level of activity to that projected in the April *Report*, with the Bank continuing to expect the economy to return to full capacity in the middle of 2012.

The Bank continues to expect the economy to return to full capacity in the middle of 2012

As in April, the Bank expects growth in household expenditures to moderate over the projection horizon relative to the rapid pace throughout the recovery, in line with some moderation in the growth of personal disposable income (**Chart 24**). The high level of consumer indebtedness is also anticipated to restrain the growth of household spending, with the savings rate expected to decline only modestly and the upward trajectory in the ratio of household debt to income projected to moderate. The level of personal disposable income in the Bank's base-case projection is higher than in the

Chart 23: Demand in Canada is projected to rely increasingly on business fixed investment and net exports, and less on government and household expenditures

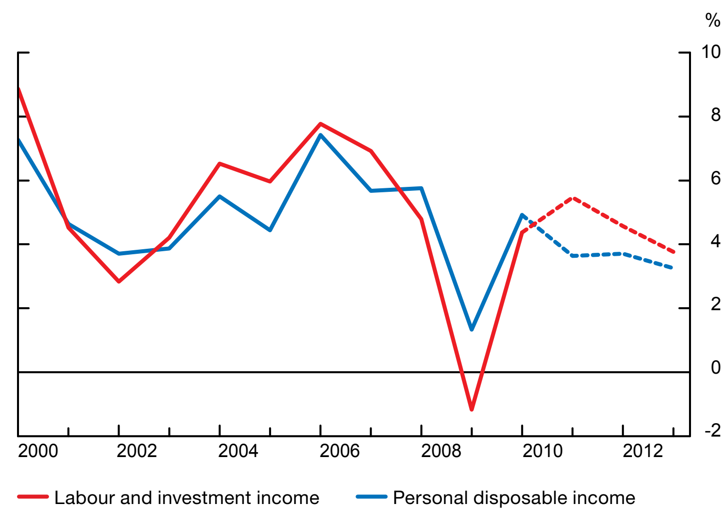
Contributions to real GDP growth



Sources: Statistics Canada and Bank of Canada calculations and projections

Chart 24: Growth in personal disposable income is expected to moderate over the projection horizon

Percentage change, annual data



Sources: Statistics Canada and Bank of Canada calculations and projections

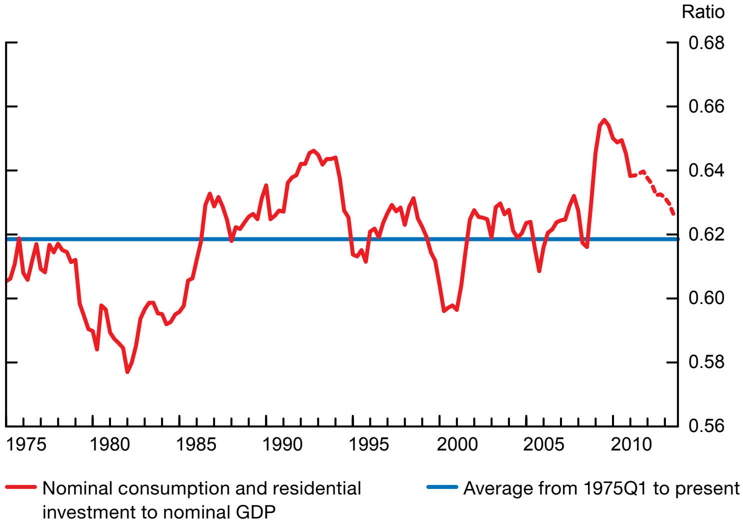
On balance, the projection for household spending is slightly higher

April *Report*, largely reflecting historical revisions. On balance, the projection for household spending is slightly higher than in the April *Report*, although the Bank continues to expect household expenditures as a share of the economy to decline gradually toward its historical average (**Chart 25**).

The Bank continues to project that the contribution of government spending to real GDP growth will be negative through the balance of 2011 and into 2012, consistent with the previously announced unwinding of fiscal stimulus. The profile for government expenditures has been adjusted from the April projection, incorporating the latest information from all levels of government as well as reflecting historical revisions to the national accounts.

Chart 25: The share of household expenditures in GDP is expected to decline gradually toward its historical average

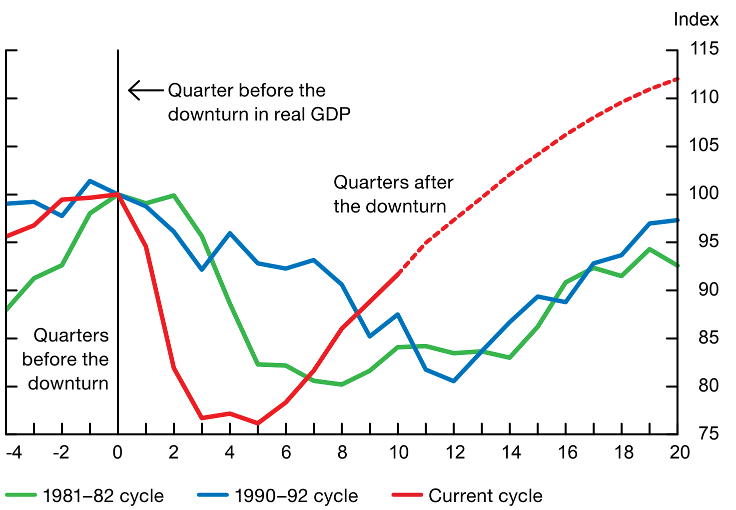
Quarterly data



Sources: Statistics Canada and Bank of Canada calculations and projections

Chart 26: Business fixed investment is projected to continue its recent robust growth

Comparison of real business fixed investment across economic cycles; quarter before the downturn in real GDP = 100, quarterly data



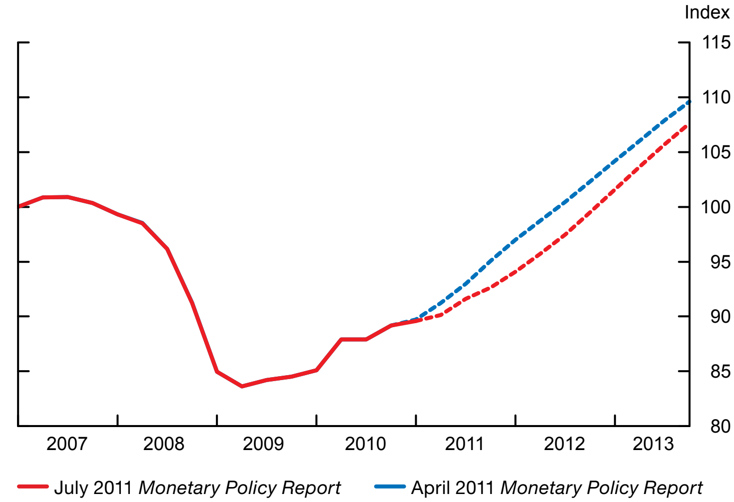
Sources: Statistics Canada and Bank of Canada calculations and projections

Business fixed investment is expected to continue to rise rapidly

Business fixed investment is expected to continue to rise rapidly over the projection horizon, with considerable scope remaining to offset the unusually sharp decline experienced during the recession (**Chart 26**). The buoyant outlook for investment reflects the solid financial positions of Canadian firms, favourable credit conditions, high commodity prices and the strong Canadian dollar, as well as the impetus to improve productivity amid heightened pressures to become more competitive. The Bank's *Business Outlook Survey* has also indicated a consistently high level of investment intentions in recent quarters.

Chart 27: Foreign economic activity is projected to be weaker than in the April *Report*

Foreign activity measure, index: 2007Q1 = 100, quarterly data



Note: The foreign activity measure captures the composition of foreign demand for Canadian exports by including components of U.S. private final domestic demand and economic activity in Canada's other trading partners.
Source: Bank of Canada calculations and projections

The Bank continues to expect an improvement in net exports over the projection horizon as exports recover with rising external demand and import growth slows along with the moderation in the growth of domestic demand. However, the recovery in exports is likely to be modest, given Canada's ongoing competitiveness challenges, which stem primarily from the persistent strength of the Canadian dollar (**Technical Box 1**). The expected recovery in Canadian exports over the medium term is now projected to be even more muted than in the April *Report*, reflecting negative revisions to the projected pace of U.S. demand growth (**Chart 27**), although the growth in exports in the second half of 2011 is likely to be temporarily boosted by the unwinding of supply-chain disruptions. The Bank continues to expect that the expansion in imports will be underpinned by solid growth in business investment, because of its typically high import content and, more generally, by greater import penetration due to the persistent strength of the Canadian dollar. Net exports will continue to be sensitive to currency movements and the expected recovery in productivity growth, as well as to the prospects for external demand.

The expected recovery in Canadian exports is now projected to be even more muted

The Projection for Inflation

The Bank expects core inflation to remain around 2 per cent

The Bank expects core inflation to remain around 2 per cent over the projection horizon as excess supply in the economy is slowly absorbed and inflation expectations remain well anchored (**Table 3** and **Chart 28**). Transitory factors are expected to push core inflation slightly above 2 per cent on a temporary basis. As in the April *Report*, the Bank expects that the dampening effects of HST-related tax refunds passed on by businesses a year ago will fade in coming quarters.[2] The lagged effects of higher prices

2 While core CPI inflation excludes the direct impact of changes in indirect taxes, total CPI inflation reflects both the direct and indirect effects of such changes. With the direct positive impact estimated to have been larger than the indirect dampening effect stemming from HST-related tax refunds passed on by businesses, the introduction of the HST in July 2010 has temporarily boosted reported total CPI inflation but reduced reported core inflation. The latter effect, estimated at -0.3 percentage points, is expected to unwind by the end of 2011.

Technical Box 1

The Impact of the Canadian Dollar on Businesses: Messages from the *Business Outlook Survey*

Each quarter, the Bank's regional offices consult with businesses to gauge their views on economic activity over the next 12 months. When probed about the factors underpinning their sales expectations in the most recent *Business Outlook Survey* (BOS), many firms indicated that the high level of the Canadian dollar is creating headwinds.[1]

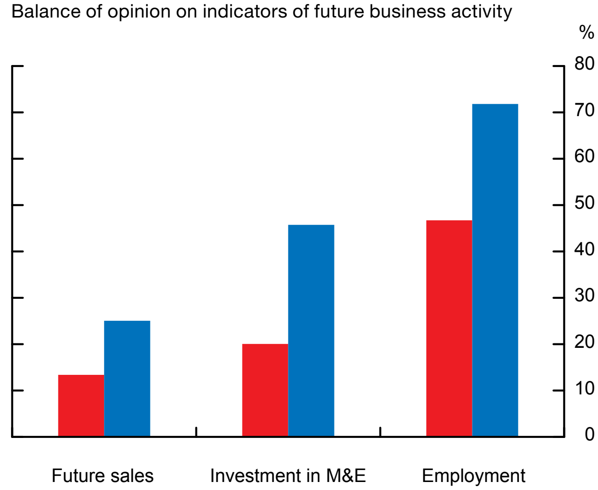
Nearly half of the firms in the summer 2011 survey reported adverse impacts on their business from the appreciation of the Canadian dollar. As shown in **Chart 1-A**, these firms tend to have lower balances of opinion across indicators of real business activity—future sales growth, investment and employment. Overall, firms citing negative effects from the strong dollar were most often based in Central and Eastern Canada.

Firms that indicated experiencing adverse effects from the appreciation of the Canadian dollar cited different reasons. In some cases, the negative impacts stemmed largely from lower profit margins. In other cases, firms reported that the higher dollar was dampening their expectations for sales growth over the next 12 months. Reports of adverse effects on sales prospects were most common among manufacturers (**Chart 1-B**) and among exporting firms focusing primarily on the United States as their main export market.

The dampening effects of Canadian-dollar headwinds on firms' sales expectations were also evident when the exchange rate appreciated to above parity in late 2007. While in 2007 the dollar headwinds contributed to a view that sales growth would slow over the coming year, in the 2011 survey, negatively affected firms still expected their sales growth

Chart 1-A: Indicators of future business activity are more subdued among firms citing adverse impacts from the higher dollar

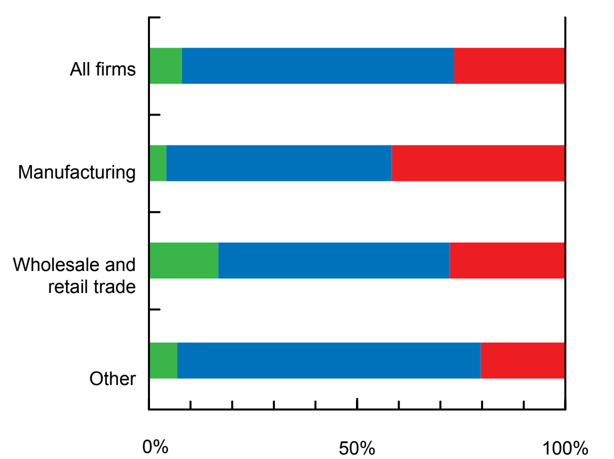
Balance of opinion on indicators of future business activity



Source: Bank of Canada's regional offices, based on responses to the summer 2011 *Business Outlook Survey*

Chart 1-B: On balance, firms report a negative impact on sales expectations from the appreciation of the Canadian dollar

Effects of the higher value of the Canadian dollar on sales expectations



Source: Bank of Canada's regional offices, based on responses to the summer 2011 *Business Outlook Survey*

1 Each quarter, the Bank's regional offices carry out interviews with about 100 firms for the *Business Outlook Survey*. The face-to-face format of the interviews allows the Bank's regional offices to probe businesses on factors underpinning and influencing their outlook (see "The Bank of Canada's *Business Outlook Survey*" by Monica Martin, *Bank of Canada Review*, Spring 2004). A broad set of supplemental questions on the appreciation of the Canadian dollar was asked over several surveys between autumn 2003 and winter 2004-05 and summarized in the Autumn 2005 *Bank of Canada Review* article by Jean Mair, "How the Appreciation of the Canadian Dollar Has Affected Canadian Firms: Evidence from the Bank of Canada *Business Outlook Survey*."

(continued)

Technical Box 1 *(continued)*

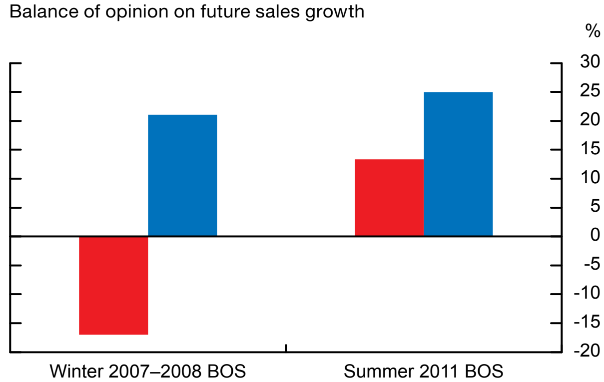
The Impact of the Canadian Dollar on Businesses: Messages from the *Business Outlook Survey*

to improve over the next 12 months, on balance (**Chart 1-C**). Nonetheless, these firms were generally less optimistic than others.

Overall, the responses to the summer 2011 *Business Outlook Survey* suggest that headwinds from the strong Canadian dollar, together with expectations of continuing softness in U.S. demand and robust competition, are constraining sales prospects over the next 12 months for those firms not benefiting directly or indirectly from high commodity prices.

Chart 1-C: In the summer 2011 survey, negatively affected firms still had a positive view on sales growth, but were generally less optimistic than others

Balance of opinion on future sales growth



Source: Bank of Canada's regional offices based, on responses to the *Business Outlook Survey*

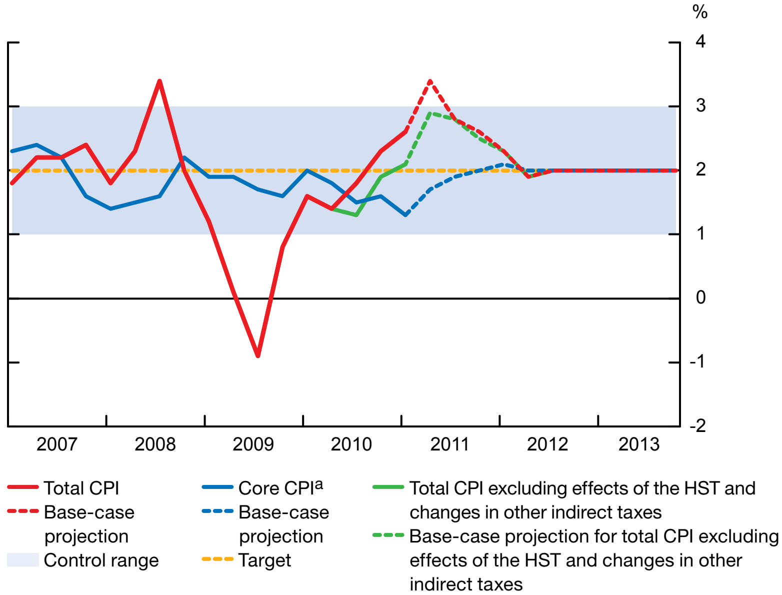
Table 3: Summary of the base-case projection for Canada[a]

	2010	2011				2012				2013			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP (quarter-over-quarter percentage change at annual rates)	3.1 *(3.3)*	3.9 *(4.2)*	1.5 *(2.0)*	2.8 *(2.7)*	2.9 *(2.7)*	2.9 *(2.6)*	2.6 *(2.6)*	2.5 *(2.3)*	2.1 *(2.1)*	2.1 *(2.1)*	2.1 *(2.1)*	2.1 *(2.1)*	2.1 *(2.1)*
Real GDP (year-over-year percentage change)	3.3 *(3.2)*	2.9 *(2.9)*	2.7 *(2.8)*	2.8 *(3.1)*	2.8 *(2.9)*	2.5 *(2.5)*	2.8 *(2.7)*	2.7 *(2.6)*	2.5 *(2.4)*	2.3 *(2.3)*	2.1 *(2.1)*	2.1 *(2.1)*	2.1 *(2.1)*
Core inflation (year-over-year percentage change)	1.6 *(1.6)*	1.3 *(1.2)*	1.7 *(1.4)*	1.9 *(1.7)*	2.0 *(1.8)*	2.1 *(1.9)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*
Total CPI (year-over-year percentage change)	2.3 *(2.3)*	2.6 *(2.4)*	3.4 *(2.7)*	2.8 *(2.5)*	2.6 *(2.5)*	2.3 *(2.2)*	1.9 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*
Total CPI excluding the effect of the HST and changes in other indirect taxes (year-over-year percentage change)	1.9 *(1.9)*	2.1 *(1.9)*	2.9 *(2.2)*	2.8 *(2.5)*	2.5 *(2.4)*	2.3 *(2.2)*	1.9 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*	2.0 *(2.0)*
WTI[b] (level)	85 *(85)*	94 *(94)*	103 *(108)*	97 *(109)*	98 *(109)*	100 *(109)*	101 *(108)*	102 *(107)*	102 *(106)*	103 *(105)*	103 *(104)*	103 *(104)*	103 *(103)*

a. Figures in parentheses are from the base-case projection in the April 2011 *Monetary Policy Report*.
b. Assumptions for the price of West Texas Intermediate crude oil (US$ per barrel), based on an average of futures contracts over the two weeks ending 15 July 2011

Chart 28: Total CPI inflation in Canada is projected to converge to 2 per cent by the middle of 2012

Year-over-year percentage change, quarterly data



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

Sources: Statistics Canada and Bank of Canada calculations and projections

for agricultural commodities on food prices in Canada are also expected to put further upward pressure on core inflation through the second half of 2011, with this impact unwinding through 2012, thus contributing to the stabilization of core inflation at 2 per cent. Slightly firmer prices for core services are expected to have a more persistent effect on core inflation. The high level of the Canadian dollar is expected to continue to help dampen inflationary pressures.

Total CPI inflation is projected to fall from its recently elevated level

In coming quarters, total CPI inflation is projected to fall from its recently elevated level, partly because of the unwinding of the impact of the introduction of the HST in July 2010 on the year-over-year rate of inflation. In addition, energy prices have fallen from their peak, and are projected to be relatively stable going forward, rising only modestly. As a result, total CPI inflation is still expected to converge to core inflation at the 2 per cent target by the middle of 2012.

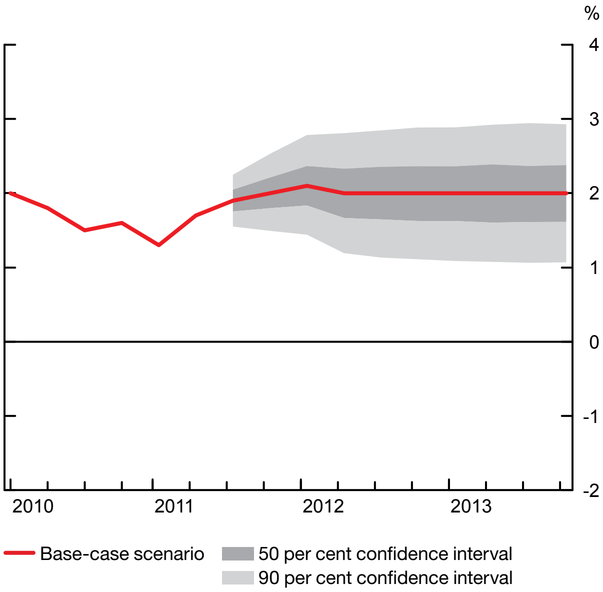
This projection includes a gradual reduction in monetary stimulus over the projection horizon, consistent with achieving the inflation target (**Technical Box 2**).

The uncertainty surrounding the Bank's inflation projection is illustrated using fan charts. **Chart 29** and **Chart 30** depict the 50 per cent and 90 per cent confidence bands for year-over-year core inflation and total CPI inflation from the third quarter of 2011 to the end of 2013.[3]

3 Technical details on the construction of the fan charts are available on the Bank's website; key word search: fan charts.

Chart 29: Projection for core CPI inflation

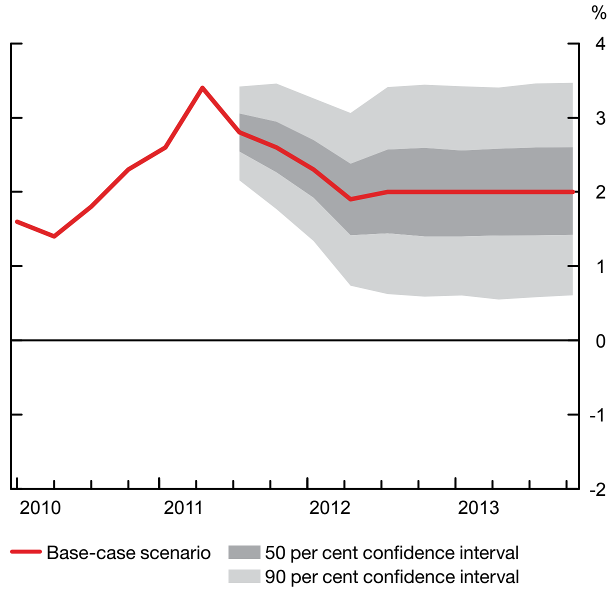
Year-over-year percentage change, quarterly data



Source: Bank of Canada

Chart 30: Projection for total CPI inflation

Year-over-year percentage change, quarterly data



Source: Bank of Canada

Technical Box 2

Headwinds, Tailwinds and the Policy Rate

The Bank of Canada uses the target overnight rate to stabilize inflation at the 2 per cent target. By raising or lowering the target for the overnight rate (the policy rate), the Bank influences other interest rates, such as those for consumer loans and mortgages and, potentially, the exchange rate. These rates ultimately affect economic activity and inflation.

In the long run, once the effects of all current and past economic headwinds and tailwinds have fully dissipated, CPI inflation can be expected to equal (and remain at) the 2 per cent target, output can be expected to equal (and remain at) the economy's production potential, and the target overnight rate can be expected to equal (and remain at) its long-run level.

Over the shorter run, monetary policy can be used to offset the expected ongoing impact of economic headwinds or tailwinds on inflation and output. In these cases, the policy rate will need to deviate from its long-run level to provide the stimulus or restraint necessary to offset these headwinds or tailwinds and return inflation to the target.

For instance, if the Bank judges that the Canadian economy will experience headwinds owing to a persistent reduction in demand for its exports (such as from a foreign demand shock), it can offset the expected ongoing impact on overall GDP and inflation via an appropriately stimulative path for the policy rate. Conversely, if the economy were experiencing tailwinds stemming from, for instance, a persistent financial shock (that results in unusually narrow risk spreads), the Bank may judge it appropriate to maintain a sufficiently high level for the policy rate, relative to its long-run level, in order to offset the expected inflationary implications of the shock.[1] In either case, the Bank must make a judgment regarding the most appropriate horizon over which to return inflation to the 2 per cent target.

The key message is that, in general, the policy rate can deviate from its long-run level even if inflation is at target and output is at potential. In the context of a projection for inflation, this implies that the policy rate can return to its long-run level *after* inflation is projected to reach the 2 per cent target and output

1 The particular shocks discussed here are for illustrative purposes only. Real and financial shocks can both act as headwinds or tailwinds to the economy.

(continued)

Technical Box 2 *(continued)*

Headwinds, Tailwinds and the Policy Rate

Figure 2-A: Impact of foreign demand headwinds with a simple rule

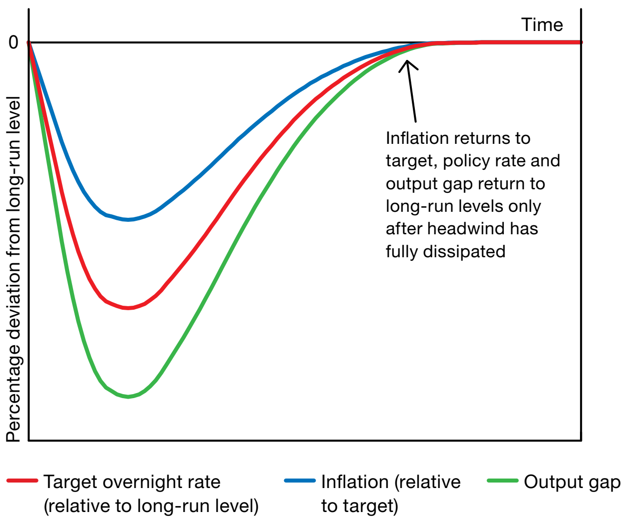
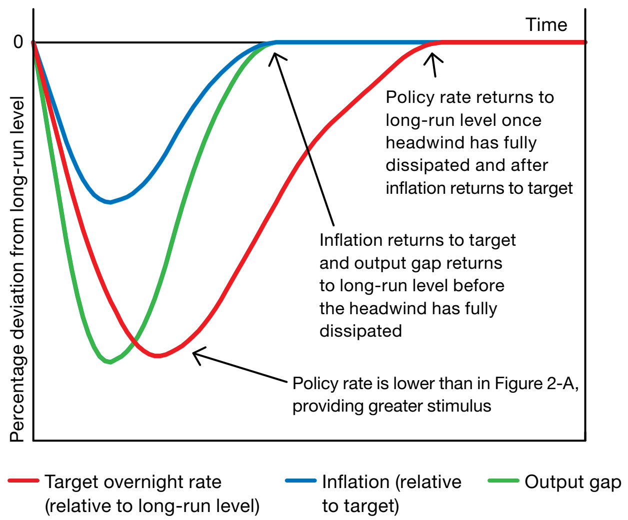


Figure 2-B: Impact of foreign demand headwinds with a more appropriate policy response



is projected to reach its potential. This contrasts with the assumption that the policy rate should always be at its long-run level when inflation is at target and the output gap is closed.

Figure 2-A and **Figure 2-B** plot the hypothetical responses of inflation, the output gap and the target overnight rate to a negative foreign demand shock. **Figure 2-A** illustrates the case of a simple Taylor-type rule[2] where the overnight rate mechanically responds to deviations of current inflation from the target. In this scenario, inflation returns to target, output returns to its potential and the overnight rate returns to its long-run level, all at the same time, after the effects of the headwinds have fully dissipated.

Figure 2-B illustrates the more desirable case where the central bank takes better account of the expected headwinds from the sustained decline in foreign demand. The central bank leans more heavily into the headwinds by maintaining interest rates further below their long-run level, which more fully offsets the effects of weaker foreign demand[3] on the domestic economy. This allows inflation to return more quickly to the target (and stay there) and output to potential, *before* the policy rate returns to its long-run level, as illustrated.

2 A Taylor-type rule specifies policy in terms of current inflation and the estimated current level of the output gap.

3 Lags in the transmission of monetary policy may prevent the central bank from fully offsetting the *initial* impact of a shock on inflation.

Risks to the Outlook

Although the global outlook remains broadly unchanged, global risks have intensified, most notably in Europe.

The three main upside risks to inflation in Canada relate to the possibility of higher-than-projected commodity prices and global inflation, stronger momentum in Canadian household spending, and the possibility that there is less excess capacity in the Canadian economy.

- If efforts to restrain excess demand and mounting inflation pressures in emerging-market economies prove unsuccessful, commodity prices and global inflation could rise much faster than projected, raising incomes in Canada through higher export prices and increasing pressures on domestic prices.
- There could be stronger-than-expected momentum in household expenditures in Canada. With very stimulative financing conditions, borrowing could grow faster than income.
- The economy's production potential could be lower than estimated. While labour market indicators still point to significant slack, some indicators of capacity pressures suggest that the economy may be operating closer to its production potential.

The three main downside risks to inflation in Canada relate to sovereign debt concerns in Europe, headwinds from the persistent strength of the Canadian dollar and the possibility that growth in household spending could be weaker than projected.

- Acute fiscal and financial strains in Europe could trigger a generalized retrenchment from risk-taking and severe dislocations in global funding markets.
- The persistent strength of the Canadian dollar could create even greater headwinds for the Canadian economy, putting additional downward pressure on inflation through weaker-than-expected net exports and larger declines in import prices.
- High household debt levels in Canada could lead to a sharper-than-expected deceleration in household spending. Relatedly, if there were a sudden weakening in the Canadian housing sector, it could have sizable spillover effects on other areas of the economy.

Overall, the Bank judges that the risks to the inflation outlook in Canada are roughly balanced over the projection horizon.