

MONETARY POLICY REPORT

July 2014



Canada's Inflation-Control Strategy¹

Inflation targeting and the economy

- The Bank's mandate is to conduct monetary policy to promote the economic and financial well-being of Canadians.
- Canada's experience with inflation targeting since 1991
 has shown that the best way to foster confidence in the
 value of money and to contribute to sustained economic
 growth, employment gains and improved living standards
 is by keeping inflation low, stable and predictable.
- In 2011, the Government and the Bank of Canada renewed Canada's inflation-control target for a further five-year period, ending 31 December 2016. The target, as measured by the total consumer price index (CPI), remains at the 2 per cent midpoint of the control range of 1 to 3 per cent.

The monetary policy instrument

- The Bank carries out monetary policy through changes in the target overnight rate of interest.² These changes are transmitted to the economy through their influence on market interest rates, domestic asset prices and the exchange rate, which affect total demand for Canadian goods and services. The balance between this demand and the economy's production capacity is, over time, the primary determinant of inflation pressures in the economy.
- Monetary policy actions take time—usually from six to eight quarters—to work their way through the economy and have their full effect on inflation. For this reason, monetary policy must be forward-looking.
- Consistent with its commitment to clear, transparent communications, the Bank regularly reports its perspective on the forces at work on the economy and their

implications for inflation. The *Monetary Policy Report* is a key element of this approach. Policy decisions are typically announced on eight pre-set days during the year, and full updates of the Bank's outlook, including risks to the projection, are published four times per year in the *Monetary Policy Report*.

Inflation targeting is symmetric and flexible

- Canada's inflation-targeting approach is symmetric, which means that the Bank is equally concerned about inflation rising above or falling below the 2 per cent target.
- Canada's inflation-targeting framework is flexible.
 Typically, the Bank seeks to return inflation to target over
 a horizon of six to eight quarters. However, the most
 appropriate horizon for returning inflation to target will
 vary depending on the nature and persistence of the
 shocks buffeting the economy.

Monitoring inflation

• In the short run, a good deal of movement in the CPI is caused by fluctuations in the prices of certain volatile components (e.g., fruit and gasoline) and by changes in indirect taxes. For this reason, the Bank also monitors a set of "core" inflation measures, most importantly the CPIX, which strips out eight of the most volatile CPI components and the effect of indirect taxes on the remaining components. These "core" measures allow the Bank to "look through" temporary price movements and focus on the underlying trend of inflation. In this sense, core inflation is monitored as an operational guide to help the Bank achieve the total CPI inflation target. It is not a replacement for it.

- 1 See Joint Statement of the Government of Canada and the Bank of Canada on the Renewal of the Inflation-Control Target (8 November 2011) and Renewal of the Inflation-Control Target: Background Information—November 2011, which are both available on the Bank's website.
- 2 When interest rates are at the zero lower bound, additional monetary easing to achieve the inflation target can be provided through three unconventional instruments: (i) a conditional statement on the future path of the policy rate; (ii) quantitative easing; and (iii) credit easing. These instruments and the principles guiding their use are described in the Annex to the April 2009 Monetary Policy Report.

The Monetary Policy Report is available on the Bank of Canada's website at bankofcanada.ca.

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Monetary Policy Report

July 2014

This is a report of the Governing Council of the Bank of Canada: Stephen S. Poloz, Carolyn Wilkins, Timothy Lane, Agathe Côté, Lawrence Schembri and Lynn Patterson. "We are still a long way from home.... Our economy has room to grow. And, when we do get home, there is a growing consensus that interest rates will still be lower than we were accustomed to in the past—both because of our shifting demographics and because, after such a long period at such unusually low levels, interest rates won't need to move as much to have the same impact on the economy."

-Stephen S. Poloz

Governor, Bank of Canada Saskatoon, Saskatchewan 24 April 2014

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Global Economy

The global economic expansion is modest and uneven. After growing at a healthy pace in the second half of 2013, the world economy experienced a sharp and broad-based slowdown in economic activity and trade in the first quarter of this year. While global growth is expected to gather momentum, the resulting profile is weaker than anticipated at the time of the April *Report*. Global economic growth is expected to be 2.9 per cent in 2014, picking up to 3.6 per cent in 2015 and 3.7 per cent in 2016 (Table 1).

Table 1: Projection for global economic growth

	Share of real global	Projected growth ^b (per cent)							
	GDP ^a (per cent)	2013	2014	2015	2016				
United States	20	1.9 (1.9)	1.6 (2.8)	3.1 (3.2)	3.0 (3.0)				
Euro area	14	-0.4 (-0.4)	0.9 (1.1)	1.4 (1.3)	1.7 (1.6)				
Japan	5	1.5 (1.5)	1.3 (1.2)	1.2 (1.3)	1.0 (1.0)				
China	15	7.7 (7.7)	7.2 (7.3)	7.0 (7.3)	7.1 (7.2)				
Rest of the world	47	2.9 (2.9)	2.9 (3.2)	3.7 (3.8)	3.8 (3.8)				
World	100	2.9 (2.9)	2.9 (3.3)	3.6 (3.7)	3.7 (3.7)				

a. GDP shares are based on International Monetary Fund (IMF) estimates of the purchasing-power-parity (PPP) valuation of country GDPs for 2012. The individual shares may not add up to 100 owing to rounding.
 Source: IMF World Economic Outlook April 2014

The global expansion has been held back for the past several years by three headwinds. Two headwinds, associated with fiscal consolidation and private sector deleveraging, are already diminishing. The third, related to uncertainty surrounding economic policies and economic prospects more generally, is lingering, as evidenced by the serial disappointment in global growth over recent years. Over time, this headwind is also expected to dissipate and the global expansion to continue, supported by highly accommodative monetary policies and increasingly buoyant financial conditions.

Global economic growth slowed sharply in the first quarter

The global economy experienced a widespread slowdown in activity, investment and trade in the first quarter, reflecting the coincident occurrence of a diverse set of country-specific factors (Table 2). In particular, real U.S. GDP contracted by 2.9 per cent, partly due to temporary and one-off factors, such as a slowdown in inventory investment, the expiration of fiscal measures (for example, extended unemployment benefits) at the beginning

b. Numbers in parentheses are projections used for the April 2014 *Monetary Policy Report*. Source: Bank of Canada

World

Global trade

	Share of real global	Growth (per cent)							
	GDP ^a (per cent)	2013Q3	2013Q4	2014Q1					
United States	20	4.1	2.6	-2.9					
Euro area	14	0.4	1.2	0.8					
Japan	5	1.3	0.3	6.7					
China ^b	15	7.8	7.7	7.4					
Rest of the world	47	3.1	3.5	1.7					

Table 2: Global economic growth (quarter-over-quarter, annualized)

3.8

5.1

3.3

6.3

1.5

-2.8

Sources: Bank of Canada; IMF, World Economic Outlook, April 2014; and CPB Netherlands Bureau for Economic Policy Analysis

of 2014 and severe winter weather. Nevertheless, these factors can only partially explain the broad-based weakness in the first quarter, suggesting that there is less underlying momentum in the U.S. economy.

Economic activity in the euro area continued to expand modestly in the first quarter. Growth was uneven, with the strength in Germany offset by contracting or stagnant activity in many other countries. In contrast, real GDP in Japan jumped sharply in the first quarter, but this reflected a pulling forward of growth before the April increase in the value-added tax from 5 per cent to 8 per cent.

In China, growth slowed to its weakest pace since 2009. Meanwhile, in other emerging-market economies (EMEs), activity was weighed down by political uncertainty in several regions and tightening financial conditions.

Many of the factors contributing to slower growth in the first quarter appear to be country-specific and their effects are likely to be transitory. The conditions supporting a rebound in global activity remain in place, albeit starting from a weaker level of activity than previously expected. The widespread nature of the slowdown, however, suggests that there could be less underlying momentum in the global economy.

Headwinds to growth continue to abate, while financial conditions ease further

Most of the factors restraining the pace of the global economic expansion in recent years have dissipated further, although some continue to have an impact. Fiscal drag is diminishing significantly in many advanced economies (Chart 1). Household deleveraging in the United States and some other countries is well advanced, which should support domestic demand (Chart 2). At the same time, uncertainty appears to be undermining business confidence and restraining investment. Such uncertainty is expected to dissipate as the recovery strengthens—boosting investment and thus putting international trade and commodity prices on a firmer footing—although that has yet to happen. Bottlenecks and other structural impediments that are hindering growth in the EMEs are also expected to be mitigated by ongoing economic reforms.

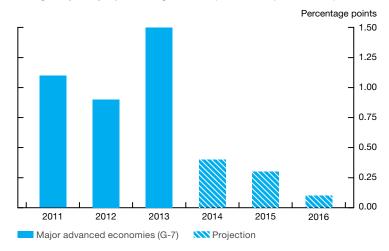
Global financial conditions have become even more buoyant since the last *Report*. These conditions reflect the exceptionally stimulative monetary policies in the major advanced economies, which, in some cases, eased

a. GDP shares are based on International Monetary Fund (IMF) estimates of the purchasing-power-parity (PPP) valuation of country GDPs for 2012. The individual shares may not add up to 100 because of rounding.

b. Growth rates for China are expressed on a year-over-year basis.

Chart 1: Current policies suggest significantly less fiscal drag over the projection horizon

Change in cyclically adjusted budget balance (as a share of potential GDP)

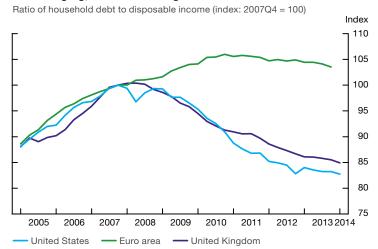


Note: The G-7 countries are Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.

Source: International Monetary Fund, World Economic Outlook, April 2014

Last data plotted: 2016

Chart 2: Some advanced economies have made significant progress deleveraging, while others lag behind



Sources: U.S. Federal Reserve, Eurostat, U.K. Office for National Statistics and Bank of Canada calculations Last observations: Euro area, 2013Q4; United Kingdom and United States, 2014Q1

further during this period. In June, in response to declining inflation, weak growth and ongoing financial fragmentation, the European Central Bank (ECB) announced further stimulus measures, lowering its main interest rate to 0.15 per cent and introducing a negative deposit rate. The ECB also stated that it will implement targeted credit measures. Meanwhile, central bank balance sheets continue to expand in some countries (Chart 3). In the United States, although the Federal Reserve continues to reduce the size of its asset purchases, its balance sheet is still expanding, providing additional monetary stimulus (Box 1). Moreover, the Federal Open Market Committee (FOMC) has reiterated its expectations that economic conditions may warrant monetary policy remaining accommodative "even after employment and inflation are near mandate-consistent levels."

Box 1

The Federal Reserve Balance Sheet and Options for Its Exit Strategy

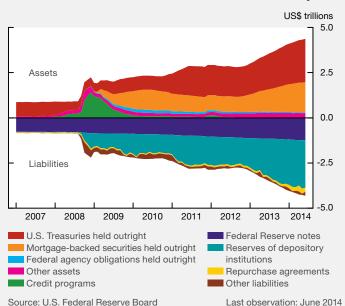
Since the autumn of 2008, the U.S. Federal Reserve has undertaken successive large-scale asset purchases (LSAPs) in order to provide additional monetary stimulus while the federal funds rate was at the effective lower bound. This included purchases of U.S. Treasury and agency securities, as well as mortgage-backed securities (MBS), financed by the creation of bank reserves on the Federal Reserve's balance sheet. The latest round of LSAPs, known as QE3, is expected to end in October 2014. LSAPs were effective at containing the crisis and easing monetary and financial conditions.

It is important to note that the expansion in excess reserves on the Federal Reserve balance sheet solely reflects the scale of the asset purchases and contains no direct information on the lending behaviour of banks or the level of economic activity. As the recovery strengthens and the Federal Reserve considers its exit from unconventional policies, it has clearly communicated that the size of the balance sheet is not going to be a hindrance in its ability to control the policy rate and, hence, liquidity in the economy. It has outlined policy options that will limit the risk of large excess reserves leading to excessive loan creation and a sharp increase in inflation.¹

Specifically, the Federal Reserve is considering a number of complementary tools that will enable it to absorb excess liquidity as it raises the federal funds rate.² These tools are currently either in use or being actively tested by the Federal Reserve and include:

- raising the interest rate paid on excess reserves, which Fed officials have stated should play a central role in the process of normalization;³ and
- 1 For a richer discussion on the creation of excess reserves, see T. Keister and J.J. McAndrews, "Why Are Banks Holding So Many Excess Reserves?" Federal Reserve Bank of New York, *Current Issues in Economics and Finance* 15, no. 8 (December 2009): 1–10.
- 2 The tools being considered were discussed most recently in the minutes of the FOMC's meeting on 17-18 June 2014.
- 3 The link between the size of the Federal Reserve's balance sheet and the aggregate money supply can be affected by the policy of paying interest on reserves held by banks (in effect since October 2008). This allows the Fed to motivate banks to keep excess funds with the Federal Reserve instead of lending them to the real economy.

Chart 1-A: Assets and liabilities of the Federal Reserve System



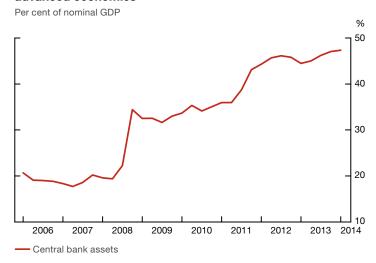
 offering an interest-bearing term deposit facility and engaging in overnight and/or term reverse repurchase agreements (in which the Federal Reserve offers collateral against cash) to help drain excess reserve balances.

The Federal Reserve has indicated that it plans to unwind its LSAP-related balance-sheet purchases gradually. Participants in the Federal Open Market Committee have suggested that they may continue the reinvestment policy until or after the time of the first rate increase and hold their U.S. Treasuries and MBS until maturity (thus avoiding market disruption from a large-scale sale of assets). The Federal Reserve has further emphasized that the timing and execution of the strategy selected to manage its balance sheet will depend on economic and financial market conditions.⁴

4 This was recently reiterated by Federal Reserve Chair Janet Yellen at the press conference following the release of the FOMC's statement on 18 June 2014.

In this context, market expectations that policy interest rates will remain low for an extended period, the search for yield and an increase in the demand for safe assets by banks are also exerting downward pressure on long-term interest rates (Chart 4). Stock markets are at or near recent highs, credit spreads have narrowed, and issuance remains robust (Chart 5). Furthermore, measures of market volatility—both forward-looking and realized—have fallen further below historical averages across a range of asset classes.² After tightening in the first quarter, financial conditions in EMEs have also improved, with strengthening equity markets and narrowing spreads.

Chart 3: Central bank balance sheets have continued to expand in the advanced economies

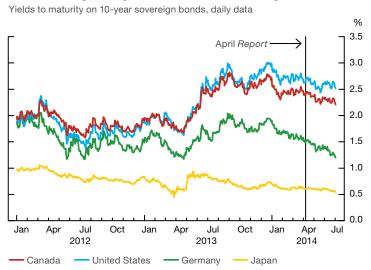


Notes: Central banks included are the U.S. Federal Reserve, the European Central Bank, the Bank of England and the Bank of Japan. Central bank assets and nominal GDP are converted to U.S. dollars using the average market exchange rate during each respective quarter.

Sources: U.S. Federal Reserve, U.S. Bureau of Economic Analysis; European Central Bank, Eurostat; Bank of England, U.K. Office for National Statistics; Bank of Japan, Cabinet Office of Japan and Bank of Canada calculations

Last observation: 2014Q1

Chart 4: Yields on long-term government bonds have edged down

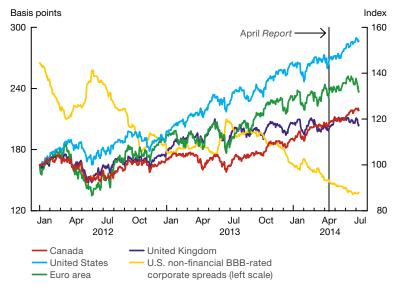


Source: Reuters Last observation: 11 July 2014

6

Chart 5: Stock markets are buoyant and credit spreads have narrowed

Equity index: 3 January 2012 = 100, daily data



Note: Equity indexes include the S&P/TSX Composite (Canada), S&P 500 (United States), EURO STOXX 50 (euro area), and FTSE 100 (United Kingdom).

Sources: Bank of America Merrill Lynch and Bloomberg

Last observation: 11 July 2014

The United States should lead the pickup in growth in the advanced economies

Led by the United States, growth in the advanced economies is expected to bounce back and strengthen through 2014. The rebound is not anticipated to make up for the weakness in the first quarter, however, leaving the level of GDP on a lower path than assumed in the April *Report*. Over time, the expansion in the advanced economies is anticipated to return their economies to potential and enable them to achieve natural growth that is no longer reliant on exceptional monetary policy stimulus.

Domestic demand in the United States is expected to pick up, underpinned by an expansion of credit, rising financial and housing wealth, and improving labour market conditions. Specifically, consumption will be supported by growing household net worth and a gradual increase in disposable income. Residential investment is also expected to benefit from these factors, together with a rise in household formation and a gradual easing in credit standards as the competition for new mortgage lending intensifies. Recent labour market indicators have been encouraging, with roughly 230,000 net new jobs created, on average, over the past six months; job openings rising to their highest level since August 2007; and the unemployment rate declining to 6.1 per cent. Despite these improvements, other labour market indicators, such as modest wage growth and elevated long-term unemployment, suggest that there is still considerable slack in the labour market, which is projected to keep inflationary pressures contained (Chart 6).

Business investment is expected to strengthen as uncertainty about future demand diminishes, the cost of capital remains low and firms seek to put their ample cash holdings to work. That being said, momentum appears to be weaker than anticipated in April. For example, indicators such as construction spending and shipments of capital goods suggest a somewhat lower profile for business investment through 2014.

% 10 9 8 7 6 5 4 2007 2008 2009 2010 2011 2012 2013 2014

Chart 6: The decline in the unemployment rate has overstated the improvement in the U.S. labour market

Note: The U.S. labour market indicator (LMI) is created by extracting the common movement across a range of labour variables and then scaling the result to the U.S. unemployment rate. See K. Zmitrowicz and M. Khan, "Beyond the Unemployment Rate: Assessing Canadian and U.S. Labour Markets Since the Great Recession," *Bank of Canada Review* (Spring 2014): 42-53.

Sources: U.S. Bureau of Labor Statistics and Bank of Canada calculations

LMI-consistent unemployment rate

Last observations: LMI, May 2014; unemployment rate, June 2014

Official unemployment rate

Overall, the U.S. economy is expected to grow by around 1 1/2 per cent this year, before strengthening to around 3 per cent in 2015 and 2016, a lower rate of growth than anticipated at the time of the April Report.

The recovery in the euro area remains modest and fragile. Inflation has slowed and remains low, with concerns that it may fall further. Nevertheless, accommodative monetary conditions, particularly in view of the ECB's recent measures, combined with receding domestic headwinds and strengthening external demand, are expected to support the recovery in the euro area. Despite the progress to date, the path forward may be uneven, as some countries continue to rebalance their economies to improve their competitiveness.

Growth in China has slowed as authorities attempt to rebalance the economy

Economic growth in China has continued to slow, reflecting the ongoing tension between rebalancing the economy and maintaining growth. These strains are most evident in the property sector, which is entering its third cyclical downturn in six years, with both sales and housing starts contracting significantly at the start of 2014 (Chart 7). However, unlike in previous periods when policy was a key driver, the recent slowdown appears to reflect weakness in demand and excessive inventories.

Despite the downturn in the housing market, China's economic growth is expected to remain solid, supported by near-term targeted stimulus measures and ongoing medium-term economic reforms aimed at reorienting growth toward domestic consumption and away from investment and exports. The risk remains that the housing downturn could accelerate, adversely affecting China's shadow banking sector, which could then have broader spillover effects on the banking sector, the real economy and, in turn, on global commodity prices.

Chart 7: A correction has begun in China's property market



Note: The data are seasonally adjusted using the TRAMO/SEATS procedure. Sources: CEIC and Bank of Canada calculations

Last observation: May 2014

Other emerging-market economies are expected to strengthen

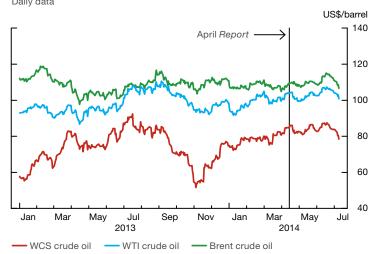
In the rest of the world, growth is expected to pick up to roughly 3 3/4 per cent in 2015 and 2016. The level of GDP is lower throughout the projection horizon, however, as a result of the weakness in the first quarter of this year. Economic activity in the EMEs (excluding China) is expected to lead the pickup, growing by more than 4 per cent as foreign demand strengthens, recent improvements in financial conditions pass through to domestic credit conditions and progress is made on economic reforms. Importantly, the emerging-market share of global GDP is expected to continue rising over the projection period, which, given their relatively higher commodity intensity, will support commodity prices.

Supply developments have pushed up the prices of non-energy commodities

Global crude oil prices have fluctuated in recent months, reflecting geopolitical developments (Chart 8). By convention, for the purposes of the economic projection, the Bank assumes that energy prices will remain near their recent levels. Prices for Brent, West Texas Intermediate and Western Canada Select have recently averaged roughly US\$110, US\$105 and US\$85 per barrel, respectively.

Historical experience underscores the considerable uncertainty associated with crude oil prices. In the near term, crude prices could surprise on the upside, since rising sectarian violence in Iraq could reduce global oil supplies, especially given OPEC's already low level of spare capacity (Chart 9). In the medium term, however, the Bank's latest analysis of demand and supply factors suggests that the risks to oil prices are tilted to the downside. In particular, if shale oil production were to exceed current estimates and/or geopolitical tensions were resolved, prices would likely fall below the level assumed in the Bank's base-case scenario.

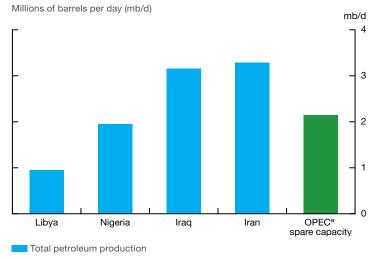
Chart 8: Global crude oil prices are little changed on balance since the April Report



Note: WCS refers to Western Canada Select and WTI refers to West Texas Intermediate.

Source: Bank of Canada Last observation: 11 July 2014

Chart 9: Oil production is potentially at risk in certain regions



a. OPEC refers to the Organization of the Petroleum Exporting Countries.

Sources: U.S. Energy Information Administration and International Energy Agency

Last observation: 2013

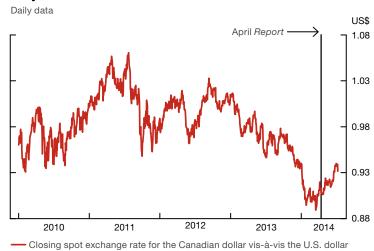
Since the April *Report*, the prices of many non-energy commodities have risen. In most cases, these increases are a reflection of supply developments rather than of a strengthening global economy. The rise in agricultural prices has been driven by a surge in cattle prices, owing to extremely tight supplies, since U.S. cattle stocks have fallen to the lowest level in more than five decades. Lumber prices have recovered some of their previous decline as U.S. housing construction bounced back from the effects of the severe winter, even though some previously unused production capacity has been coming on stream. Meanwhile, the rise in base metals prices has been widespread and may be a sign of improving growth prospects. However, supply-related issues, particularly the Indonesian ban on exports of metal ores, have also pushed up prices. The prices of non-energy commodities are expected to rise as uncertainty wanes and the global economic expansion gains momentum.

Summary

The global economy has continued to disappoint, reflecting the pervasive uncertainty that continues to hold back activity, investment and trade. Nevertheless, global economic growth is expected to strengthen as the underlying forces of natural growth gradually assert themselves, supporting Canadian exports, commodity prices and terms of trade. Overall, however, the level of global economic activity is judged to be weaker over the projection horizon than anticipated in the April *Report*.

The Canadian dollar has averaged 93 cents since the June fixed announcement date, higher than the 91 cents assumed in April (Chart 10). By convention, the Canadian dollar is assumed to remain at its recent level of 93 cents over the projection horizon.

Chart 10: The Canadian dollar has increased materially since the beginning of the year



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

Source: Bank of Canada Last observation: 11 July 2014

Canadian Economy

Total CPI inflation has moved up to around the 2 per cent target in recent months. Core inflation has also increased, but remains below 2 per cent. Although the Bank had anticipated in the April *Report* that higher consumer energy prices and exchange rate pass-through would exert temporary upward pressure on inflation, the increase occurred sooner and has been larger than anticipated. The higher-than-expected inflation readings primarily reflect larger increases in energy prices, which are notoriously volatile, as well as other sector-specific factors that have temporarily affected core inflation.

The Bank's judgment is that underlying inflationary pressures remain muted, given the persistent slack in the economy and continued intense competition in the retail sector. In light of the weaker global outlook, the Bank now estimates that it will take a little longer than expected in April for the Canadian economy to return to full capacity.

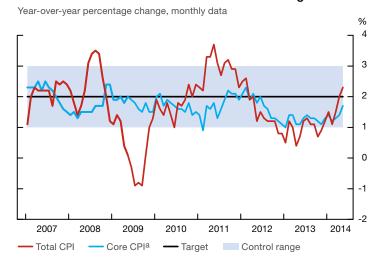
Inflation is expected to fluctuate close to 2 per cent over the next two years as the temporary boost to inflation from the relative price shocks noted above eases and the downward pressure on inflation arising from excess supply and heightened retail competition gradually dissipates. As the economy reaches its full capacity around mid-2016, both core and total CPI inflation are projected to converge on 2 per cent on a sustained basis. Beyond the near term, the inflation projection is little changed from the April *Report*.

Canadian real GDP growth is projected to average around 2 1/4 per cent during 2014–16. The abrupt slowing in global economic growth in the first quarter has once again delayed the expected pickup in exports and business investment. However, the Bank continues to expect that the lower Canadian dollar and the projected strengthening of the global economy will lead to a broadening of the composition of growth in Canada. Meanwhile, the Bank still anticipates a soft landing in the housing market and a continued constructive evolution of household imbalances. Given the downgrade to the global economic outlook, economic activity in Canada is now projected to be a little weaker than previously expected.

Sector-specific shocks and exchange rate pass-through have temporarily boosted inflation

Inflation has risen in recent months (Chart 11), owing to the temporary effects of higher energy prices and exchange rate pass-through, as well as certain other sector-specific shocks. All of these factors are providing a one-time boost to the level of prices, which will drop out of the year-over-year inflation rate during 2015. At the same time, persistent excess capacity in

Chart 11: Total CPI inflation and core inflation have moved higher in recent months



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

Last observation: May 2014

the economy and heightened competition in the retail sector are continuing to exert downward pressure on inflation.³ The Bank estimates that these two factors are currently subtracting about 0.3 percentage points each from the annual rate of core inflation.

After fluctuating in a very narrow range around 1.2 per cent from January 2013 through March 2014, core inflation rose to an average of 1.6 per cent in April and May. While monthly inflation has picked up markedly in the past six months, this is mainly the result of larger price increases in categories that are not believed to be affected by the degree of slack or competition in the Canadian economy.4 For example, tight supply conditions in North America have caused meat prices to soar.⁵ In addition, there has been a rapid rise in electricity rates (included in the core measure). While there is obviously some uncertainty and there may be some upside risk to the near-term path, the Bank does not expect the recent momentum in monthly inflation to persist. This is in part because the price increases in the sectors responsible for the pickup are currently above their historical averages and tend to exhibit low inflation persistence, suggesting that they will subside quickly going forward. This is illustrated in Chart 12.6 The rise in total CPI inflation over the same period has been more pronounced than that of core inflation, owing to large increases in the prices for gasoline and natural gas.

- 3 Respondents to the Bank's summer Business Outlook Survey reported that strong competition continues to restrain expectations for output prices.
- 4 Over the past six months, monthly core CPI has risen at an average annual rate of 2.5 per cent. This follows an average increase of less than 1 per cent over the previous six months.
- 5 The Bank's core inflation measure excludes eight of the most volatile components as well as the effect of changes in indirect taxes on the remaining components. The excluded components are fruit, vegetables, gasoline, fuel oil, natural gas, mortgage interest, intercity transportation and tobacco products.
- 6 The six-month inflation rate is the annualized percentage change in the price level between November 2013 and May 2014. Individual components of the core CPI were seasonally adjusted using the Census Bureau's X-12-ARIMA procedure, and each six-month inflation rate is expressed as a deviation from its average. Persistence is calculated as the sum of the first four autoregressive coefficients of quarter-over-quarter seasonally adjusted inflation. The sample period used to calculate persistence and averages is 1995 to 2013.

Persistence (sum of autoregressive coefficients) 1.0 0.8 Motor vehicles 0.6 More persistent 0.4 0.2 0.0 -0.2 Electricity Meat -0.4Clothina No persistence -0.6 -0.8 Below average 4 Above average -1.0-6 -2 0 2 12 Six-month inflation rates relative to average Service components Non-durables components Food components Other components

Chart 12: Core CPI components with above-average inflation tend to have less-persistent price changes

Note: The size of the circles reflects their relative weight in the core price index. Sources: Statistics Canada and Bank of Canada calculations

Relative to the April *Report*, the higher-than-expected readings for core inflation mainly reflect larger increases in the prices for semi-durables, such as clothing and footwear, and food (in particular, meat). In addition to higher core inflation, the positive shock to total CPI inflation reflects higher-than-expected gasoline prices.

The depreciation of the Canadian dollar since the beginning of 2013 has put some temporary upward pressure on inflation as higher import prices have been "passed through" to domestic consumer prices. Both the magnitude and the timing of the direct impact of the exchange rate on core inflation are difficult to measure with precision. The impact varies across businesses, depending on a number of factors, including import concentration and the duration of currency hedges. The Bank's latest *Business Outlook Survey* suggests that some firms have already seen the effects of the exchange rate depreciation filter through to the cost of their inputs, while others expect to see these effects over coming quarters. The pass-through can be inferred by examining the evolution of inflation for goods with high import content. Over the past six months, core goods with higher import content—particularly clothing and footwear—have registered larger price increases than those with lower import content.

Past exchange rate declines appear to be adding about 0.1 to 0.2 percentage points to core inflation at this time. Since some of the key volatile components excluded from the core measure are more sensitive to exchange rate movements, the pass-through to total CPI inflation is estimated to be larger, at about 0.3 to 0.4 percentage points. In its base-case projection, the Bank assumes that the direct impact on the level of prices of the lower dollar will be complete by around the end of 2014. As a result, the impact on year-over-year inflation should dissipate by the end of next year.

⁷ The depreciation of the Canadian dollar also has an indirect impact through higher demand, since it reduces the prices of goods and services produced in Canada relative to those produced elsewhere, stimulating foreign demand for Canadian exports and shifting domestic demand toward domestically produced goods and services.

14

The Canadian economy continues to operate below full capacity

As reflected in the Bank's base-case scenario, for inflation to be sustained at 2 per cent, excess capacity in the economy will have to be absorbed. Otherwise, inflation would drift back down and stay below 2 per cent.

The Bank estimates that the degree of excess capacity in the economy remained largely unchanged during the first half of 2014 (Chart 13). Hampered by severe weather and supply constraints, real GDP in Canada grew at a modest pace in the first quarter. With the reversal of these temporary effects, growth is expected to rebound in the second quarter, leaving real GDP at about the same level as projected in the April Report. Taking into account the various indicators of capacity pressures and the uncertainty surrounding any point estimate, the Bank judges that the amount of excess capacity in the second quarter was between 1/2 per cent and 1 1/2 per cent.8

Recent developments indicate that slack in the labour market is consistent with the material excess capacity in the economy. Over the past year, employment has been very weak, increasing on average by roughly 6,000 jobs per month, or less than half the rate that would be consistent with real GDP growing at potential. At around 7 per cent, the unemployment rate remains elevated and would have increased if not for the recent decline in the labour force participation rate of the prime-age group (25 to 54 years of age) from 86.6 per cent to 85.9 per cent over the past six months (Chart 14). Such a decline in the participation rate is roughly equivalent to 100,000 fewer people. In addition, in looking across various age groups, the participation rate of

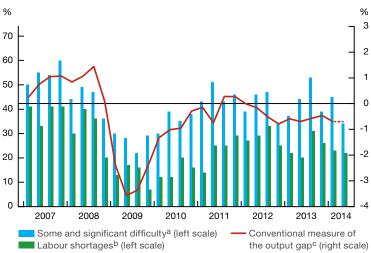


Chart 13: Material excess capacity remains in the Canadian economy

- a. Responses 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. Responses 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 2014 is based on an increase in output of 2.5 per cent (at annual rates) for the quarter.

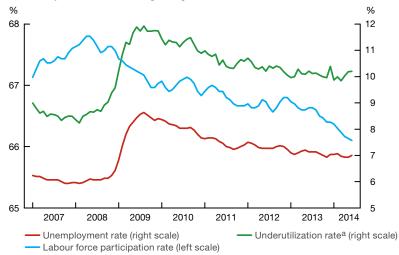
Source: Bank of Canada Last observation: 2014Q2

³ The base-case projection is constructed around the midpoint of the range for the output gap in the second quarter of 2014 (i.e., -1 per cent).

youth remains particularly low relative to its pre-recession peak. For this group, the decline in the participation rate from 68.1 per cent to 63.5 per cent is roughly equivalent to 200,000 fewer youth participating in the labour force today. For reference, the decline in the prime-age participation rate from its pre-recession peak of 86.7 per cent to 85.9 per cent is considerably smaller, but because this group has a larger population, it translates into a reduction in the labour force of about 120,000. Continuing labour market slack is also reflected in subdued increases in wages (Chart 15).

Chart 14: The unemployment rate has remained steady, while the participation rate has declined

Monthly data, 3-month moving average

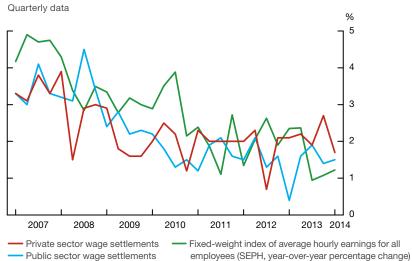


 a. Statistics Canada's supplementary unemployment rate (R8) includes the unemployed plus discouraged searchers, those waiting for recall or replies, long-term future starts, and a portion of involuntary part-time workers.

Sources: Statistics Canada and Bank of Canada calculations

Last observation: June 2014

Chart 15: Wage growth remains modest



Note: Data for wage settlements represent the effective annual increase for newly negotiated settlements.

Sources: Statistics Canada and Employment and Social Development Canada Last observation: 2014Q1

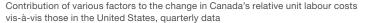
The ingredients for a pickup in exports and business investment remain in place

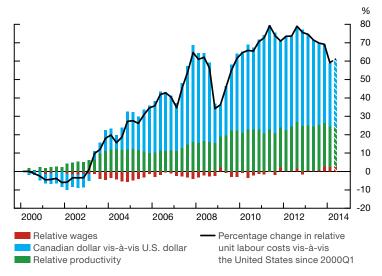
Canadian exports of energy products increased further in the first quarter, while non-energy exports continued to disappoint, falling by more than the Bank's trade-weighted foreign activity measure. However, non-energy exports appear to have rebounded sharply in the second quarter. The Bank's outlook for exports balances these initial positive signs against the lower path of global activity over the projection horizon. Overall, moderate export growth is expected as foreign activity strengthens and the competitiveness of Canadian firms benefits from a lower Canadian dollar (Chart 16).

Bank analysis has found that, in many non-energy subsectors (which account for about half of the value of non-energy exports), exports have been behaving broadly in line with, or better than, the indicators of foreign demand since 2000.9 Therefore, as U.S. activity strengthens—and with support from the lower exchange rate—these subsectors, including building and packaging materials, machinery and equipment, commercial services, and aircraft and aircraft parts, are expected to benefit. In contrast, some sectors that have been facing longer-term challenges may need a lengthier adjustment period and more investment to regain productivity and competitiveness.

Healthy corporate balance sheets and the low cost and high availability of capital are providing solid support to firms. The Bank's most recent *Business Outlook* and *Senior Loan Officer* surveys point to a further easing in credit conditions. Business sentiment—particularly among exporters—is also showing tentative signs of improvement. For example, the Conference Board of Canada's *Index of Business Confidence* edged up in the first

Chart 16: The lower Canadian dollar has reversed a small portion of the past deterioration in competitiveness





Note: The value for 2014Q2 is an estimate based on the actual change in the Canada/U.S. exchange rate and the same contributions from relative productivity and relative wages as in 2014Q1.

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

Last observation: 2014Q2

quarter and remains above its historical average, and Export Development Canada's *Trade Confidence Index* has reached its highest level since spring 2010. According to the Bank's summer *Business Outlook Survey*, firms' expectations for future sales growth remain positive, and there are indications of a gradual improvement in business sentiment regarding exports. As well, the summer survey continues to point to an increase in business investment over the next 12 months, with a number of exporting firms looking to improve their competitiveness over the longer term. Consistent with rising prices for non-energy commodities, Canada's terms of trade should improve further and provide additional support to business investment.

On balance, however, the growth profiles for exports and business investment have been revised down relative to the April *Report* as a result of the weaker level of activity in the global economy. Energy exports are expected to outpace foreign activity, reflecting announced plans by major producers to increase output, the growing use of Canadian heavy oil in U.S. refineries and additional rail transportation capacity. The recovery in exports over the projection horizon will continue to be drawn out: the expected strong growth in energy exports and the return of growth to non-energy exports will not be sufficient to fill the shortfall left by the weak performance of non-energy exports relative to foreign activity since the end of 2011.

The Bank continues to expect a soft landing in the housing market and a constructive evolution of household imbalances

Recent developments in the housing market have been broadly consistent with a soft landing. The trend in housing starts and building permits remains roughly in line with demographic demand. Builders' inventories are showing signs of easing. The recent pickup in construction reflects a rebound from weather-depressed levels in the first quarter and also indicates strong activity in Alberta. While the weather likely explains most of the rebound in resale transactions in recent months, its magnitude and broad-based nature leave open the possibility of renewed momentum in the resale market. In addition, existing home prices have continued to rise at a faster pace than disposable income. Compared with a year ago, the growth in house prices has been particularly strong in Vancouver, Calgary and the Toronto region. While there are risks in both directions, the Bank continues to expect that the level of residential investment will be relatively unchanged over the projection horizon and that its share of the overall economy will decline to a more sustainable level.

The Bank expects moderate growth in consumer spending over the projection horizon, broadly in line with the growth of household disposable income and supported by improvements in Canada's terms of trade. Household credit is expected to continue growing at a rate well below its historical average, but at a pace similar to that of disposable income. Consequently, the ratio of household debt to disposable income is expected to stabilize and the savings rate to remain within recent ranges.

While current developments are consistent with an ongoing constructive evolution of household imbalances, vulnerabilities in the household sector that stem from stretched valuations in the housing market and elevated indebtedness remain important. The Bank's June *Financial System Review* provides a more in-depth assessment of these and other vulnerabilities.

The economy must reach and remain at full capacity for inflation to be maintained sustainably at the 2 per cent target

For the inflation target to be achieved on a sustained basis, the economy will first have to reach and then remain at full capacity. On a quarterly basis, real GDP growth is projected to average between 2 1/4 and 2 1/2 per cent in both 2014 and 2015, before easing to about 2 per cent—the growth rate of the economy's potential output—by the end of 2016 (Table 3 and Table 4). The Bank expects that the economy will gradually return to its full production capacity over the next two years.

Given the degree of uncertainty inherent in projections, the Bank judges that annual GDP growth will likely be within ± 0.5 percentage points of the base-case projection. ¹⁰ In addition, there is always uncertainty surrounding the path of potential output growth. In part, this is because potential output responds gradually to shifts in aggregate demand through changes in business investment, firm creation and labour force participation.

Table 3: Contributions to average annual real GDP growth Percentage points^{a,b}

				I
	2013	2014	2015	2016
Consumption	1.3 (1.2)	1.3 (1.4)	1.4 (1.4)	1.2 (1.1)
Housing	0.0 (0.0)	0.0 (0.0)	0.0 (-0.1)	0.0 (0.0)
Government	0.1 (0.1)	-0.1 (0.1)	0.2 (0.2)	0.3 (0.3)
Business fixed investment	0.1 (0.1)	0.0 (0.2)	0.6 (0.7)	0.8 (0.8)
Subtotal: Final domestic demand	1.5 (1.4)	1.2 (1.7)	2.2 (2.2)	2.3 (2.2)
Exports	0.7 (0.6)	0.9 (0.5)	1.4 (1.7)	1.3 (1.5)
Imports	-0.4 (-0.4)	-0.1 (0.1)	-1.0 (-1.4)	-1.3 (-1.4)
Subtotal: Net exports	0.3 (0.3)	0.8 (0.6)	0.4 (0.3)	0.0 (0.1)
Inventories	0.2 (0.3)	0.2 (0.0)	-0.2 (0.0)	0.0 (0.0)
GDP	2.0 (2.0)	2.2 (2.3)	2.4 (2.5)	2.3 (2.2)
Memo items:				
Potential output	1.9 (1.9)	1.9 (1.9)	2.0 (2.0)	1.9 (1.9)
Real gross domestic income (GDI)	2.0 (2.0)	2.5 (2.6)	2.8 (3.0)	2.5 (2.6)

a. Numbers in parentheses are from the base-case projection in the April 2014 *Monetary Policy Report*. Those for potential output are from Appendix A in the October 2013 *Monetary Policy Report*.

Table 4: Summary of the projection for Canada^a

	2013	2014			2015			2016					
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Real GDP (quarter-over-quarter percentage change at annual rates)	2.7	1.2	2.5	2.3	2.4	2.5	2.5	2.3	2.3	2.3	2.3	2.1	1.9
	(2.9)	(1.5)	(2.5)	(2.6)	(2.5)	(2.5)	(2.4)	(2.4)	(2.3)	(2.2)	(2.1)	(2.0)	(2.0)
Real GDP (year-over-year percentage change)	2.7	2.2	2.4	2.2	2.1	2.4	2.5	2.5	2.4	2.4	2.3	2.3	2.2
	(2.7)	(2.3)	(2.4)	(2.4)	(2.3)	(2.5)	(2.5)	(2.4)	(2.4)	(2.3)	(2.2)	(2.1)	(2.1)
Core inflation (year-over-year percentage change)	1.2	1.3	1.6	1.7	1.8	1.6	1.6	1.7	1.8	1.9	1.9	2.0	2.0
	(1.2)	(1.2)	(1.2)	(1.4)	(1.6)	(1.6)	(1.7)	(1.8)	(1.9)	(2.0)	(2.0)	(2.0)	(2.0)
Total CPI (year-over-year percentage change)	0.9	1.4	2.1	2.0	2.2	2.0	1.7	1.8	1.9	2.0	2.0	2.0	2.0
	(0.9)	(1.3)	(1.6)	(1.8)	(1.9)	(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)	1.0	1.5	2.0	2.0	2.2	2.0	1.7	1.8	1.9	2.0	2.0	2.0	2.0
	(1.0)	(1.4)	(1.5)	(1.8)	(1.9)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)	(2.0)

a. Numbers in parentheses are from the base-case projection in the April 2014 *Monetary Policy Report*. Assumptions for the price of crude oil are based on an average of spot prices since the June fixed announcement date.

b. Numbers may not add to total because of rounding.

Inflation and a Risk-Management Framework for Monetary Policy

Monetary policy must be forward-looking, because policy actions take time to work their way through the economy and have their full effect on inflation. Economic projections, such as the base case presented in this *Report*, provide guidance on the future path of inflation, based on the expected evolution of the macroeconomic drivers of inflation—most importantly, the extent of excess supply or demand in the economy. Such macroeconomic projections are particularly important for understanding the likely path of inflation, and the risks around that path, beyond the next few quarters—i.e., the horizon at which monetary policy actions taken today will start to have an effect.

However, an important challenge faced by policy-makers is that movements in both core and total CPI inflation can be caused by a variety of factors that are not directly related to movements in underlying macroeconomic fundamentals.¹ For example, measured inflation will be influenced by changes in regulated prices that are often unrelated to domestic demand conditions. Thus, the level of inflation today may reflect factors other than fundamentals and, as a result, may or may not be a good indicator of where inflation will be in the future. In addition, estimates of fundamentals, such as the extent of excess capacity in the economy, are subject to uncertainty, as are estimates of the impact of changes in these fundamentals on inflation. These sources of uncertainty are important risks to the inflation outlook.

1 The fluctuations induced by these types of factors are somewhat less for core inflation than for total CPI inflation, since the core measure excludes eight of the most volatile components of the CPI. In a risk-management approach to the conduct of monetary policy, it is important not only to take account of the downside and upside risks to the base-case projection for inflation that are associated with the evolution of the fundamental determinants of inflation, but also to recognize that the weights attached to these upside and downside risks depend on the "starting point" and the projected level of inflation. For example, if the fundamentals are weak and the starting point is low relative to the target, downside risks to inflation associated with the fundamentals assume increasing importance because they would push inflation even further below the target. Similarly, if the fundamentals are strong and the starting point is high relative to the target, upside risks to inflation associated with the fundamentals assume increasing importance because they would push inflation even further above the target. Moreover, in situations where inflation is persistently away from the target, there is an additional risk that inflation expectations may become unanchored, making it even more difficult for monetary policy to bring inflation back to target.

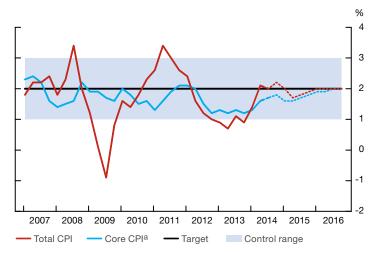
When inflation is close to the target, risks related to the forecast remain important. Typically, these risks would be balanced in a new projection, but there remains scope for asymmetry, such as when policy is constrained by the effective lower bound or when the risks around the forecast are skewed.

A risk-management framework for monetary policy will incorporate consideration of a broader set of risks than mentioned above, including those related to financial stability.

The path of core inflation will reflect the outcome of various factors at play. The depreciation of the Canadian dollar over the past year and the effects of sector-specific shocks are expected to continue to put upward pressure on year-over-year core inflation until about the end of next year. In contrast, excess capacity in the economy and heightened competition in the retail sector are anticipated to continue to exert downward pressure on core inflation—although at a diminishing rate—over most of the projection horizon. As excess capacity in the economy is absorbed and the effects of heightened retail competition wane, core inflation is expected to stabilize at 2 per cent around mid-2016 (Chart 17). However, anecdotal evidence suggests that the intense competitive pressures have led retailers to increase their investment in technologies to improve productivity and reduce costs, putting downward pressure on retail prices. If adoption of these technology improvements becomes more widespread, the disinflationary pressures could be larger or persist longer than currently assumed.

Chart 17: Inflation is expected to return sustainably to 2 per cent around mid-2016

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

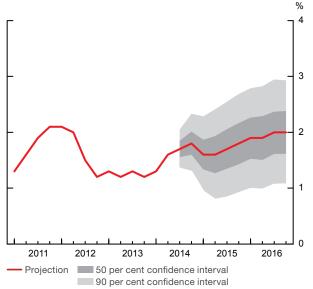
Total CPI inflation is forecast to remain slightly above core inflation through 2015, mainly reflecting higher energy prices. There is, as always, much uncertainty about the profile of the total CPI, since it incorporates movements in volatile energy components. For example, if the base-case scenario were to assume that oil prices were 10 per cent higher (lower), total CPI inflation would be higher (lower) by 0.3 percentage points over the coming year.

Indicators of short-term inflation expectations are consistent with the Bank's projection. The June Consensus Economics forecast for total CPI inflation was 1.8 per cent for 2014 and 2.0 per cent for 2015. According to the latest *Business Outlook Survey*, over 90 per cent of the firms surveyed expect inflation to be within the Bank's 1 to 3 per cent inflation-control range, with the majority expecting it to be in the bottom half of the range. Firms cite retail competition and subdued economic growth as factors that are expected to keep inflation low. Market-based measures of longer-term inflation expectations also remain consistent with the 2 per cent target. With total CPI inflation now close to 2 per cent, the risk of a downward drift in inflation expectations has diminished.

Based on the past dispersion of private sector forecasts, a reasonable range around the base-case projection for total CPI inflation is ± 0.3 percentage points. This range is intended to convey a sense of forecast uncertainty. Fan charts, which are derived using statistical analysis of forecast errors from the Bank's projection models, provide a complementary perspective. Chart 18 and Chart 19 show 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 2014 to the end of 2016.

Chart 18: Projection for core inflation

Year-over-year percentage change, quarterly data



Source: Bank of Canada

Chart 19: Projection for total CPI inflation

Year-over-year percentage change, quarterly data %
4
3
2
1
2011 2012 2013 2014 2015 2016

50 per cent confidence interval

90 per cent confidence interval

Source: Bank of Canada

Projection

Risks to the Inflation Outlook

The outlook for inflation is subject to several risks emanating from both the external environment and the domestic economy. The Bank judges that the risks to the projected inflation path are roughly balanced.

The most important risks to inflation are the following:

(i) The global outlook

The global economic outlook remains subject to a considerable degree of uncertainty. The widespread weakness in the first quarter provided yet another example of disappointment regarding global growth outcomes. Thus, a period of protracted global economic weakness associated with pervasive uncertainty, chronically deficient demand and weaker potential GDP growth remains possible. Alternatively, as the global economy rebounds, confidence could improve more rapidly, particularly in the United States, boosting investment and employment and spurring trade, leading to a virtuous circle of self-sustaining growth. These downside and upside risks to the global economy would be played out in parallel in Canada through impacts on commodity prices, Canadian exports, Canada's terms of trade and confidence effects on private domestic demand.

(ii) Continued underperformance of Canadian exports

While a wide range of export sectors are expected to benefit from the continued strengthening of the U.S. economy, a sustained rebound in non-energy exports has proven elusive. The precise timing of the realignment in growth is highly uncertain and could take longer than anticipated by the Bank. The risk of such a delay would be exacerbated if there were further losses of export competitiveness. A slower recovery in non-energy exports would also translate into slower growth in business investment, particularly investment in machinery and equipment. Together, weaker exports and business investment pose a downside risk to inflation.

(iii) Weaker growth in emerging-market economies

Growth in EMEs could disappoint. In China, recent indicators point to a sharp slowdown in the housing sector. Beyond the direct effects of lower housing activity, this could also result in a greater-than-anticipated slowdown in credit growth and an extended period of deleveraging that would weigh on growth. There is also a risk that the weakness in other EMEs will persist longer than currently expected. In particular, political uncertainty could continue, undermining business confidence and delaying progress on economic reforms. These shocks

could have negative spillover effects on the global economy and would be transmitted to the Canadian economy through weaker exports, lower commodity prices and a deterioration in the terms of trade.

(iv) Higher commodity prices

Geopolitical events, such as the conflict in Iraq or a renewal of tensions in Libya, could lead to a significant supply disruption in oil markets. An intensification of these conflicts, or other events that could disrupt production, would put upward pressure on prices. If these events occurred, Canada's terms of trade would improve, providing modest support to wealth and consumer spending in Canada. This mildly favourable effect would be partly offset, however, by any adverse effects on global economic growth from an oil price shock.

(v) Imbalances in the household sector

While a soft landing in the housing market remains the most likely scenario, near record-high house prices and debt levels relative to income leave households vulnerable to adverse shocks. The recent rebound in housing activity is most likely only compensating for weakness in earlier months, but it could signal the beginning of a more persistent rise in housing activity and price pressures. Renewed momentum in residential investment would provide a temporary boost to economic activity, although it could also further exacerbate existing imbalances in the household sector and increase the likelihood and potential severity of a correction later on. A disorderly unwinding of household sector imbalances, should it materialize, could have sizable negative effects on other parts of the economy and on inflation.