



BANK OF CANADA
BANQUE DU CANADA

Monetary Policy Report

October 2011



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.

* 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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Monetary Policy Report

October 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.

The challenges in the current global economic environment are significant but so, too, are the opportunities. . . . For its part, the Bank of Canada has a wide range of tools and policy options that it will continue to deploy as appropriate in order to ensure that Canadians can seize these opportunities in an environment of domestic macroeconomic and financial stability.

—Mark Carney

*Governor, Bank of Canada
20 September 2011
Saint John, New Brunswick*

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Overview

The global economy has slowed markedly as several downside risks to the projection outlined in July have been realized. Financial market volatility has increased and there has been a generalized retrenchment from risk-taking across global markets. The combination of ongoing deleveraging by banks and households, increased fiscal austerity, and declining business and consumer confidence is expected to restrain growth across the advanced economies. The Bank now expects that the euro area—where these dynamics are most acute—will experience a brief recession. The Bank's base-case scenario assumes that the euro-area crisis will be contained, although this assumption is clearly subject to downside risks. In the United States, diminished household confidence, tighter financial conditions and increased fiscal drag are expected to result in weak real GDP growth through the first half of 2012, before growth strengthens gradually thereafter. In Japan, reconstruction activity is projected to boost growth over 2012–13, although Japan's economy will be constrained by reduced global activity and the sharp appreciation of the yen. Growth in China and other emerging-market economies is projected to moderate to a more sustainable pace in response to weaker external demand and the lagged effects of past policy tightening. These developments, combined with recent declines in commodity prices, are expected to dampen global inflationary pressures.

The outlook for the Canadian economy has weakened since July, with the significantly less-favourable external environment affecting Canada through financial, confidence and trade channels. Although Canadian growth rebounded in the third quarter with the unwinding of temporary factors, underlying economic momentum has slowed and is expected to remain modest through the middle of next year. Domestic demand is expected to remain the principal driver of growth over the projection horizon, though at a more subdued pace than previously anticipated. Household expenditures are now projected to grow relatively modestly as lower commodity prices and heightened volatility in financial markets weigh on the incomes, wealth and confidence of Canadian households. Business fixed investment is still expected to grow solidly in response to very stimulative financial conditions and heightened competitive pressures, although it will be dampened by the weaker and more uncertain global economic environment. Net exports are expected to remain a source of weakness, owing to sluggish foreign demand and ongoing competitiveness challenges, including the persistent strength of the Canadian dollar.

Overall, the Bank expects that growth in Canada will be slow through mid-2012 before picking up as the global economic environment improves, uncertainty dissipates and confidence increases. The Bank projects that the economy will expand by 2.1 per cent in 2011, 1.9 per cent in 2012 and 2.9 per cent in 2013.

This report includes data received up to 21 October 2011.

The weaker economic outlook implies greater and more persistent economic slack than previously anticipated, with the Canadian economy now expected to return to full capacity by the end of 2013. As a result, core inflation is expected to be slightly softer than previously expected, declining through 2012 before returning to 2 per cent by the end of 2013. The projection for total CPI inflation has also been revised down, reflecting the recent reversal of earlier sharp increases in world energy prices as well as modestly weaker core inflation. Total CPI inflation is expected to trough around 1 per cent by the middle of 2012 before rising with core inflation to the 2 per cent target by the end of 2013, as excess supply in the economy is slowly absorbed.

Several significant upside and downside risks are present in the inflation outlook for Canada.

The three main upside risks to inflation in Canada relate to the possibility of stronger-than-expected inflationary pressures in the global economy, stronger momentum in Canadian household spending, and the possibility of a faster-than-expected rebound in business and consumer confidence, due to more decisive policy action in the major advanced economies.

The three main downside risks to inflation in Canada relate to sovereign debt and banking concerns in Europe, the increased probability of a recession in the U.S. economy, and the possibility that growth in household spending could be weaker than projected.

Overall, the Bank judges that these risks are roughly balanced over the projection horizon.

Reflecting all of these factors, on 25 October, the Bank maintained the target for the overnight rate at 1 per cent. With the target interest rate near historic lows and the financial system functioning well, there is considerable monetary policy stimulus in Canada. The Bank will continue to monitor carefully economic and financial developments in the Canadian and global economies, together with the evolution of risks, and set monetary policy consistent with achieving the 2 per cent inflation target over the medium term.

The Global Economy

The global economy has slowed markedly as several of the downside risks to the projection outlined in the July *Monetary Policy Report* have been realized. Acute fiscal and financial strains in Europe and concerns about the strength of global economic activity have led to increased financial market volatility, reduced business and consumer confidence, and a generalized retrenchment from risk-taking. In this context, pressures in the European banking sector have escalated, contributing to a sharp slowdown in economic growth in the euro area. In the United States, revisions to national accounts data indicate that the recent recession was deeper than previously reported, and the recovery shallower. Growth in many emerging-market economies has also moderated, although it remains relatively robust. Commodity prices have declined significantly in response to diminished prospects for global economic growth.

The global economy has slowed markedly

Consistent with historical experience following severe financial crises, the recovery in advanced economies is projected to continue at a much slower pace than is typical in post-recession periods. In the euro area, economic growth is expected to remain weak over the projection horizon. Even though the Bank's projection assumes that steps are taken to contain the crisis, growth is expected to be restrained by ongoing bank and sovereign deleveraging and only a gradual recovery in confidence. Repair of household balance sheets and an anticipated tightening in fiscal policy are also expected to weigh on real GDP growth in the United States. Growth in emerging-market economies is projected to decelerate in response to lower demand from advanced economies. Owing to the lack of exchange rate adjustment and limited progress in rebalancing global demand, the weak and uneven nature of the current recovery is expected to persist.

In the euro area, economic growth is expected to remain weak over the projection horizon

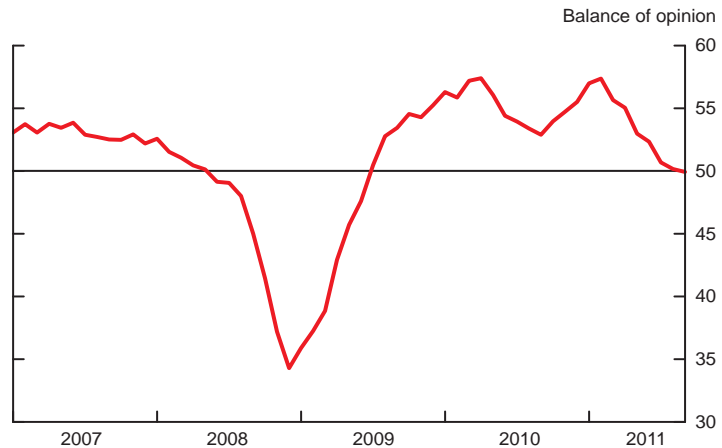
Recent Developments

Global economic growth has weakened considerably in recent months, reflecting a sharp slowing in activity in the United States and the euro area (**Chart 1**). The pace of growth in emerging-market economies has also decelerated, albeit from relatively high levels.

Real GDP growth in the euro area fell to 0.6 per cent in the second quarter, well below expectations at the time of the July *Report*, and recent indicators point to continued weakness in the third quarter. Growth in the core economies has slowed significantly, while economic activity in the periphery remains subdued. Consumer and business confidence, which were already low in the periphery, have also dropped markedly in the core economies. Euro-area banks are restricting access to credit as they attempt to delever (**Chart 2**). Slowing economic activity, reduced confidence and heightened financial stress are becoming mutually reinforcing as concerns regarding

Chart 1: Global economic growth has weakened considerably in recent months

World manufacturing purchasing managers' index, monthly data



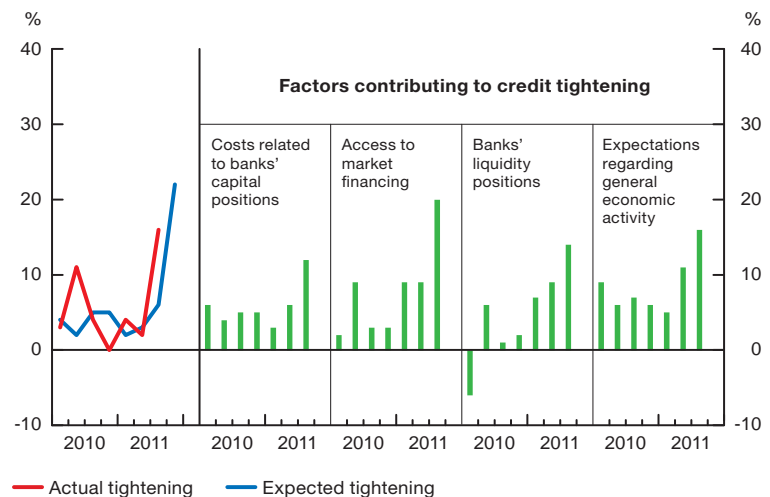
Note: The purchasing managers' index (PMI) is a composite diffusion index of manufacturing conditions. A reading above (below) 50 indicates that a larger percentage of firms reported that their production expanded (contracted) compared with the previous month, while a reading at 50 indicates that production was unchanged from the previous month.

Sources: JPMorgan and Markit

Last observation: September 2011

Chart 2: Euro-area banks are restricting access to credit

Net percentages of banks contributing to credit tightening for enterprises



Note: Data reflect responses to the *Euro Area Bank Lending Survey*. Actual tightening refers to the tightening that has already occurred, while expected tightening refers to the additional tightening anticipated by banks.

Source: European Central Bank

Last observation: 2011Q3

Revisions indicate that the U.S. recession was deeper and the recovery shallower than previously reported

the fiscal sustainability of peripheral Europe spread to some of the core economies, increasing worries about the stability of the banking system.

In the United States, information released since the *July Report* points to a much lower path for U.S. real GDP in recent years than earlier estimates had suggested. While the fundamental forces and dynamics affecting the U.S. economy have not changed, their magnitudes now appear much larger (**Technical Box 1**). The July revisions to the national accounts data indicate that the U.S. recession was deeper and the recovery shallower than previously reported. Real GDP growth has slowed from an annual rate of roughly 2.5 per cent in the second half of 2010 to less than 1.0 per cent in the first half of 2011. Growth is estimated to have improved in the third quarter of 2011, supported by the recent decline in commodity prices and the

Deleveraging in the United States Will Continue to Dampen Growth

History has shown that, following severe financial crises, most economies experience a period of significant and lengthy deleveraging as households, firms and governments reduce their debt loads. In the early phase of the deleveraging process, GDP growth typically slows significantly, reflecting weaker credit growth and higher savings. This deleveraging process is currently taking place in the U.S. economy and explains, in part, why the Bank continues to predict a sluggish recovery by historical standards.

Prior to the recent financial crisis, the U.S. household sector accumulated significant debts as asset prices were increasing strongly. U.S. household net worth has since fallen by \$7.2 trillion or about 12 times current annual savings (**Chart 1-A**). As a result, a prolonged period of elevated savings will be necessary for households to recoup some of their losses and achieve their desired level of net worth (**Chart 1-B**). Recent benchmark revisions to the U.S. National Accounts show significantly lower household incomes than previously reported and suggest that the process of household deleveraging and reaccumulation of wealth will be more challenging than originally anticipated. While increases in house prices and financial assets could alleviate the need for households to maintain higher levels of savings, no significant gains in wealth are expected in the near term.

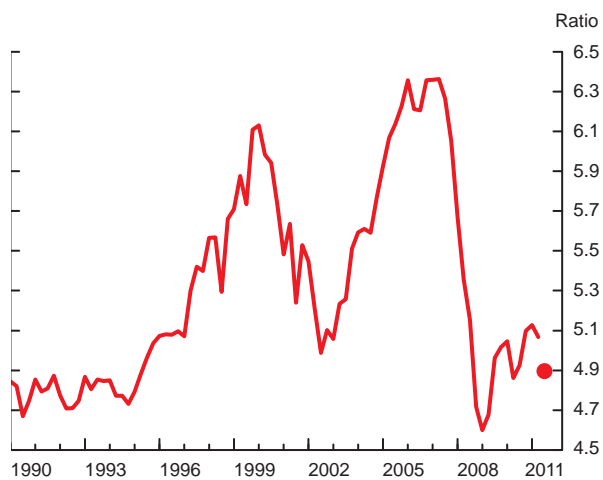
Although a gradual improvement in labour market conditions should boost households' disposable income, fiscal policy is expected to act as a drag on incomes and growth while action is taken to put the U.S. fiscal situation on a sustainable track. The United States will have to lower its general government deficit as a share of GDP from the current value of 9.6 per cent to about 5 per cent by 2013 in order to meet the commitment it made at the G-20 Summit in Toronto. Further fiscal consolidation will be required over the medium term to stabilize or reduce the ratio of government debt to GDP by 2016, also consistent with the Toronto G-20 Declaration.

Although the current U.S. economic recovery is the weakest since the Great Depression, it is in line with average recoveries seen in other advanced economies that have experienced major financial crises. While U.S. bank deleveraging is well under way, still-elevated levels of household debt, weakness in the U.S. housing and

labour markets, and the need for fiscal consolidation all imply that growth in U.S. domestic demand—and, hence, growth in demand for Canadian exports—will remain modest for the foreseeable future.

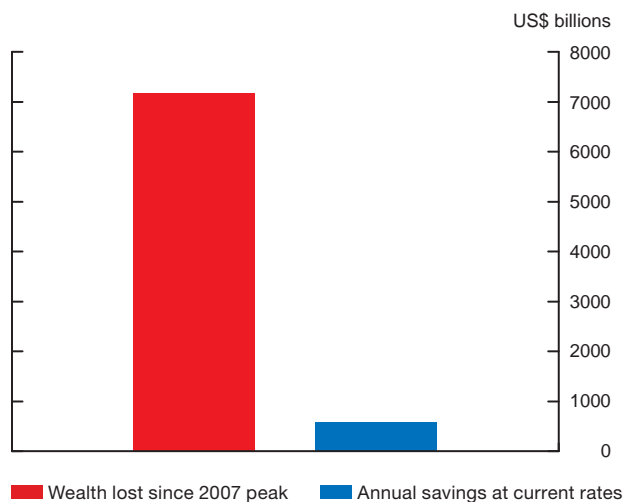
Chart 1-A: U.S. household net worth fell significantly during the recent recession

U.S. household net worth relative to disposable income, quarterly data



Note: The figure for the third quarter of 2011 is a projection.
Sources: U.S. Federal Reserve, Bureau of Economic Analysis and Bank of Canada calculations
Last observation: 2011Q3

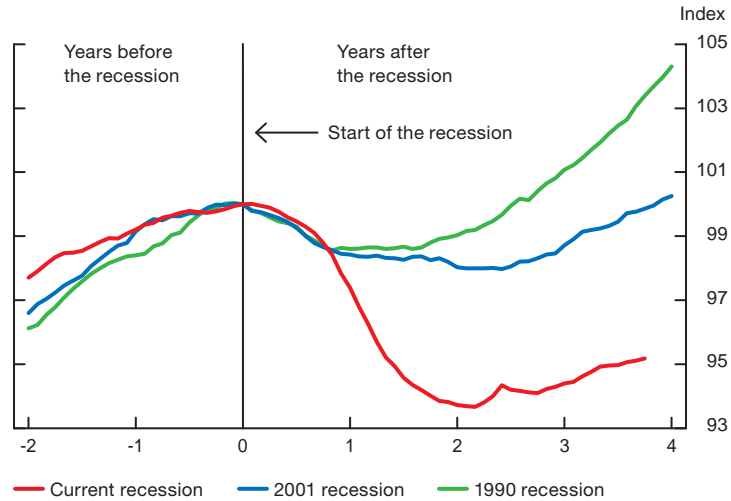
Chart 1-B: Personal savings are low relative to the wealth loss experienced since 2007



Sources: U.S. Bureau of Economic Analysis, U.S. Federal Reserve and Bank of Canada calculations

Chart 3: Employment in the United States has remained weak

U.S. non-farm employment across economic cycles;
start of recession = 100, monthly data



Source: U.S. Bureau of Labor Statistics

Last observation: September 2011

Efforts to repair household balance sheets in the United States are exerting a much stronger restraining effect on domestic demand

restoration of supply chains following the natural disasters in Japan. However, efforts to repair household balance sheets in the United States are exerting a much stronger restraining effect on domestic demand than previously anticipated.

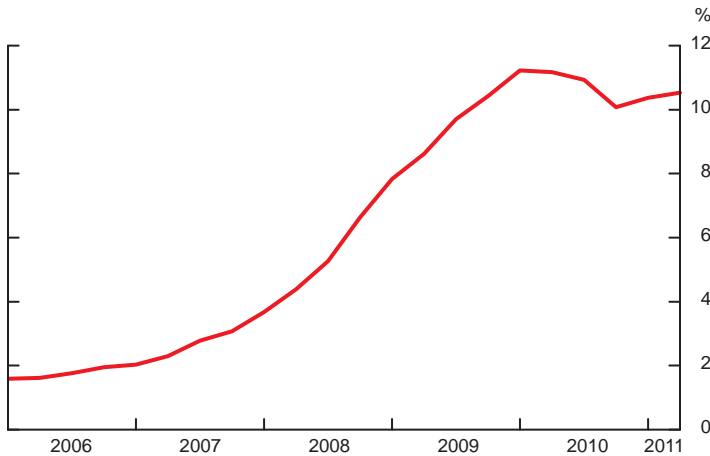
Recent adverse shocks to U.S. household finances and falling consumer confidence have led to a marked slowing in U.S. consumption spending and have rendered the process of balance-sheet repair even more challenging. Employment gains have remained sluggish since the start of the year, with net job creation in the private sector slowing and governments continuing to cut their payrolls (**Chart 3**). In addition, household wealth has been hit by recent declines in equity prices. Housing demand has remained weak and, together with the elevated stock of vacant homes, has depressed residential construction. A negative cycle is under way in which persistently high rates of mortgage delinquency are creating stress for financial institutions, leading to greater caution in the extension of credit and exacerbating the weakness in housing demand (**Chart 4**). This will gradually dissipate as households repair their balance sheets.

U.S. economic activity has been supported through this difficult period by strength in business investment and exports. Business investment in equipment and software has been underpinned by the low cost of capital and healthy corporate balance sheets. However, investment in non-residential structures has remained subdued in view of continuing excess capacity (**Chart 5**). U.S. exports have benefited from solid demand in emerging-market economies and from enhanced competitiveness stemming from robust productivity growth and the past depreciation of the U.S. dollar.

Real GDP in Japan contracted by 2.1 per cent in the second quarter, but incoming data point to positive growth in the third quarter, driven by the restoration of supply chains and the reconstruction of infrastructure following the natural disasters in March. Household spending has also recovered, supported by a pickup in consumer confidence. However, growth in exports, which had been an important contributing factor to GDP growth in earlier periods, has stalled in the past few months. Owing to concerns that a rising yen would weaken export growth even further, Japanese authorities

Chart 4: High rates of mortgage delinquency in the United States are creating stress for financial institutions

Delinquency rates on residential real estate loans, quarterly data

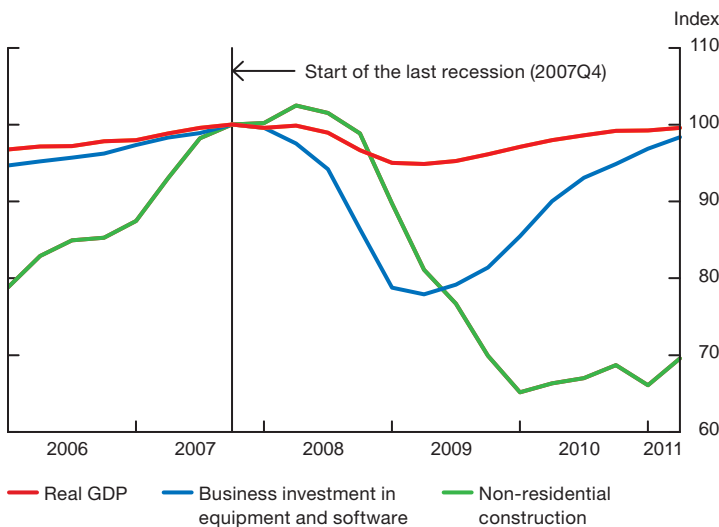


Source: U.S. Federal Reserve

Last observation: 2011Q2

Chart 5: Business investment in equipment and software has been underpinned by the low cost of capital and healthy corporate balance sheets

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



Source: U.S. Bureau of Economic Analysis

Last observation: 2011Q2

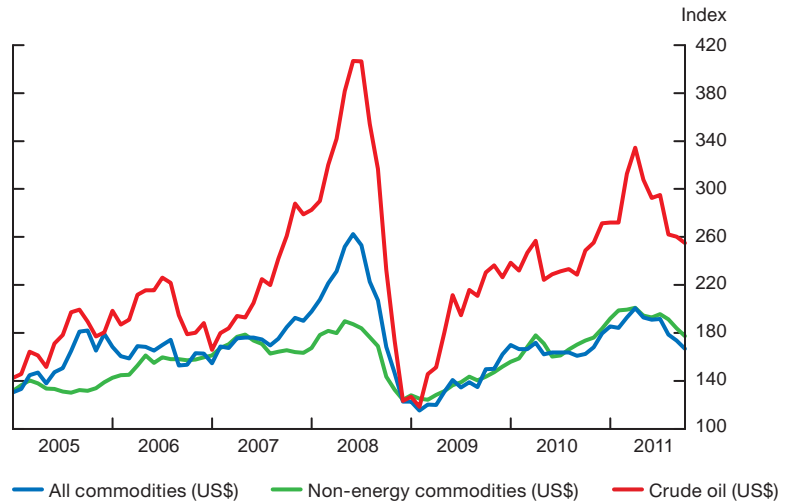
intervened in foreign exchange markets at the beginning of August to limit the appreciation of the currency.

In China, growth in real GDP moderated to 9.1 per cent in the third quarter, largely in response to the past tightening in monetary policy. The growth of consumption has slowed somewhat, but real estate investment remains robust, boosted by a government program to build 10 million social housing units in each of 2011 and 2012. Reflecting the ongoing weakness in activity in advanced economies, China's export growth has decelerated recently. Moderating food prices have contributed to a slight decline in inflation, but price pressures remain elevated, with consumer prices rising by 6.1 per cent on a year-over-year basis in September—well in excess of the government's target of 4 per cent.

Growth in China's real GDP moderated in the third quarter, largely in response to the past tightening in monetary policy

Chart 6: Global commodity prices have declined significantly since the July Report

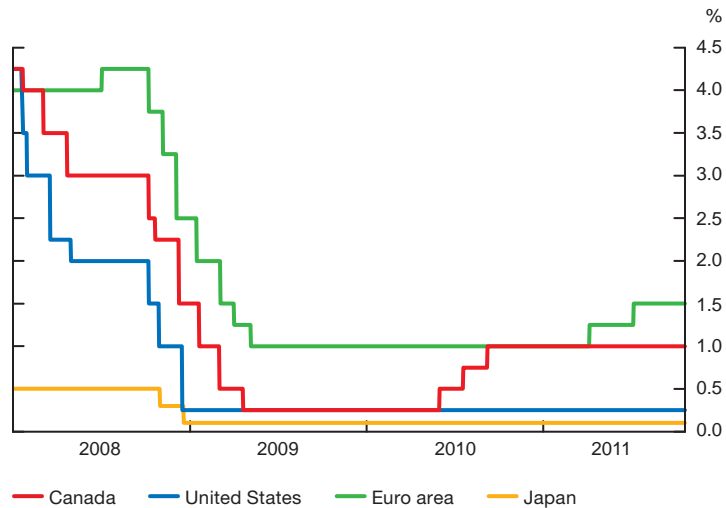
Bank of Canada commodity price index (rebased to January 2003 = 100), monthly data



Note: Values in October 2011 are estimates based on the average daily spot prices up to 21 October 2011. Source: Bank of Canada. Last observation: October 2011

Chart 7: 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: 21 October 2011

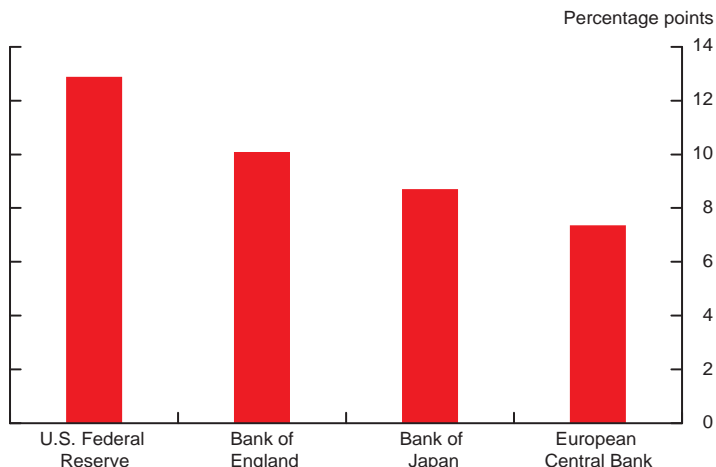
Commodity prices have declined significantly since the July Report in response to the deteriorating outlook for global economic growth (Chart 6), although they remain high by historical standards. Energy prices have registered the sharpest drop, while prices for non-energy commodities have decreased more modestly, owing to tight near-term supply conditions for agricultural commodities.

In the major advanced economies, underlying inflation pressures remain contained

Although underlying inflation pressures in many emerging-market economies remain a source of concern, authorities are reluctant to tighten monetary conditions further, given the declining prospects for global growth. In the major

Chart 8: Some central banks have expanded their balance sheets to ease monetary conditions further

Total central bank assets relative to GDP, change from 2007Q2 to 2011Q2



Sources: U.S. Bureau of Economic Analysis; U.S. Federal Reserve; Eurostat; European Central Bank; Cabinet Office, Government of Japan; Bank of Japan; U.K. Office of National Statistics; and Bank of England
Last observation: 2011Q2

advanced economies, in contrast, underlying inflation pressures remain contained, reflecting continuing excess supply conditions. Policy interest rates in these economies have stayed at or close to historically low levels (Chart 7), and a number of central banks have undertaken additional policy actions to ease monetary conditions or reduce financial stress (Chart 8). The U.S. Federal Reserve has continued on its path of quantitative easing, modifying its balance-sheet operations in an effort to put downward pressure on U.S. long-term and mortgage interest rates. The European Central Bank (ECB) has announced a series of measures, including two long-term refinancing operations and the reactivation of its covered-bond purchase program. The Bank of Japan and the Bank of England have expanded their asset-purchase programs.

A number of central banks have undertaken additional policy actions to ease monetary conditions

Developments in Global Financial Markets

Conditions in global financial markets have deteriorated since the last Report and risk aversion has escalated. Markets have experienced significant volatility, triggered by a reassessment of the prospects for global economic growth, as well as heightened worries over debt sustainability in the euro area and uncertainty over the direction of fiscal policy in the United States. The already-negative tone in financial markets has been exacerbated by numerous credit-rating downgrades of sovereigns and global financial institutions. These developments have reinforced concerns about the fiscal situations in many major economies and the political challenges that must be overcome.

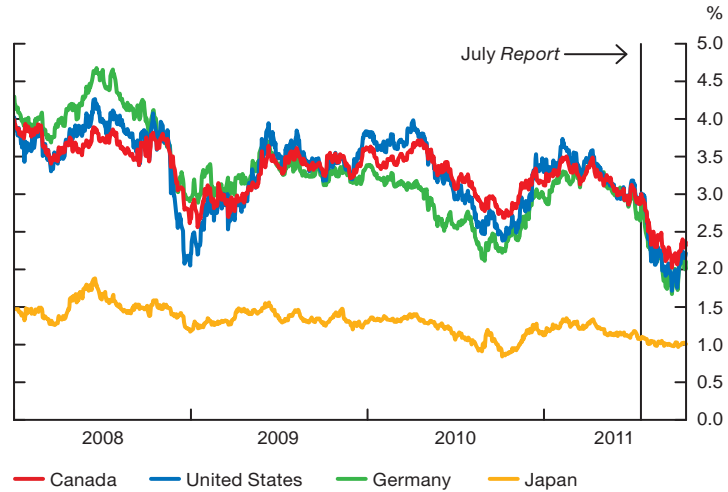
Conditions in global financial markets have deteriorated since the last Report

As a result, investment flows have shifted toward safer and more-liquid assets. Government bond yields in a number of advanced economies, where markets are most liquid and which are perceived to be better credit risks, have fallen sharply, with 10-year yields trading at or near all-time record lows (Chart 9). In addition, safe-haven currencies have appreciated.

The prices of riskier assets, in contrast, have declined significantly. Global equity indexes have decreased by about 5 to 20 per cent since the last Report, with an even larger decline reported in financial subindexes (Chart 10). Many euro-area sovereigns are facing rising funding costs

Chart 9: Yields on government bonds in major advanced economies have fallen sharply in recent months

Yields on 10-year government bonds, daily data

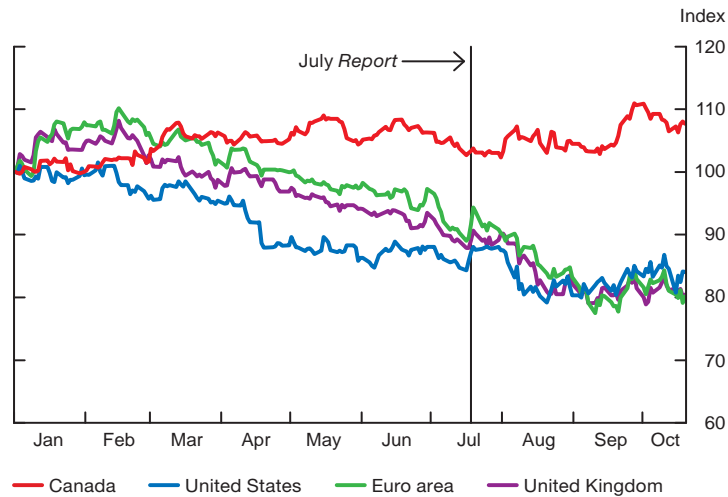


Source: Bloomberg

Last observation: 21 October 2011

Chart 10: Foreign bank equity indexes have considerably underperformed their respective broader indexes

Bank equity index/broad equity index (1 January 2011 = 100), daily data



Source: Bloomberg

Last observation: 21 October 2011

European banks have experienced severe funding pressures

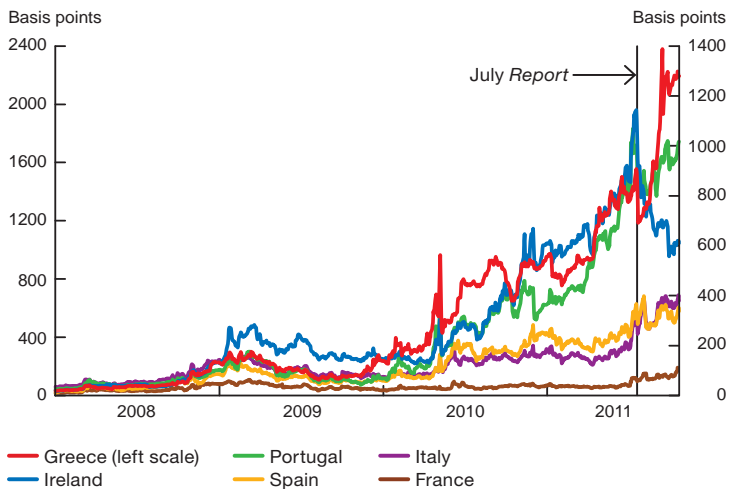
(**Chart 11**), and European banks have experienced severe funding pressures and increased costs to insure against default risk (**Chart 12**),¹ owing to concerns about their exposures to the sovereign debt of euro-area peripheral countries.

Conditions in corporate credit markets have also deteriorated. Corporate spreads have widened, and corporate issuance has fallen to a fraction of the levels seen earlier in the year. Liquidity in secondary credit markets has been extremely limited, and short-term trading has often been driven by headlines regarding the European situation.

¹ European banks appear less willing to lend to one another in the interbank market, as shown by the increase in the amounts deposited by banks at the ECB's deposit facility.

Chart 11: Euro-area sovereigns, even some larger core countries, are facing rising funding costs

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



Source: Bloomberg

Last observation: 21 October 2011

Chart 12: The costs of insuring European bank debt have risen sharply since the July Report

iTraxx 5-year Senior European Financial CDS Index, daily data



Source: Markit

Last observation: 21 October 2011

Outlook for the Global Economy

Global economic growth is projected to slow to slightly above 3 per cent in 2012, well below expectations at the time of the *July Report* (Table 1). Ongoing deleveraging by households, banks and governments, declining confidence, and the sovereign debt crisis in Europe are expected to restrain growth in the advanced economies. Growth in emerging-market economies is projected to slow in response to weakening external demand and the lagged effects of past policy tightening. In 2013, global economic growth is expected to pick up as confidence improves and corrective policy measures expected to be taken in Europe and elsewhere begin to have an effect.

The Bank’s base-case scenario assumes that the crisis in the euro area will be contained and that additional actions will be undertaken to ensure debt sustainability, strengthen banks’ capital buffers, and create a larger and more effective fund to stabilize the funding costs of affected sovereigns at sustainable levels. This assumption is clearly subject to downside risks.

The Bank’s base-case scenario assumes that the crisis in the euro area will be contained . . .

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	3.0 (2.9)	1.7 (2.4)	1.7 (3.2)	3.3 (3.3)
Euro area	15	1.7 (1.7)	1.5 (2.0)	0.2 (1.6)	1.5 (1.9)
Japan	6	4.0 (4.0)	-0.6 (-0.6)	2.0 (2.9)	2.5 (3.0)
China	13	10.4 (10.3)	9.1 (9.3)	8.2 (8.6)	8.2 (8.1)
Rest of the world	46	5.7 (5.5)	4.3 (4.2)	3.3 (3.8)	3.4 (3.6)
World	100	5.1 (5.0)	3.8 (3.9)	3.1 (4.0)	3.7 (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, September 2011

b. Numbers in parentheses are projections used for the July 2011 *Monetary Policy Report*. Source: Bank of Canada

... but the Bank nonetheless projects a mild recession in the euro area beginning at the end of 2011

Financial strains, bank deleveraging, fiscal austerity measures and declining confidence lead nonetheless to a mild recession in the euro area beginning at the end of 2011 (**Chart 13**). The weakened state of banks' balance sheets is projected to constrain both consumption and investment growth, with the effects on investment being particularly significant, owing to heavy corporate reliance on bank funding. A modest recovery is expected to start in mid-2012, when credit conditions begin to improve. Real GDP growth is projected to gather some momentum in 2013 as the benefits from the reforms put in place to address the debt crisis begin to materialize and confidence gradually improves.

U.S. economic growth is expected to strengthen gradually, starting in the second half of 2012

Real GDP growth in the United States is projected to remain weak through the first half of 2012, averaging about 1 1/4 per cent, or around levels at which the probability of recession increases.² However, U.S. economic growth is expected to strengthen gradually, starting in the second half of 2012, in response to an easing in monetary conditions and an improvement in the situation in Europe. Consistent with the historical experience following severe financial crises elsewhere, growth is projected to remain quite modest (**Chart 14** and **Technical Box 1**). GDP growth in 2013 rebounds to 3.3 per cent, but the level of real GDP by the end of the projection horizon is still well below that anticipated in the July *Report*.

Fiscal consolidation in the United States is expected to exert an important drag on growth

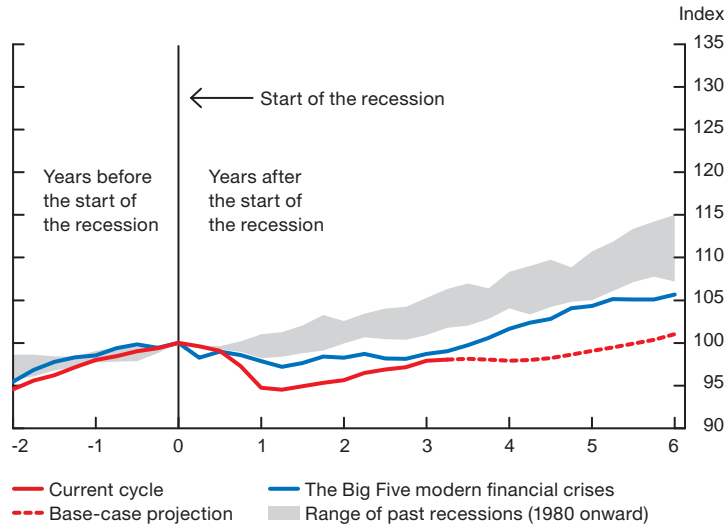
Fiscal consolidation in the United States is expected to exert an important drag on growth of about 1 percentage point in 2012 and 2 percentage points in 2013. This is slightly larger than anticipated in the July *Report*, reflecting new measures to restrain government spending adopted as part of the agreement to raise the U.S. debt ceiling. The Bank's projection does not include any of the new fiscal stimulus measures proposed by the U.S. administration in the American Jobs Act. If fully implemented, these measures could add as much as 1.3 percentage points to growth in 2012 through tax reductions and increases in expenditures and transfers, but would subtract close to 1 percentage point from growth in 2013, when many of the proposed measures begin to expire.

Growth in U.S. consumption is expected to be held back by ongoing elevated savings rates and a subdued recovery in labour market conditions, as well as the drag from fiscal consolidation, which will lower household disposable income. An easing in financial conditions in response to the

² Historically, very low rates of real GDP growth, consistent with a stall speed, have been associated with an increased probability of a recession. For more analysis, refer to: J. J. Nalewaik, "Forecasting Recessions Using Stall Speeds," Finance and Economics Discussion Series, Publication No. 2011-24, Board of Governors of the Federal Reserve, 2011.

Chart 13: The euro area is projected to enter a mild recession at the end of 2011, followed by a modest recovery in mid-2012

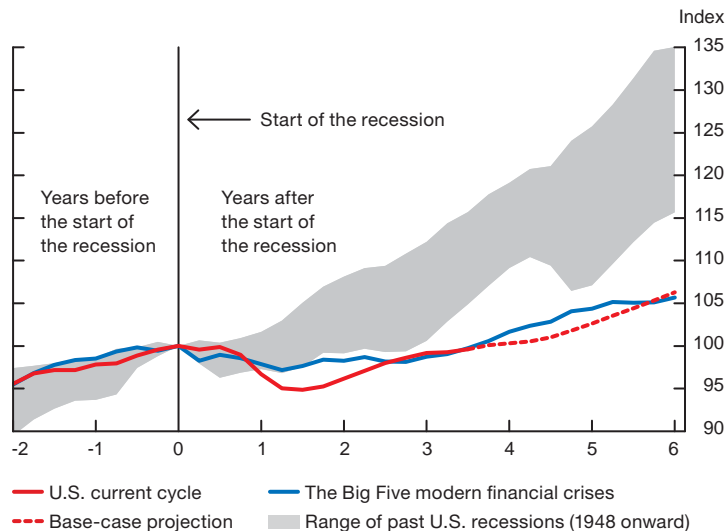
Euro-area real GDP across economic cycles; start of recession = 100, quarterly data



Note: The Big Five modern financial crises as described in Reinhart and Rogoff (2008) are Spain (1977), Norway (1987), Finland (1991), Sweden (1991) and Japan (1992). See C. M. Reinhart and K. S. Rogoff, "Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison," *American Economic Review: Papers and Proceedings* 98, no. 2 (2008): 339–44.
Sources: Eurostat and Organisation for Economic Co-operation and Development

Chart 14: U.S. real GDP growth is projected to remain modest, consistent with the historical experience after severe financial crises

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



Note: The Big Five modern financial crises as described in Reinhart and Rogoff (2008) are Spain (1977), Norway (1987), Finland (1991), Sweden (1991) and Japan (1992). See C. M. Reinhart and K. S. Rogoff, "Is the 2007 U.S. Sub-Prime Financial Crisis So Different? An International Historical Comparison," *American Economic Review: Papers and Proceedings* 98, no. 2 (2008): 339–44.
Sources: U.S. Bureau of Economic Analysis and Organisation for Economic Co-operation and Development

U.S. Federal Reserve's balance-sheet operations is projected to provide some offsetting support. The level of residential construction is expected to remain weak over 2012–13, with a gradual recovery beginning only around the middle of 2012. Growth in the construction of non-residential structures is projected to continue at a modest pace through 2013, supported by a gradual easing in lending conditions.

Exports and business investment in equipment and software should continue to provide important support for U.S. economic growth over the coming years. After some slowing during the first half of 2012, business investment is expected to grow robustly over the remainder of the projection horizon, boosted by the low cost of capital and gradually improving economic conditions. In 2012, export growth is constrained by weakening global demand, but is projected to strengthen in 2013 in tandem with the recovery in the global economy.

Reconstruction activities are expected to boost economic growth in Japan

Reconstruction activities are expected to boost economic growth in Japan over 2012–13. Growth is projected to be significantly weaker than was anticipated in the July *Report*, however, owing to reduced prospects for global economic growth and the recent sharp appreciation of the yen.

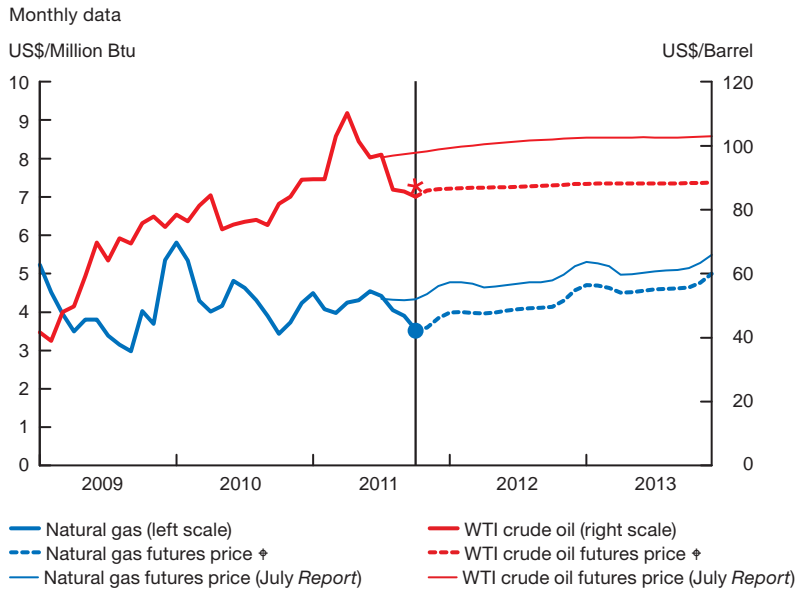
Real GDP growth in China and other emerging-market economies is expected to moderate to a more sustainable pace

Real GDP growth in China and other emerging-market economies is expected to moderate to a more sustainable pace over the projection horizon in response to slowing growth in advanced economies. At the same time, a gradual rotation away from exports and toward stronger consumption is projected, facilitated by structural policies and a modest appreciation of the real effective exchange rates in China and other emerging-market economies. These developments, combined with lower commodity prices, are expected to dampen inflation pressures.

Commodity prices are projected to remain roughly 10 per cent below the levels anticipated at the time of the July Report

Commodity prices are projected to remain roughly 10 per cent below the levels anticipated at the time of the July *Report*. Steady demand from emerging-market economies and limited increases in supply should nevertheless keep prices at levels that are relatively high by historical standards. Prices for non-energy commodities should stay close to current levels through 2013, with a rebound in metals prices offsetting a projected easing in the prices of agricultural products. Based on the latest futures curve, prices for West Texas Intermediate (WTI) crude oil are expected to move within a range of US\$85 to US\$89 per barrel until the end of 2013, down from a range of US\$100 to US\$103 at the time of the July *Report* (**Chart 15**). According to the latest futures curve, natural gas prices are projected to increase by about 1 per cent in 2012 and 13 per cent in 2013 as environmental standards encourage greater use of natural gas in the United States.

Chart 15: WTI oil prices are expected to remain relatively stable



* Spot price for crude oil (21 October 2011)

• Spot price for natural gas (21 October 2011)

† Based on an average of futures contracts over the two weeks ending 21 October 2011

Note: Values for crude oil and natural gas prices in October 2011 are estimates based on the average daily spot prices up to 21 October 2011.

Source: NYMEX

The Canadian Economy

The economic outlook in Canada has weakened, reflecting the substantially downgraded outlook for the global economy. The weaker and more uncertain global economic and financial environment will affect the Canadian economy through financial, confidence and trade channels. As a result, compared with expectations in the *July Report*, the Bank now anticipates a more subdued profile for both final domestic demand and exports over the projection horizon. Overall, the Bank now projects slow growth in real GDP in Canada through mid-2012. Economic growth is expected to improve thereafter, in line with an improved global environment as uncertainty dissipates and confidence recovers. This base-case scenario assumes that the crisis in the euro area will be contained, although this assumption is clearly subject to downside risks.

The weaker economic outlook implies greater and more persistent economic slack than anticipated in the *July Report*. As a result, core inflation is projected to be slightly softer than previously expected, declining through 2012 before returning to 2 per cent by the end of 2013. The projection for total CPI inflation has also been revised down, reflecting a lower profile for world energy prices, as well as modestly weaker core inflation. Accordingly, total CPI inflation is expected to decline from its recent peak of over 3 per cent to around 1 per cent by mid-2012, before rising with core inflation to the 2 per cent target as excess supply in the economy is slowly absorbed.

Recent Developments

Economic Activity

Economic growth in Canada stalled in the second quarter, owing largely to temporary factors. While the unwinding of these factors has led to a rebound in economic activity in the third quarter, the underlying momentum in the economy has slowed.

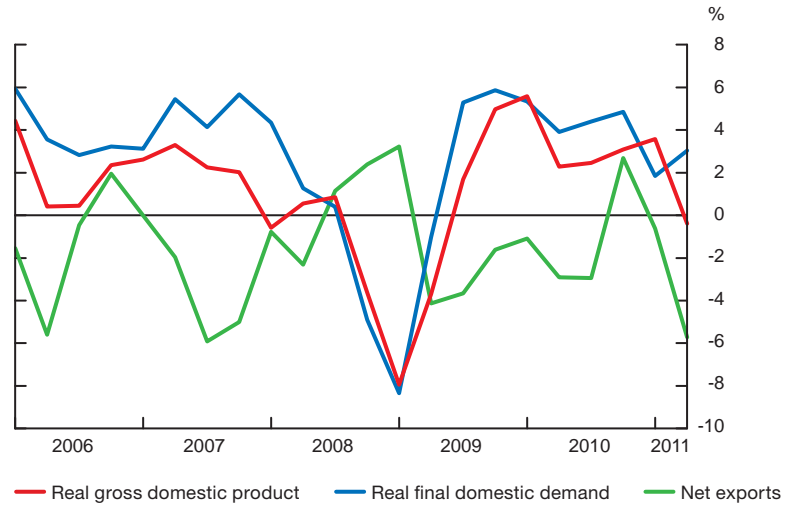
Real GDP declined at an annual rate of 0.4 per cent in the second quarter, a weaker outcome than had been expected in the *July Report*, owing to a substantial deterioration in net exports (**Chart 16**). Exports declined markedly in the second quarter, reflecting softer foreign demand and ongoing challenges to Canadian competitiveness, as well as important temporary factors. These factors included the anticipated adverse impact of supply-chain disruptions resulting from the disasters in Japan earlier in the year, as well as other unanticipated disruptions that constrained activities in the energy sector. Imports continued to grow robustly in the second quarter, reflecting large increases in Canadian business investment in machinery and equipment and in inventories.

The Bank now projects slow growth in real GDP in Canada through mid-2012

The underlying momentum in the economy has slowed

Chart 16: Growth in Canadian real GDP stalled in the second quarter as net exports plunged

Contribution to annualized real GDP growth, quarterly data



Source: Statistics Canada

Last observation: 2011Q2

Growth in final domestic demand remained solid in the second quarter

Business fixed investment continued to recover strongly

Growth in final domestic demand remained solid in the second quarter, with all its major components contributing to the increase. Consumer spending picked up after a very weak first quarter. The pace of growth in consumption remained subdued compared with that registered during the recovery, however, reflecting the adjustment to higher food and energy prices, as well as slower growth in personal disposable income. Growth in residential investment fell off sharply in the second quarter following a large increase in the first quarter, when some activity was pulled forward in advance of changes to the regulations for mortgage insurance. Business fixed investment continued to recover strongly in the second quarter, including a temporary boost from the purchase of a large natural gas platform. Government expenditures, incorporating spending from all levels of government, also continued to contribute to real GDP growth.

The Bank estimates that economic growth rebounded to 2.0 per cent in the third quarter as the temporary factors that held back net exports in the second quarter unwound. Growth is expected to slip back in the fourth quarter, however, more accurately reflecting the underlying growth in the economy in an environment of lower confidence and heightened uncertainty.

Potential Output Growth

The Bank's projection for the growth of potential output in Canada over the 2011–13 period is little changed from the projection in the October 2010 *Report (Technical Box 2)*. Potential output growth is expected to increase from 1.6 per cent in 2011 to 2.1 per cent in 2013. The projection horizon has also been extended to 2014, when the growth of potential output is expected to be 2.2 per cent. As a result of the strong and sustained recovery in investment spending, as well as efficiency gains, trend productivity is projected to improve as Canadian firms strive to adopt best practices in the face of competitive pressures. At the same time, demographic forces will continue to reduce the trend rate of growth of labour input.

Revisions to Potential Output Growth

Every October, the Bank reassesses the path for potential output growth underpinning its economic outlook. Potential output represents the level of goods and services that the economy can produce on a sustained basis without adding to inflation pressures. Potential output growth can be thought of as the sum of the growth rates of trend labour input and trend labour productivity.

The growth rate of potential output is expected to increase gradually, from 1.6 per cent in 2011 to 2.2 per cent in 2014 (**Table 2-A**). This upward trend is driven by a continued improvement in the growth of trend labour productivity, which is expected to be partly offset by a slowing in the growth of trend labour input over the 2011–14 period.

The projected improvement in the growth of trend labour productivity is supported by the sustained recovery in investment spending, based on the relatively low cost of imported investment goods associated with the strong Canadian dollar, and by international competitiveness pressures. Enhanced competition also leads to efficiency gains as Canadian firms adopt best practices and catch up with changes in technology.¹ The Bank estimates growth in trend labour productivity of 0.7 per cent in 2011, rising to 1.5 per cent by 2014.

¹ This view is supported by results from the Bank of Canada's *Business Outlook Surveys*.

Table 2-A: Assumptions for the growth of potential output

	2011	2012	2013	2014
Potential output	1.6 (1.8)	2.0 (2.0)	2.1 (2.1)	2.2
Trend labour productivity	0.7 (0.9)	1.1 (1.1)	1.3 (1.3)	1.5
Trend labour input	0.9 (0.9)	0.9 (0.9)	0.8 (0.8)	0.7

Figures in parentheses correspond to the October 2010 scenario.

Owing to demographic factors, the growth rate of trend labour input over the projection horizon is expected to moderate from 0.9 per cent in 2011 to 0.7 per cent in 2014. This slowdown is driven by a deceleration in the growth of the working-age population, which continues throughout 2014 and beyond.

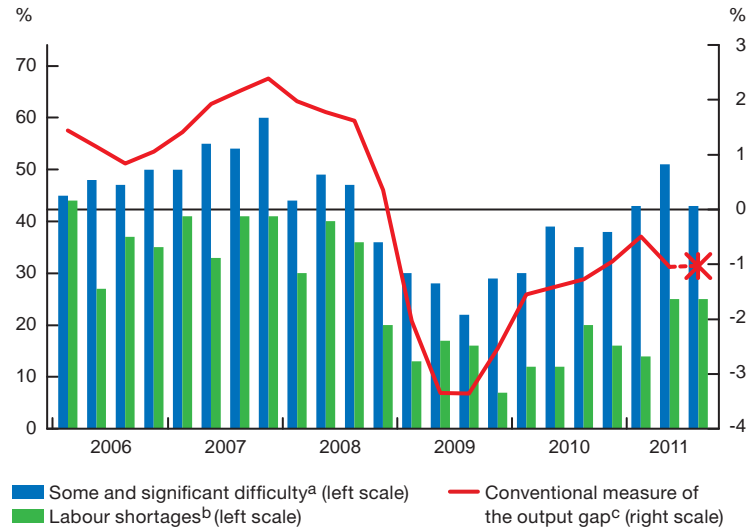
These broad forces were incorporated into the Bank's projection for potential output in October 2010. Potential output growth in 2011 has been revised down slightly, reflecting incoming data on productivity. The current projection for potential output growth over the 2012–13 period is, however, similar to that in October 2010. In 2014, a continued pickup in trend labour productivity is expected to offset the slower growth in trend labour input, leading to a further increase in the growth rate of potential output.

Estimated Pressures on Capacity

Various indicators suggest greater economic slack in recent months. The level of real GDP has been markedly lower in the second and third quarters than the Bank had projected, suggesting that the output gap in the third quarter was considerably wider than anticipated in July. The Bank's conventional measure of the output gap continues to suggest a more modest degree of slack, but has also widened noticeably from -0.5 per cent in the first quarter to -1.0 per cent in the third quarter (**Chart 17**). Key labour market indicators, such as the unemployment rate and the proportion of involuntary part-time workers (**Chart 18**), as well as the below-average proportion of firms reporting labour shortages in the Bank's autumn *Business Outlook Survey* (available on the Bank's website under Publications and Research > Periodicals > BOS Autumn 2011), point to material excess capacity. In addition, the Bank's autumn survey found that the proportion of firms indicating that they would have difficulty responding to an unexpected increase in demand had diminished noticeably in comparison with the previous survey, although it remained near its historical average.

Various indicators suggest greater economic slack in recent months

Chart 17: Capacity pressures have eased in recent months

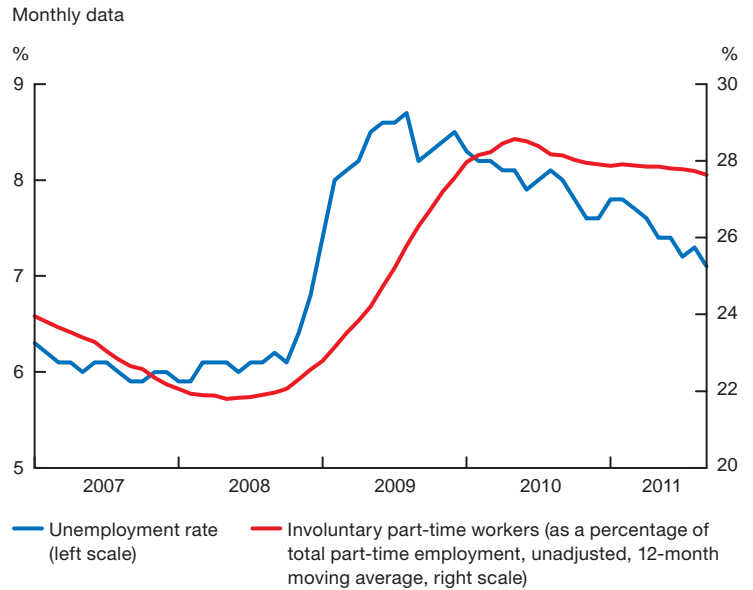


- a. Response to *Business Outlook Survey* question on capacity pressures. Percentage of firms indicating that they would have either some or significant difficulty meeting an unanticipated increase in demand/sales.
- b. Response to *Business Outlook Survey* question on labour shortages. Percentage of 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 third quarter of 2011 (indicated by *) is based on a projected increase in output of 2.0 per cent (at annual rates) for the quarter.

Source: Bank of Canada

Last observation: 2011Q3

Chart 18: Key indicators suggest significant slack in the labour market



Source: Statistics Canada

Last observation: September 2011

The Bank judges that the economy was operating at about 1 1/4 per cent below its production capacity in the third quarter of 2011

On balance, the Bank judges that the economy was operating at about 1 1/4 per cent below its production capacity in the third quarter of 2011, a substantially larger degree of slack than the Bank had anticipated in July.

Inflation and the 2 Per Cent Target

As anticipated in the *July Report*, core CPI inflation rose to 1.9 per cent in the third quarter from 1.6 per cent in the second quarter (**Chart 19**). Part of this increase reflects the dissipation of the HST effect on year-over-year core inflation.³ Core food price inflation was somewhat lower than had been anticipated in the *July Report*, but the impact on core inflation was offset by slightly larger than expected increases in the prices of some core services and clothing. Underlying inflation pressures remain contained, reflecting the persistence of excess supply in the economy and modest growth in labour compensation (**Chart 20**), along with the dampening effect from the past appreciation of the Canadian dollar.

Total CPI inflation fell to 3.0 per cent in the third quarter from 3.4 per cent in the second quarter, as the impact of the introduction of the HST in July 2010 on the year-over-year rate of inflation unwound. The drop in total CPI inflation was somewhat smaller than the Bank had projected in the *July Report*, owing largely to the firmness in gasoline prices despite recent declines in world energy prices, which in turn partly reflects an unusual divergence in the prices of different types of crude oil (**Technical Box 3**).

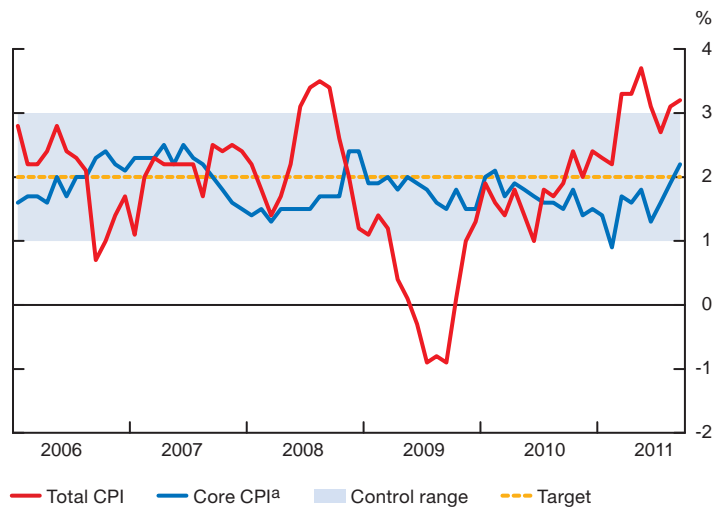
Recent survey measures indicate that inflation expectations remain well anchored at the 2 per cent target. The October Consensus Economics forecast for total CPI inflation was 1.9 per cent in 2012. As reported in the Bank's autumn *Business Outlook Survey*, 88 per cent of firms expect average inflation over the next two years to remain within the 1 to 3 per cent inflation-control range. Market-based measures of longer-term inflation expectations also remain consistent with the 2 per cent inflation-control target.

As anticipated in the July Report, core CPI inflation rose to 1.9 per cent in the third quarter

Recent survey measures indicate that inflation expectations remain well anchored at the 2 per cent target

Chart 19: 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: September 2011

3 The introduction of the HST in Ontario and British Columbia in July 2010 has had a dampening effect, amounting to 0.3 percentage points, on core inflation through tax refunds passed on by businesses. This effect was smaller than the direct positive effect of the introduction of the HST, which is reflected in total CPI inflation, and resulted in a boost to total inflation beginning in the third quarter of 2010. Both of these temporary effects unwound in the third quarter of 2011, pushing core inflation up and total inflation down.

The Relationship Between Crude Oil and Gasoline Prices

The price of gasoline at the pump is composed of the cost of crude oil, taxes and the profit margins of refiners and retailers. Of these, the cost of crude oil is generally the most significant factor driving variations in the price of gasoline. While the petroleum refined in Canada comes from different grades of crude oil, the price of West Texas Intermediate (WTI),¹ the main U.S. benchmark, has historically been a good proxy for the crude costs of Canadian refineries, closely tracking fluctuations in Canadian gasoline prices.

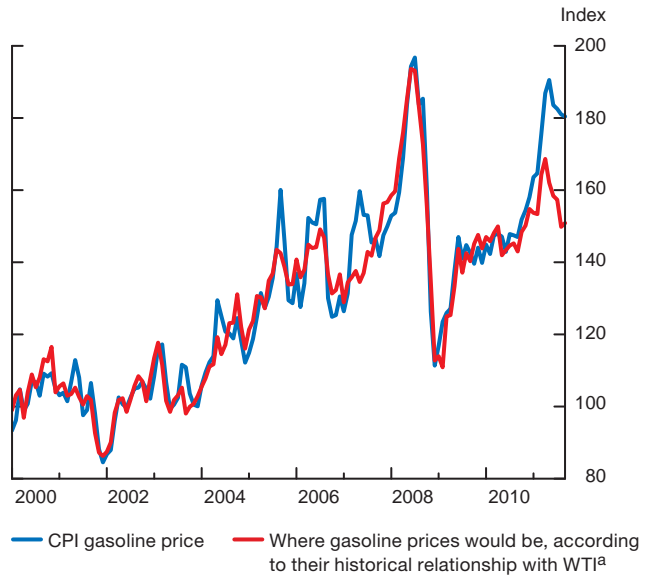
Since the beginning of 2011, however, the price of gasoline in Canada has increased by more than the price of WTI, on net, and has largely failed to decline in conjunction with the sharp drop in the price of WTI since the spring (**Chart 3-A**). In September 2011, gasoline prices were about 20 per cent higher than their historical relationship with WTI would suggest, a difference amounting to an additional 1.2 per cent on the level of total CPI.² This can be explained by a combination of structural factors, taxes and changes in profit margins, as discussed below.

Depending on their location, Canadian refineries acquire different blends of crude oil. While refineries in Central Canada use a high concentration of crude oil that is priced off WTI, refineries on either coast make much greater use of other grades of crude oil that are priced off Brent, which is the main benchmark outside of North America. At the national level, refineries in Canada use roughly equal proportions of crude oil priced off WTI and Brent, on average.³ Historically, the relative use of these two types of crude did not matter in determining the average cost of crude oil for Canadian refiners, since the prices of the two crudes tracked closely together.

However, since the beginning of the year, WTI has traded at a growing discount relative to Brent (**Chart 3-B**), as a result of an excess supply of oil accumulating at Cushing (Oklahoma). The current price of WTI is US\$87, compared with US\$109 for

Chart 3-A: In 2011, gasoline prices have been much stronger than the WTI benchmark would suggest

Index: 2002 = 100, monthly data



a. Fitted values obtained from regressing CPI gasoline prices on WTI (Can\$) over the 2000–10 sample period

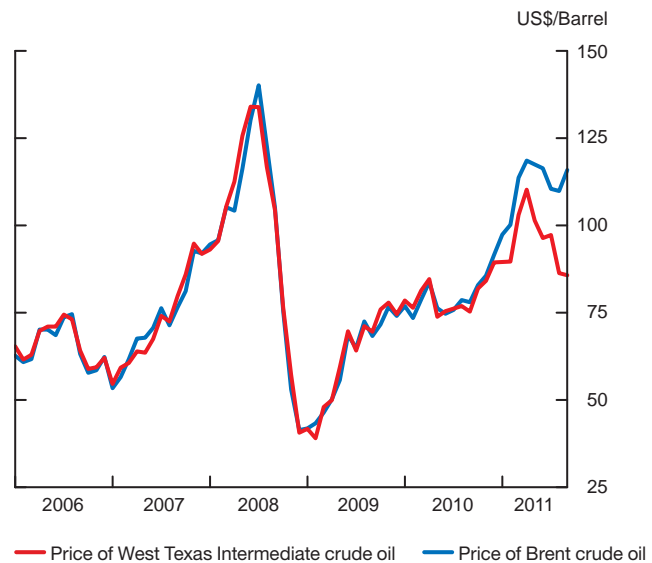
Sources: Statistics Canada

and Bank of Canada calculations

Last observation: September 2011

Chart 3-B: Brent has diverged from WTI in 2011

Monthly data



Source: Commodity Research Bureau

Last observation: September 2011

- 1 There were deviations from this historical relationship during 2005–07 as a result of some refinery disruptions, including those stemming from Hurricane Katrina.
- 2 This includes a boost of 0.2 percentage points, owing to the impact on the level of national gasoline prices of the introduction of the HST in Ontario.
- 3 Based on data from the Canadian Association of Petroleum Producers regarding the capacity of refiners

(continued)

The Relationship Between Crude Oil and Gasoline Prices

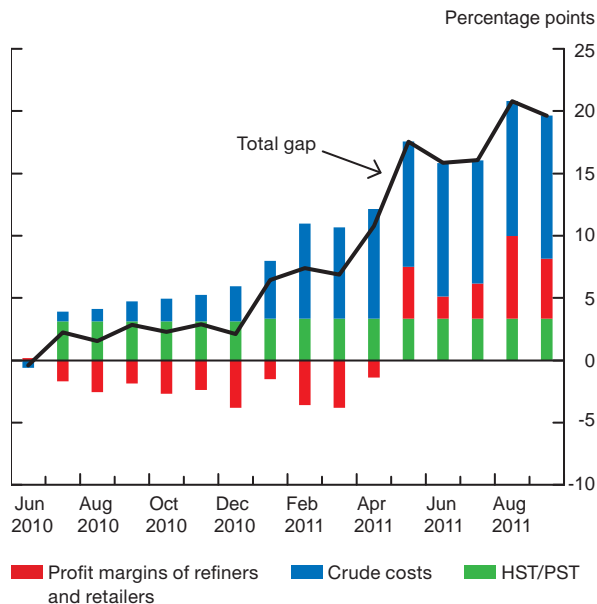
Brent, a discount several times larger than has been typical historically. In this context, the crude costs paid by Canadian refineries have, on average, been higher than those implied by WTI. Partly as a result, gasoline prices in Canada have remained relatively elevated at the national level. Taxes and profit margins have also played a role (**Chart 3-C**).

Different regions of the country have been affected to varying degrees, however, reflecting differences in both the blends of crude oil used by refiners and the responses of their profit margins.

Based on oil-price futures, the discount on WTI relative to Brent is expected to persist for a few more years (**Chart 3-D**). Canadian crude costs are thus expected to remain persistently elevated relative to WTI, which affects the projection for gasoline prices and the total CPI.

Chart 3-C: Since the beginning of the year, the growing gap between gasoline prices and WTI can be attributed to changes in both crude costs and profit margins

Contribution of various factors to the gap between actual gasoline prices and those implied by their historical relationship with WTI, monthly data

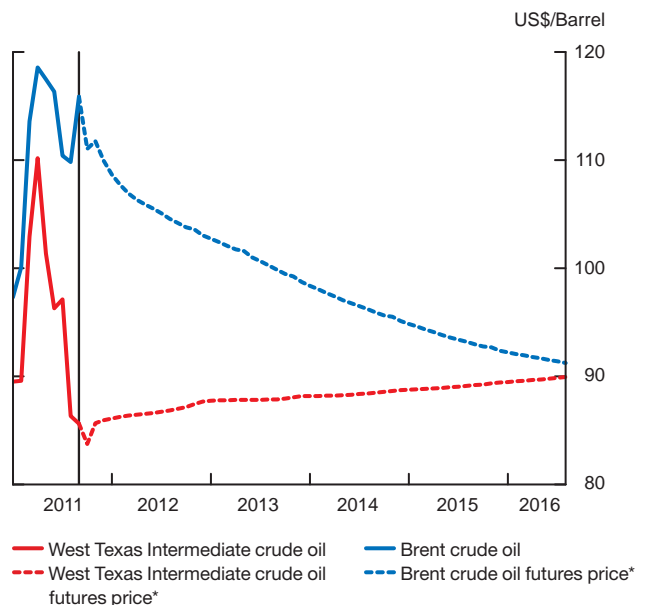


Note: Calculations performed under the assumption that the mix of petroleum refined in Canada is priced off WTI at 57 per cent and off Brent at 43 per cent

Sources: Statistics Canada, Commodity Research Bureau and Bank of Canada calculations Last observation: September 2011

Chart 3-D: Financial markets are pricing the closing of the Brent-WTI gap only in 2016

Monthly data

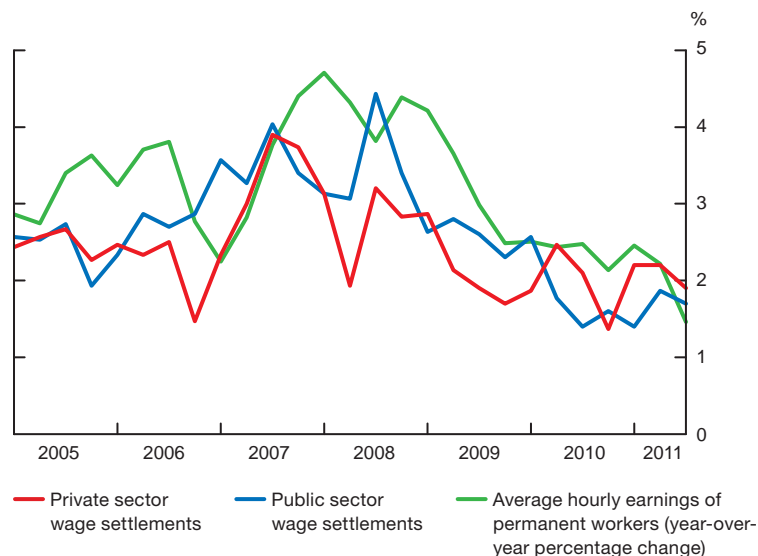


* Based on an average of futures contracts over the two weeks ending 21 October 2011

Sources: Commodity Research Bureau and Bloomberg

Chart 20: Wage growth remains modest

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



Note: The 2011Q3 numbers for wage settlements in the private and public sectors are the average of July and August data.

Sources: Statistics Canada and Human Resources and Skills Development Canada Last observation: 2011Q3

Canadian Financial Conditions

The aggregate supply and price of credit in Canada remain very stimulative

The aggregate supply and price of credit to businesses and households in Canada remain very stimulative (**Chart 21**), providing important ongoing support to the economic expansion. Canadian banks remain well positioned to lend, owing to their strong financial positions and relatively low funding costs. Results from the *Business Outlook Survey* suggest that the terms and conditions for firms obtaining financing from financial institutions have eased further in recent months, particularly for small and medium-sized businesses. This was consistent with the Bank's *Senior Loan Officer Survey* for the third quarter of 2011 (available on the Bank's website under Publications and Research > Periodicals > SLOS 2011Q3), which also indicated a further easing in lending conditions (**Chart 22**), mainly reflecting competition among lenders.

Overall financial conditions in Canada have tightened slightly since the July *Report*, however, as conditions in capital markets have deteriorated. Increased risk aversion, heightened volatility and weaker growth expectations across global markets have weighed on capital market conditions in recent months. While Canadian government bond yields have declined substantially, corporate spreads have widened and market access has tightened for less-creditworthy borrowers. In addition, the S&P/TSX Composite Index has fallen by more than 15 per cent from its peak in April 2011. As a result, the volume of bond and equity issuance has diminished noticeably compared with earlier in the year.

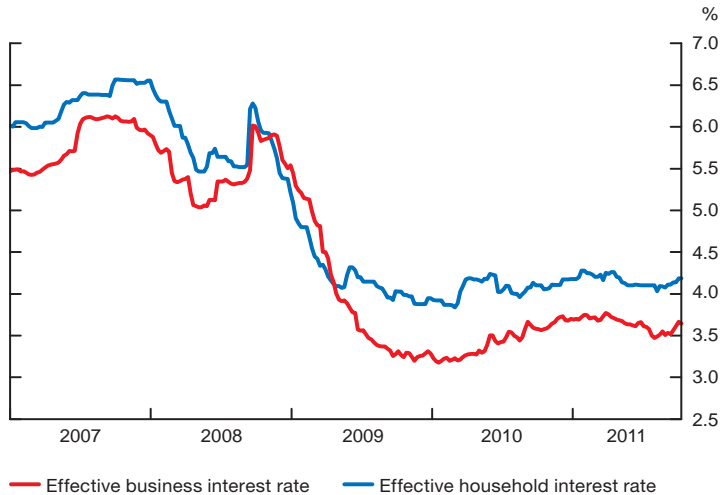
Reflecting the ongoing recovery in business investment, growth in total business credit has remained solid in recent months.

As anticipated, the growth of household credit has slowed to a rate below its historical average

As anticipated, the growth of household credit has slowed to a rate below its historical average in recent months with the passing of the temporary factors that boosted the demand for residential mortgage credit in the first quarter (**Chart 23**). These factors include the lagged effects of the surge in sales of existing homes in the fourth quarter of last year, as well as

Chart 21: Borrowing costs for households and businesses remain at exceptionally low levels

Weekly data



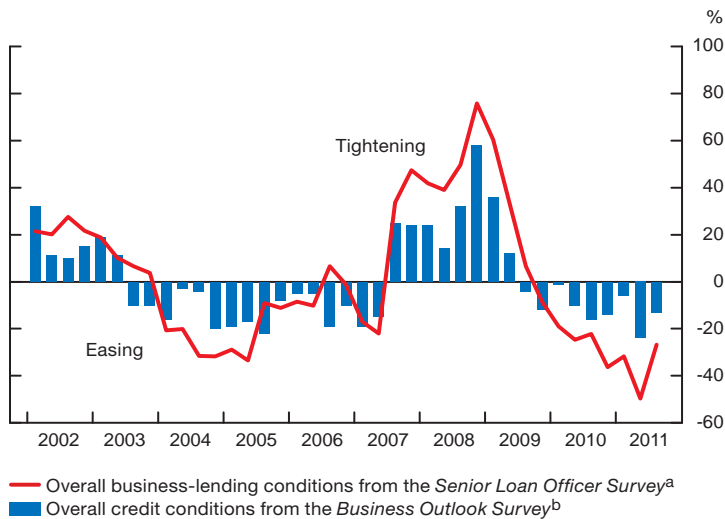
Note: For more information on these series, see <<http://credit.bankofcanada.ca/financialconditions>>.

Source: Bank of Canada calculations

Last observation: 21 October 2011

Chart 22: Survey results suggest that credit conditions for Canadian non-financial firms eased further in 2011Q3

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

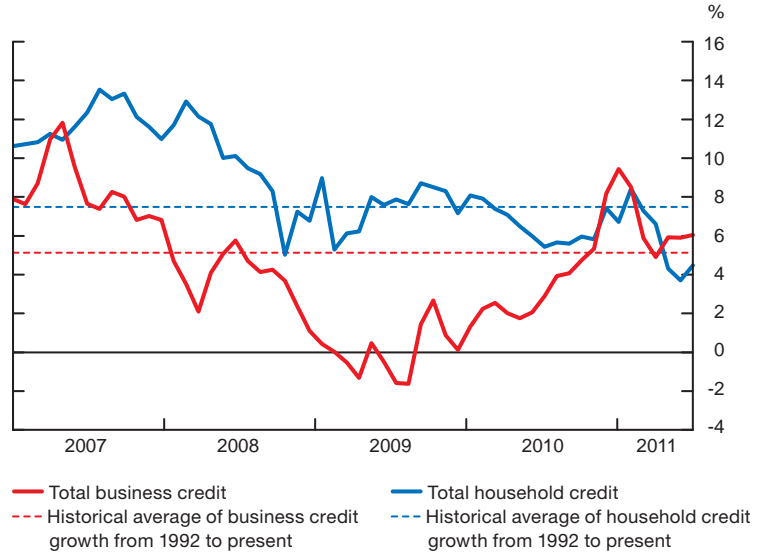
Last observation: 2011Q3

some pulling forward of activity related to changes to mortgage insurance regulations.

Growth in the narrow monetary aggregates has rebounded in recent months, implying some reintensification of liquidity preference as uncertainty has risen. Growth in the broader M2++ aggregate has, however, remained moderate in recent months, continuing to suggest subdued inflation pressures ahead.

Chart 23: The growth of business credit remains solid while that of household credit has slowed to a rate below its historical average

3-month percentage change (at annual rates)



Source: Bank of Canada

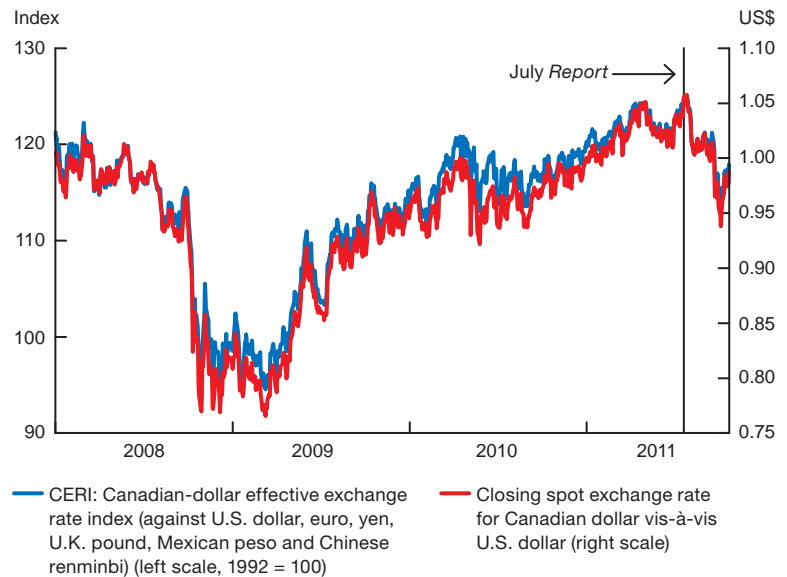
Last observation: August 2011

Exchange Rate

The Canadian dollar has averaged around 99 cents U.S. since the September fixed announcement date, which is below the level of 103 cents U.S. assumed in the July Report. The Canadian-dollar effective exchange rate index (CERI) has depreciated by an amount similar to the exchange rate with the United States (Chart 24).

Chart 24: The Canadian dollar has declined since the July Report

Daily data



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

Source: Bank of Canada

Last observation: 21 October 2011

Outlook for the Canadian Economy

The Bank's base-case projection incorporates the following key assumptions: a Canada/U.S. exchange rate averaging 99 cents U.S.; energy prices in line with recent futures prices; prices for non-energy commodities remaining at elevated levels; and heightened uncertainty and relatively volatile global financial conditions persisting through mid-2012, before improving gradually.

Aggregate Demand and Supply

The Bank now sees the Canadian economy growing slowly through mid-2012, after which growth is projected to improve. This projection assumes that the crisis in Europe will be contained, leading to reduced uncertainty and a gradual return of confidence (**Table 2** and **Chart 25**). On an average annual basis, real GDP is projected to grow by 2.1 per cent in 2011 and 1.9 per cent in 2012, while growth in 2013 is expected to pick up temporarily above the rate of potential (to 2.9 per cent). This growth profile implies that the economy is now projected to return to full capacity by the end of 2013.

This base-case projection for the Canadian economy is weaker than in the *July Report*, with the significantly less-favourable external environment affecting Canada through financial, confidence and trade channels. Domestic demand is expected to remain the principal driver of growth over the projection horizon (**Chart 26**), although at a more subdued pace than previously anticipated. Household expenditures are now projected to grow relatively modestly, as lower commodity prices and heightened volatility in financial markets weigh on the incomes, wealth and confidence of Canadian households (**Chart 27**). Business fixed investment is still expected to grow solidly in response to very stimulative financial conditions and heightened competitive pressures, although it will be dampened by the weaker and more uncertain global economic environment. The projected profile for Canadian exports has also been revised down, reflecting the lower level of foreign economic activity. Net exports are expected to remain a source of weakness, owing to sluggish foreign demand and ongoing competitiveness challenges, including the persistent strength of the Canadian dollar.

The Bank now sees the Canadian economy growing slowly through mid-2012, after which growth is projected to improve

The significantly less-favourable external environment is affecting Canada through financial, confidence and trade channels

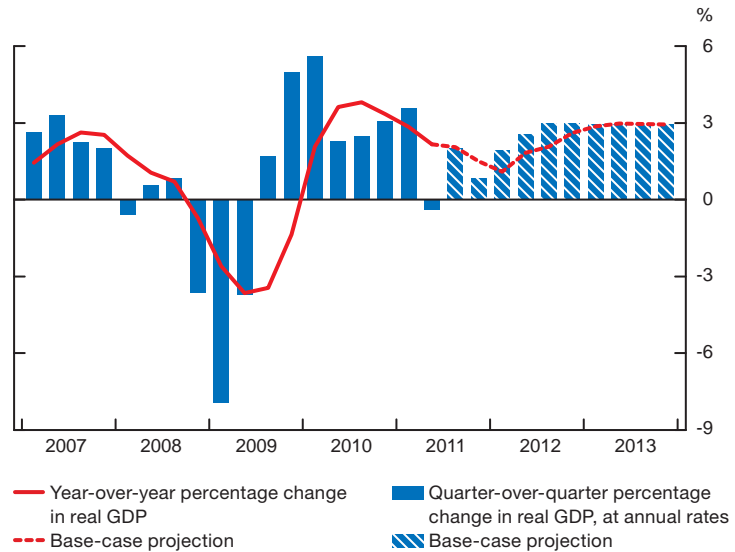
Table 2: Contributions to average annual real GDP growth

Percentage points^a

	2010	2011	2012	2013
Consumption	2.0 (2.0)	1.0 (1.3)	1.2 (1.6)	1.4 (1.1)
Housing	0.7 (0.7)	0.1 (0.1)	0.0 (0.0)	0.1 (0.0)
Government	1.2 (1.2)	0.3 (-0.1)	-0.1 (-0.3)	0.3 (0.2)
Business fixed investment	0.8 (0.8)	1.4 (1.6)	0.7 (1.1)	1.0 (0.7)
Subtotal: Final domestic demand	4.7 (4.7)	2.8 (2.9)	1.8 (2.4)	2.8 (2.0)
Exports	1.8 (1.8)	1.2 (1.3)	0.9 (1.1)	1.1 (1.1)
Imports	-4.0 (-4.0)	-2.1 (-1.7)	-0.7 (-0.8)	-1.0 (-1.0)
Subtotal: Net exports	-2.1 (-2.1)	-0.9 (-0.4)	0.2 (0.3)	0.1 (0.1)
Inventories	0.6 (0.6)	0.2 (0.3)	-0.1 (-0.1)	0.0 (0.0)
GDP	3.2 (3.2)	2.1 (2.8)	1.9 (2.6)	2.9 (2.1)
Memo items:				
Potential output	1.6 (1.6)	1.6 (1.8)	2.0 (2.0)	2.1 (2.1)
Real gross domestic income (GDI)	5.0 (5.0)	2.8 (4.1)	1.1 (2.9)	3.6 (2.2)

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

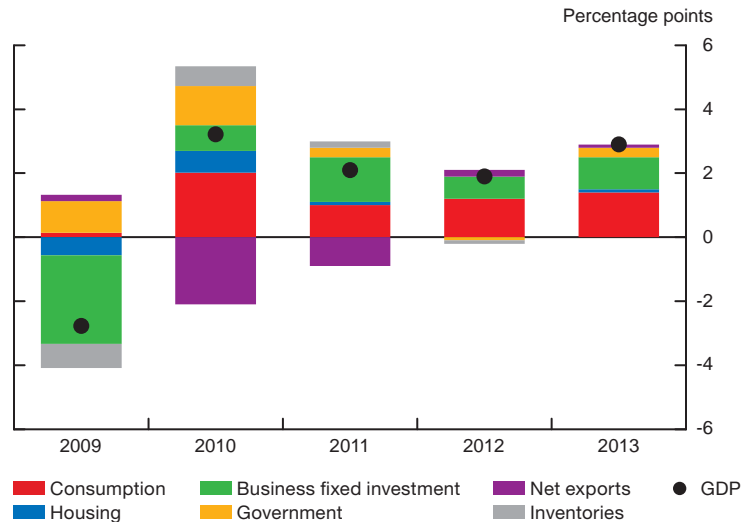
Chart 25: Real GDP growth is expected to pick up through 2012, resulting in a gradual absorption of excess supply



Sources: Statistics Canada and Bank of Canada projections

Chart 26: Domestic demand is projected to remain the primary driver of growth

Contributions to real GDP growth



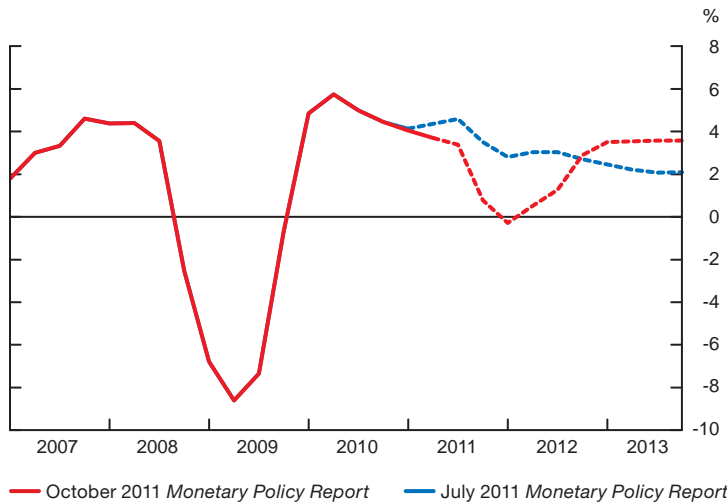
Sources: Statistics Canada and Bank of Canada calculations and projections

The Bank expects relatively modest growth in household expenditures over the projection horizon

The Bank expects relatively modest growth in household expenditures over the projection horizon, compared with both the rapid pace seen during the recovery and the outlook presented in the *July Report*. Lower commodity prices and heightened volatility in financial markets stemming from the weaker and more uncertain global economic outlook are projected to weigh on the wealth and confidence of Canadian households, resulting in a higher savings rate amid more moderate growth in personal disposable income than was projected in July (**Chart 28**). As a result, the Bank continues to expect a moderation in the upward trajectory of the household debt-to-income ratio. In this context, the Bank also continues to expect household expenditures as a share of the economy to decline gradually toward its historical average (**Chart 29**).

Chart 27: The less-favourable external environment is affecting Canada partly through lower commodity prices, which depress real gross domestic income

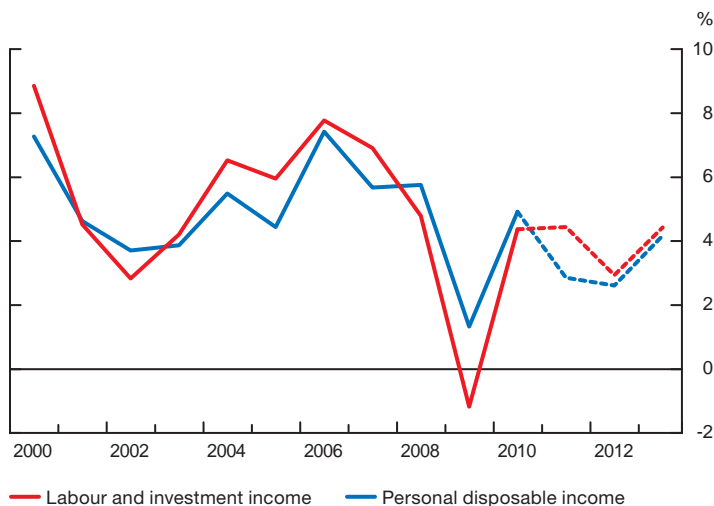
Year-over-year percentage change in real GDI, quarterly data



Sources: Statistics Canada and Bank of Canada projections

Chart 28: Growth in personal disposable income is expected to moderate over the projection horizon

Percentage change, annual data



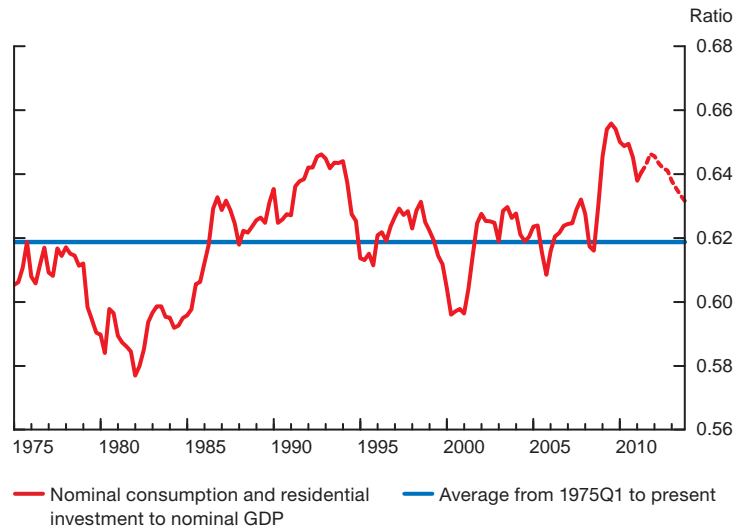
Sources: Statistics Canada and Bank of Canada calculations and projections

As in July, business fixed investment is expected to continue to grow solidly over the projection horizon, with considerable scope remaining to make up for the unusually sharp decline experienced during the recession (**Chart 30**). The outlook for investment continues to be underpinned by the solid financial positions of Canadian firms, favourable credit conditions and relatively high commodity prices, as well as the impetus to improve productivity in response to heightened pressures to become more competitive. However, a somewhat more subdued profile than had been anticipated for the growth of business fixed investment is expected over the near term, reflecting the effects on confidence from the uncertain economic outlook, as well as lower but still elevated commodity prices. This projection for business investment is consistent with the Bank's autumn *Business Outlook Survey*, which showed that investment intentions remain strong, albeit slightly less so than in previous

Business fixed investment is expected to continue to grow solidly

Chart 29: The share of household expenditures in GDP is expected to decline gradually toward its historical average

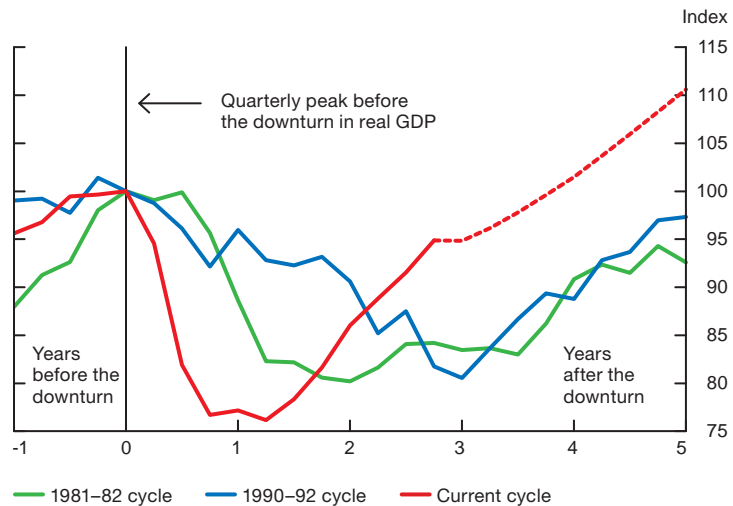
Quarterly data



Sources: Statistics Canada and Bank of Canada calculations and projections

Chart 30: Business fixed investment is projected to remain robust

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

surveys, as some firms indicated a more cautious approach to their capital spending plans and a possible postponement of projects, given the uncertainty in the current environment.

The Bank's base-case projection assumes 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 upward from the *July Report*, incorporating the latest national accounts estimates and information from all levels of government.

Canadian exports are now projected to be weaker than anticipated in the July *Report*, owing to the significantly weaker outlook for foreign demand. Nonetheless, the Bank continues to expect modest growth in exports over the projection horizon, owing to the upward trajectory of U.S. activity, the composition of which is still projected to shift in a relatively favourable manner for Canadian exporters.⁴ Imports are expected to grow modestly over the projection horizon, largely reflecting the adverse consequences of the unsettled global economic and financial environment for domestic demand in Canada. Overall, net exports are expected to remain a source of weakness.

Net exports are expected to remain a source of weakness

The Projection for Inflation

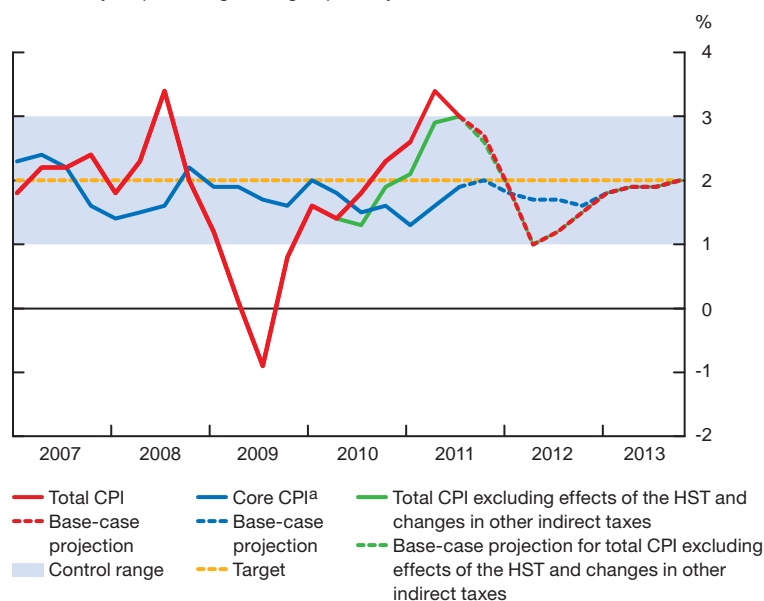
The Bank expects core inflation to remain close to 2 per cent in the near term, as anticipated in the July *Report*, before declining through 2012 as considerable economic slack persists and food price inflation slows. Core inflation is then expected to return to 2 per cent by the end of 2013 as excess supply in the economy is slowly absorbed, the growth of labour compensation increases modestly and inflation expectations remain well anchored (**Table 3** and **Chart 31**). This profile for core inflation is slightly softer than was anticipated in the July *Report*, reflecting the weaker outlook for the Canadian economy.

Total CPI inflation is projected to continue to fall in coming quarters, reflecting the gradual impact on gasoline prices of lower oil prices. Total CPI inflation is projected to drop to around 1 per cent by the middle of 2012 before rising with core inflation to the 2 per cent target by the end of 2013. This return to target is somewhat later than had been anticipated in the July *Report*, owing to the downward revision to core inflation and to the lower profile assumed for world commodity prices.

Total CPI inflation is projected to drop to around 1 per cent by the middle of 2012 before rising with core inflation to the 2 per cent target by the end of 2013

Chart 31: Total CPI inflation in Canada is projected to fall temporarily near 1 per cent in mid-2012, reflecting the recent decline in world oil prices

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

⁴ The Bank continues to project that U.S. demand growth will be more concentrated in components such as business fixed investment and residential investment, which incorporate a relatively high degree of Canadian export content.

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

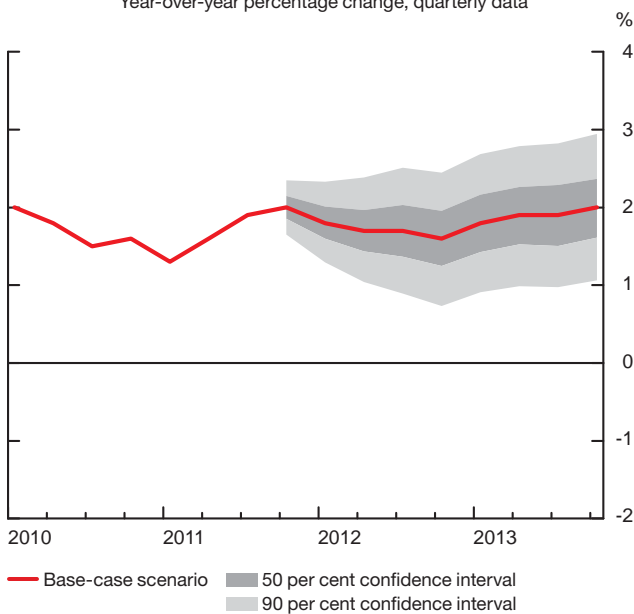
	2010	2011				2012				2013			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP (quarter-over-quarter percentage change at annual rates)	3.1 (3.1)	3.6 (3.9)	-0.4 (1.5)	2.0 (2.8)	0.8 (2.9)	1.9 (2.9)	2.5 (2.6)	3.0 (2.5)	3.0 (2.1)	3.0 (2.1)	3.0 (2.1)	3.0 (2.1)	3.0 (2.1)
Real GDP (year-over-year percentage change)	3.3 (3.3)	2.9 (2.9)	2.2 (2.7)	2.1 (2.8)	1.5 (2.8)	1.1 (2.5)	1.8 (2.8)	2.1 (2.7)	2.6 (2.5)	2.9 (2.3)	3.0 (2.1)	3.0 (2.1)	2.9 (2.1)
Core inflation (year-over-year percentage change)	1.6 (1.6)	1.3 (1.3)	1.6 (1.7)	1.9 (1.9)	2.0 (2.0)	1.8 (2.1)	1.7 (2.0)	1.7 (2.0)	1.6 (2.0)	1.8 (2.0)	1.9 (2.0)	1.9 (2.0)	2.0 (2.0)
Total CPI (year-over-year percentage change)	2.3 (2.3)	2.6 (2.6)	3.4 (3.4)	3.0 (2.8)	2.7 (2.6)	1.9 (2.3)	1.0 (1.9)	1.2 (2.0)	1.5 (2.0)	1.8 (2.0)	1.9 (2.0)	1.9 (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 (2.1)	2.9 (2.9)	3.0 (2.8)	2.6 (2.5)	1.9 (2.3)	1.0 (1.9)	1.2 (2.0)	1.5 (2.0)	1.8 (2.0)	1.9 (2.0)	1.9 (2.0)	2.0 (2.0)
WTI ^b (level)	85 (85)	94 (94)	103 (103)	90 (97)	85 (98)	87 (100)	87 (101)	87 (102)	88 (102)	88 (103)	88 (103)	88 (103)	88 (103)

a. Figures in parentheses are from the base-case projection in the July 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 21 October 2011

Chart 32: Projection for core CPI inflation

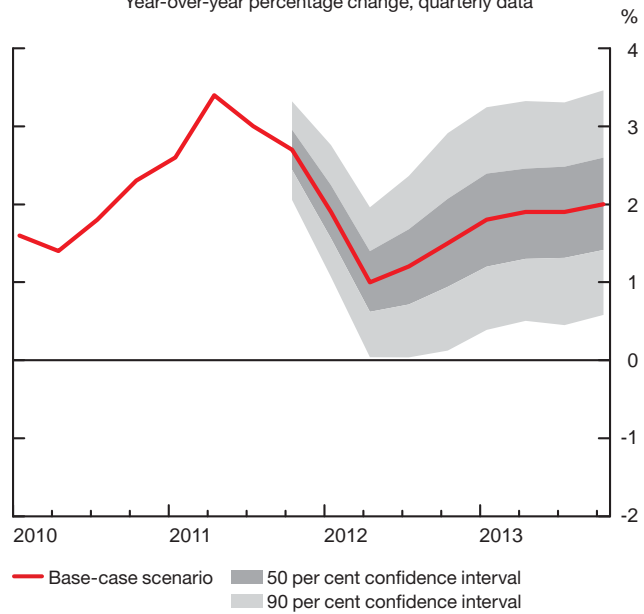
Year-over-year percentage change, quarterly data



Source: Bank of Canada

Chart 33: Projection for total CPI inflation

Year-over-year percentage change, quarterly data



Source: Bank of Canada

This projection includes a gradual reduction in monetary stimulus over the projection horizon, consistent with achieving the inflation target.

The uncertainty surrounding the Bank's inflation projection is illustrated using fan charts. **Chart 32** and **Chart 33** depict the 50 per cent and 90 per cent confidence bands for year-over-year core inflation and total CPI inflation from the fourth quarter of 2011 to the end of 2013.⁵

⁵ Technical details on the construction of the fan charts are available on the Bank's website; key word search: fan charts.

Risks to the Outlook

The inflation outlook in Canada is subject to several significant risks. In particular, the Bank's projection assumes that authorities in Europe are able to contain the ongoing crisis, although this assumption is clearly subject to downside risks.

The three main upside risks to inflation in Canada relate to the possibility of stronger-than-expected inflationary pressures in the global economy, stronger momentum in Canadian household spending, and the possibility of a faster-than-expected rebound in business and consumer confidence.

- Global inflationary pressures could be more persistent than currently projected if growth in emerging-market economies does not decelerate to more sustainable levels or if potential output in advanced economies is lower than projected.
- There could be stronger-than-expected momentum in household expenditures in Canada. With very stimulative financing conditions, borrowing could grow at a faster pace than anticipated.
- Uncertainty about the resolve of policy-makers to address challenges and mounting concern about future economic prospects are having a marked effect on global economic activity. More decisive policy action in the major advanced economies than currently anticipated could lift confidence more rapidly than currently projected.

The three main downside risks to inflation in Canada relate to sovereign debt and banking concerns in Europe, the increased probability of a recession in the U.S. economy, and the possibility that growth in household spending could be weaker than projected.

- Failure to contain the crisis in Europe is the most serious risk facing the global and Canadian economies. The effects on Canada through financial, confidence and trade channels would be substantial, given the size and importance of the euro area.
- Economic growth in the United States through the first half of 2011 slowed to levels that in previous periods often preceded a recession. A U.S. recession would have material consequences for growth and inflation in Canada, given the tight trade and financial links between the two countries.
- 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.

Bank of Canada Publications

Unless noted otherwise, all publications are available in print and on the Bank's website: www.bankofcanada.ca

Monetary Policy Report (January, April, July and October)

Financial System Review (June/December)

Bank of Canada Review (quarterly; see website for subscription information)

Business Outlook Survey (January, April, July and October)

Senior Loan Officer Survey (January, April, July and October)*

Speeches and Statements by the Governor*

Bank of Canada Banking and Financial Statistics (monthly)*

Weekly Financial Statistics (published each Friday)*

Renewal of the Inflation-Control Target: Background Information

Annual Report

A History of the Canadian Dollar

James Powell (available at Can\$8 plus applicable taxes)

Conference Proceedings

Conference volumes published up to and including April 2005 are available in print and on the Bank's website. Print copies can be purchased for Can\$15 plus applicable taxes. Papers and proceedings from Bank of Canada conferences, seminars and workshops held after April 2005 are now published exclusively on the Bank's website.

Technical Reports, Working Papers and Discussion Papers*

Technical Reports, Working Papers and Discussion Papers are usually published in the original language only, with an abstract in both official languages. Discussion Papers deal with finished work on technical issues related to the functions and policy-making of the Bank. They are of interest to specialists and other central bankers.

* Available only on the Bank's website
