BANK OF CANADA
BANQUE DU CANADA

ANNUAL REPORT

2016

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

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GOVERNOR'S FOREWORD

When I was young, my mother often said to me, "Take care of the pennies and the pounds will take care of themselves," which almost sounded contrary to my father's advice, which was, "Don't be penny-wise and pound-foolish." The fact is, both adages apply to many dimensions of life, well beyond handling money, not least at the Bank of Canada.

The conduct of monetary policy is a realm where my father's version generally seems the more apt. Economists love to debate the details, but for monetary policy, getting the big things right matters much more than getting the decimal points right. The past year illustrates this well, as the major economic themes we identified a year ago played out largely as expected. And understanding those forces helped us frame our policy decisions while seeing through short-term events and volatility in the data.

The dominant forecasting theme for 2016 was the economy's adjustment to lower oil prices. Our models had shown us that this would seriously weaken the economy in 2015–16 and would significantly delay our return to 2 per cent inflation. Two interest rate cuts in 2015, coupled with fiscal stimulus measures, stabilized the situation and facilitated the economy's adjustment process. There is mounting evidence that the resource sector returned to positive growth around the end of 2016. As a result of this return to growth and the increasing strength of Canada's service sector, our models are now forecasting above-trend economic growth for 2017–18, which will bring inflation back to target sustainably.

The second major theme outlined a year ago was that of diverging global policies. Our belief was that the relative effects of lower oil prices would buttress growth in oil-importing economies, like Europe, Japan and the United States, while slowing growth in Canada. This, in turn, would lead to a divergence in monetary policies, especially between those of the United States and Canada. This theme, too, has begun to play out.

The third major theme was finding the appropriate mix of monetary and fiscal policies. The Bank's models and supporting research clearly demonstrated that the choice of policy mix could have significant implications for financial stability. Given that the forces acting on market-clearing real interest rates—low population growth, low trend economic growth and a surplus of global savings over investment—would persist for a very long time, continuing to place undue emphasis on monetary policy could lead to rising household indebtedness and risks to the financial system. This situation could be improved by putting more reliance on fiscal and structural policies and less on monetary policy, a dialogue that has gone global.

And then there is the fourth theme for 2016, the central role played in the economy by business confidence, or "animal spirits." The experience of the global financial crisis and the subsequent global recession and halting recovery has left surviving business leaders bruised and wary. Adding to this cautious mindset, the plethora of geopolitical developments that have taken place—Syria, US–Russia relations, sporadic terrorism, the Brexit vote, the uncertain outlook for international trade policy in the wake of the US election, to name a few—creates a recipe for lacklustre investment spending intentions, not just in Canada, but around the world.

We are cautiously optimistic that 2017 will be better in most respects, although we must acknowledge that the range of possible longer-term outcomes has widened in the wake of the US election.

The good news is that our models and accompanying research helped us to understand the forces underlying these themes, even if short-term economic volatility made it difficult to get the decimal points right when forecasting. It meant that monetary policy could focus on the big picture: weighing new downside risks to the inflation outlook carefully while watching for signs that Canada's resource economy was bottoming out, that fiscal stimulus initiatives were finding traction and that business sentiment was shifting from negative to positive. As these forces were playing out, inflation moved closer to target in 2016 compared with 2015, as the effects of the past drop in oil prices gradually unwound.

As 2017 begins, we find ourselves preoccupied with the same economic themes. We are cautiously optimistic that 2017 will be better in most respects, although we must acknowledge that the range of possible longer-term outcomes has widened in the wake of the US election. For the Bank's part, monetary policy will continue to be anchored by a target of 2 per cent for total consumer price index (CPI) inflation, which was reaffirmed when our inflation-targeting agreement with the federal government was renewed for another five years.

This agreement, which marked the 25th anniversary of inflation targeting in Canada, is of great importance to the Bank and to Canadians because it makes the conduct of monetary policy more effective by enhancing the policy's credibility with individuals, companies and financial markets. While many other countries now have similar policies in place, Canada's framework is stronger than most, for several reasons.

First, the five-year renewal cycle gives us a regular opportunity to conduct a thorough re-examination of our framework, in light of new experience and research, and to adjust it if necessary. Without the regular renewal cycle, it would be much more difficult to introduce new thinking. Second, the renewal cycle brings an obligation to demonstrate to the government and to Canadians that we have the right policy framework, which enhances its credibility. And third, since the framework takes the form of an agreement between the government and the central bank, there is an explicit commitment from the government to support the pursuit of low, stable and predictable inflation. This means that all economic policies—including monetary, fiscal and macroprudential—can work together in a complementary fashion.

The renewal of the inflation target was supported by an extensive, high-quality research program. Our researchers are already turning their attention to the next inflation-target renewal cycle and will host a brainstorming conference late in 2017 to generate new ideas from outside the Bank. Meanwhile, the Bank's research program made important contributions to many other subject areas of significance to the Bank in 2016. More than 100 staff research papers were published in 2016, up 50 per cent from the previous year, and a record number were published in high-quality peer-reviewed professional journals.

A key emerging area for research is digital financial services, or fintech, including e-money and distributed ledger applications. These innovations relate directly to the Bank's mandate through currency issuance, oversight of financial market infrastructure, liquidity provision, financial stability and, of course, monetary policy. The Bank is developing a proof of concept for a payment system based on a distributed ledger in collaboration with Payments Canada and Canada's major banks and will report on this work in the first half of 2017. The Bank is also taking a leading role on this subject at the international level.

Our role as the issuer of Canada's currency took on a whole new dimension in 2016, as the Bank asked Canadians to help choose an iconic Canadian woman to appear on our future bank notes. Some 26,000 Canadians participated, a blue-ribbon advisory panel was struck, a long list was developed, more research ensued and a short list of five names was submitted to Finance Minister Bill Morneau, in accordance with the *Bank of Canada Act*. Any of the five short-listed women would have made Canadians proud. In the end, the choice was Viola Desmond, who will appear on our $10 note starting in late 2018. Desmond, an icon of the human rights and freedoms movement in Canada, was a successful Nova Scotia businesswoman who refused to leave a whites-only area of a movie theatre in 1946. She was subsequently jailed, convicted and fined, and her court case was the first known legal challenge against racial segregation brought forth by a Black woman in Canada. A special $10 bank note commemorating the 150th anniversary of Confederation will also be introduced in 2017.

One area where my mother's old adage about taking care of the pennies really rang true in 2016 was in the project to renew the Bank's Ottawa headquarters. The complex, a unique combination of a 1930s granite structure and a pair of 1970s glass towers designed by Arthur Erickson, required a substantial upgrade to meet modern earthquake, fire and security requirements, as well as the replacement of aging climate control systems. All staff vacated the building in late 2013, and the program was completed in November 2016, on budget and on schedule—a rarity for a project of such scale and complexity—permitting all staff to return in early 2017. Our new work environment will help us achieve a new level of excellence, not only in what we produce but also in terms of workplace well-being, while preserving a unique architectural landmark.

These accomplishments stand out among a litany of others for the Bank in 2016, and I have not even touched on those we take for granted, from the near-flawless operation of multiple computer systems, many of which are critical to the day-to-day functioning of Canada's financial system in a world increasingly subject to cyber attacks, to the superb management of the government's debt program, to our extensive domestic and international efforts to assess risks and promote financial system stability, and to outstanding research and advice to the government on macroprudential policies.

None of this would be possible without a keen staff and their leaders. Their commitment and professionalism are what led the Bank to be named one of Canada's Top 100 Employers in 2016 for the seventh consecutive year. To hold this distinction for seven straight years is a testament to our drive to reinvent and renew our ways of doing business and to reinforce a culture of innovation. Thanks are also due to our Board of Directors, a distinguished group of private sector leaders who generously contribute to the Bank's oversight and advise management on a wide range of strategic issues. We had the pleasure of constancy on our Board for 2016, although at year-end Hassan Khosrowshahi of British Columbia decided to step down after three years of excellent service to the organization. Several members are approaching the end of, or have already exceeded, their original mandate, so Board renewal will be an important activity for 2017.

As I pass the halfway mark of my seven-year term as Governor, I am proud of the work we have achieved toward accomplishing our medium-term corporate goals. I am also very proud to lead so many dedicated people who bring their best every day to achieve the Bank's vision: *A leading central bank—dynamic, engaged and trusted—committed to a better Canada*.

Stephen S. Poloz
Governor

25
Number of years Canada has had an inflation-control framework

2%
Inflation-control target—renewed in 2016

0.5%
Policy interest rate

1.4%
Average total consumer price index inflation in 2016

$133 billion
Value of marketable bonds to be issued in 2016–17

1.3%
Economic growth in Canada in 2016

84%
Percentage of bank notes in circulation made of polymer

9 parts per million
Number of counterfeit bank notes detected per million notes in circulation

2.1 billion
Number of bank notes in circulation

$43 billion
Average daily value of more than 550 payments sent or received by the Bank in the Large Value Transfer System

2 million
Number of Canadians who hold a total of slightly more than $5 billion in Canada Savings Bonds

$73 billion
Market value of liquid reserves in the Exchange Fund Account in US dollars

2016 AT A GLANCE

$1,064.9 million
Net income for the Bank in 2016

$849.5 million
Amount remitted by the Bank of Canada in 2016 to the Receiver General for Canada

90,000+
Number of tweets about putting a woman on the 2018 bank note

2.6 million
Average monthly visitors to the Bank’s website

24
Number of universities participating in the Governor’s Challenge, a monetary policy competition for undergraduates

66
Number of Bank research papers published in journals

$287,299
Total staff charitable donations to the Bank of Canada workplace charitable campaign

1,700
Total number of Bank employees in core operations and temporary project positions

MANAGEMENT DISCUSSION AND ANALYSIS

Governor Poloz speaks about the Bank's medium-term plan at the annual employee conference.

BANK OF CANADA MANDATE AND PLANNING FRAMEWORK

Mandate

The Bank of Canada is the nation's central bank. Its mandate, as defined in the *Bank of Canada Act*, is "to promote the economic and financial welfare of Canada."

The Bank's vision is to be *a leading central bank—dynamic, engaged and trusted—committed to a better Canada*.

The four core areas of responsibility are as follows:

MONETARY POLICY:
The objective of monetary policy is to preserve the value of money by keeping inflation low, stable and predictable.

FINANCIAL SYSTEM:
The Bank promotes safe, sound and efficient financial systems, within Canada and internationally; oversees major clearing and settlement systems; and conducts transactions in financial markets in support of these objectives.

CURRENCY:
The Bank designs, issues and distributes Canada's bank notes; oversees the note distribution system; and ensures a consistent supply of quality bank notes that are readily accepted and secure against counterfeiting.

FUNDS MANAGEMENT:
The Bank provides funds-management services for the Government of Canada, itself and other clients. For the government, the Bank provides treasury-management services and manages the government's public debt and foreign exchange reserves.

Planning Framework

The Bank has a robust planning framework in place to implement and operationalize its mandate and vision. Every three years, the Bank establishes a medium-term plan (MTP) to set out its strategic direction and objectives.

Central Banking for a New Era: The Bank of Canada's 2016–18 Medium-Term Plan enables the Bank to continue its traditions of excellence while enhancing its readiness for the future.

The MTP helps the Bank respond to the realities of its policy and operating context, anchors annual planning and budgeting activities and serves as the foundation for departmental and staff performance agreements.

Reporting

The *Annual Report* is the Bank of Canada's public accountability document, outlining its financial and non-financial performance each year. The Bank of Canada also publishes quarterly financial reports.

The Bank maintains a comprehensive website featuring a variety of research papers, speeches, public reports, data and audiovisual materials to promote public understanding of its ongoing work.

More information

- *Central Banking for a New Era: The Bank of Canada's 2016–18 Medium-Term Plan*

The 2016–18 Medium-Term Plan

The 2016–18 MTP is built on a foundation of three themes that, together, bring to life the vision of being a leading central bank that is *dynamic, engaged and trusted*.

REINVENT

RENEW

REINFORCE

Theme 1 Reinventing Central Banking

Strategic goals	▪ Advance the frontiers of monetary policy frameworks and research to build economic resilience ▪ Incorporate financial stability considerations into the Bank's policy advice and operations ▪ Ensure sound and effective payment systems, methods and technologies ▪ Consider the implications of alternative futures
Progress made in 2016	▪ A renewed five-year inflation-control target agreement with the Government of Canada ▪ Enhanced communications on monetary policy with a clearer and more concise *Monetary Policy Report* ▪ Significant progress on key financial system projects ▪ High-quality research with an increased number of publications in academic journals ▪ Advances made on the financial technology (fintech) research agenda, notably with respect to peer-to-peer lending and e-money, and experimentation with distributed-ledger technology ▪ A broad new public consultation process to select an iconic woman to be portrayed on the $10 bank note in 2018
Key areas of focus in 2017	▪ Develop the next generation of monetary policy models ▪ Unveil and issue the Canada 150 bank note and advance the development of the 2018 note ▪ Continue research on fintech and e-money ▪ Implement the Bank-wide research plan

Theme 2 Renewing Ways of Doing Business

Strategic goals	▪ Be connected and transparent ▪ Be nimble and resilient
Progress made in 2016	▪ A renewed head office, on budget and on schedule ▪ Increased market connections in Toronto and New York, resulting in improved market intelligence, and participation in numerous international meetings and forums ▪ Promotion of digital media platforms as the primary means of delivering information to the public, and creation of improved digital communication tools to reach the Bank's audiences ▪ A focus on building resilience in information infrastructure, and continued progress toward strengthening the Bank's cyber security posture and implementing measures to safeguard the integrity of Bank systems ▪ Introduction of a new incident-management structure ▪ Leaner and more efficient internal processes
Key areas of focus in 2017	▪ Open the new Bank of Canada Museum ▪ Continue enhancement of cyber security and business recovery capability ▪ Continue progress on a wide range of initiatives to improve internal processes and systems ▪ Enhance outreach activities with added sources of business and economic intelligence

Theme 3 Reinforcing a Culture of Innovation

Strategic goals	▪ Nurture a culture where innovative ideas and creative solutions are expected ▪ Enhance business innovation and knowledge sharing
Progress made in 2016	▪ Innovative policy initiatives, such as the process to renew the agreement on the inflation-control target, and advances on fintech ▪ Development of a cloud strategy and Cloud Centre of Excellence, promoting best practices in the delivery of cloud solutions ▪ Initiatives to embed innovation in day-to-day thinking, including modernization of human resources strategies, practices and tools ▪ Development of a culture of learning through programs to enhance leadership, encourage staff development and attract key talent through initiatives such as the Governor's Challenge ▪ Increased partnerships and collaboration with external and internal stakeholders
Key areas of focus in 2017	▪ Promote the use and evolution of the IdeaSpace, the Bank's new innovation lab, to design creative solutions and develop new ways of working ▪ Explore alternative, non-traditional sources of data ▪ Promote a culture that supports the production of high-quality research and enhance the recruitment and retention of researchers ▪ Continue modernization of human resources tools and practices

MONETARY POLICY

Monetary Policy in 2016

This year marked the 25th anniversary of the agreement on the inflation-control target in Canada—a policy framework that has helped the Bank of Canada promote low, stable and predictable inflation. Under this agreement, renewed in October 2016 for a further five years, the Bank of Canada conducts monetary policy to achieve its 2 per cent target for total consumer price (CPI) inflation.

During 2016, inflation remained below target, mainly as a result of temporary factors and persistent slack in the Canadian economy. Total CPI was in the lower half of the Bank's inflation-control range for most of the year as persistent excess capacity and low energy prices weighed on inflation.

These effects were only partially offset by temporary upward pressure on inflation coming from the pass-through of the past depreciation of the Canadian dollar. Expectations for inflation over the medium term continued to be well anchored at around 2 per cent.

In this context, the Bank kept its policy interest rate at 0.5 per cent in 2016, near historical lows. The Bank judged that, in the current economic circumstances, maintaining this policy stance would bring the Canadian economy back to full capacity and inflation sustainably back to target within an acceptable period.

Medium-term inflation expectations have continued to be well anchored at the 2 per cent target

Objectives and indicators	Reference level (per cent)	2013 (per cent)	2014 (per cent)	2015 (per cent)	2016 (per cent)
Achievement of Bank target for CPI inflation					
Average yearly total CPI inflation	2.0	0.9	2.0	1.1	1.4
Average annual total CPI inflation since 2001		1.9			
Expectations of inflation remaining anchored to our target					
Inflation expectations at a 10-year horizon[a]	2.0	2.0	2.0	2.0	2.0

a. Consensus Economics—10-year projections

The Bank of Canada's Role

The primary objective of Canada's monetary policy is to enhance the well-being of Canadians by contributing to sustained economic growth, increased levels of employment and an improved standard of living.

Experience has shown that the best way monetary policy can achieve this goal is by giving Canadian households and businesses confidence in the value of their money. This allows Canadians to make informed spending and investment decisions, encourages longer-term investment in Canada's economy and contributes to sustained job creation and productivity growth.

At the heart of Canada's monetary policy framework is the 2 per cent inflation target, which is the midpoint of a 1 to 3 per cent inflation-control range. The target is set jointly by the Bank and the Government of Canada and is renewed every five years. The inflation target is symmetric: the Bank is equally concerned about inflation rising above or falling below the target.

In its conduct of monetary policy, the Bank's Governing Council takes a risk-management approach within a flexible inflation-targeting framework. Since monetary policy affects the economy with a lag, decisions must be forward-looking and rely upon analysis and forecasts by Bank staff as well as on other insights from external sources. Given that Canada is a small open economy and maintains a flexible exchange rate regime, global forces are an important consideration in the conduct of monetary policy.

Economic Context

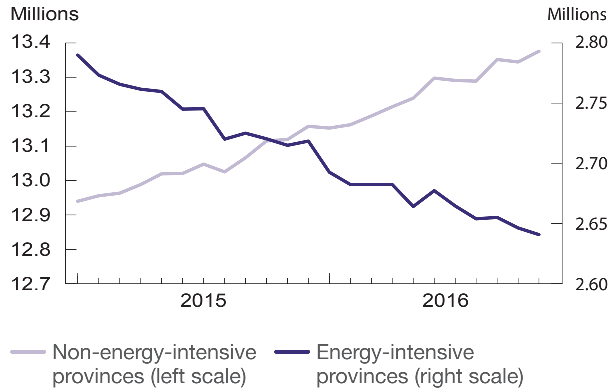
In 2016, monetary policy was formulated against a backdrop of modest economic growth in Canada and globally. Weak business investment and trade continued to dominate the global economy, in part as a result of uncertainty over future prospects for global demand, the ongoing structural transformation in the Chinese economy and uncertainty around potential protectionist measures in some countries.

US growth in economic activity and employment had generally been solid in 2015 and, despite slowing markedly in the first half of 2016, showed signs of renewed momentum as the year progressed. With the US economy near full capacity, expectations of fiscal stimulus following the US election led to an increase in long-term interest rates in several countries.

The prospects for growth in other advanced economies remained modest, given persistent headwinds, demographic and other structural factors, and elevated economic and geopolitical uncertainties. These uncertainties weighed on the decisions of households and businesses and are likely to do so for some time.

Employment outside energy-intensive provinces has grown steadily

Monthly data



Note: Energy-intensive provinces are Alberta, Saskatchewan and Newfoundland and Labrador.

Source: Statistics Canada Last observation: November 2016

The Canadian economy continued its complex structural adjustment to lower prices of oil and other commodities. Lower investment spending in the energy sector continued to restrain growth throughout the year. Subdued foreign demand and persistent competitiveness challenges continued to restrain the pace of export growth.

At the same time, growth was solid in 2016 outside the resource sector, supported by a strengthening US economy, low interest rates and the past depreciation of the Canadian dollar. Employment growth remained resilient in service industries and regionally in Ontario, Quebec and British Columbia.

For 2016 as a whole, growth in Canada's economy was an estimated 1.3 per cent, stronger than the 0.9 per cent recorded in 2015. The results of the winter *Business Outlook Survey*, conducted in December 2016, indicated that forward-looking measures of business activity were improving late in the year as domestic sales growth gained momentum.

Growth was expected to strengthen in 2017, supported by the improving global economy, stimulative monetary policy and federal fiscal measures. However, the past deterioration of Canada's terms of trade was expected to continue to weigh on the level of economic activity.

Achievements in 2016

The Bank's most significant monetary policy achievement in 2016 was the renewal of its agreement on the inflation-control target with the Government of Canada. The inflation target will continue to be the 2 per cent midpoint of the 1 to 3 per cent inflation-control range, as measured by the 12-month change in the total CPI. The agreement will be in place for another five-year period, ending 31 December 2021.

The renewal represented the culmination of five years of research as well as consultations with other central banks that conduct inflation targeting. The work also benefited from the feedback of a large number of external researchers and policy analysts. Research related to the renewal of the agreement was published on the Bank's website, presented in various seminars and conferences, included in speeches and featured in

More than 100 Bank staff were involved over several years in work related to the renewal of the agreement on the inflation-control target. Some of the staff members are pictured here, from left: Jing Yang, Eric Santor, Sharon Kozicki, Rhys Mendes and Patrick Sabourin.

articles in the *Bank of Canada Review*. Overall, through this effort, the Bank demonstrated to the government and to Canadians that it had been comprehensive and deliberate in ensuring the implementation of the best monetary policy framework.

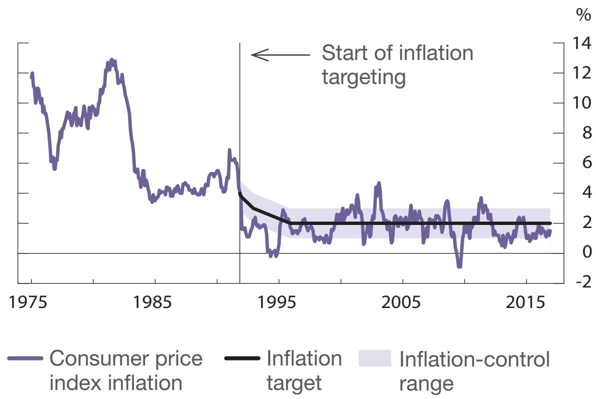
In the years leading up to the renewal, the Bank focused its research on three areas: whether the level of the inflation target should be adjusted, what the role of financial stability considerations should be in the conduct of monetary policy, and how core inflation should be measured and used.

With respect to the level of the inflation target, the Bank examined whether it should be raised from its existing level of 2 per cent. In many economies, the policy rates of central banks have been near, or at, historical lows, even reaching the effective lower bound in some countries. Because interest rates would generally be higher if the inflation target were higher, raising the target would give the Bank more room to lower rates before hitting the effective lower bound in the future.

Recent experience has shown, however, that unconventional monetary policies give central banks more room to manoeuvre than previously believed. As well, research suggests that, given how well inflation expectations are anchored at 2 per cent, pushing inflation up to a new, higher target might be difficult to accomplish. And even once this transition is complete, a higher

Consumer price index inflation

12-month rate of increase, monthly data



Sources: Statistics Canada and Bank of Canada calculations

Last observation: December 2016

ongoing rate of inflation could have significant economic costs. After weighing the potential costs and benefits, the Bank and government agreed to maintain the current target.

In considering the relationship between monetary policy and financial stability, the Bank noted that the formulation of monetary policy always incorporates financial system developments. It reaffirmed, however, that monetary policy should be adjusted to address financial vulnerabilities only in exceptional circumstances—particularly in view of the reforms implemented in recent years to build a more resilient financial system.

While acknowledging the potential for monetary policy to contribute to a buildup of vulnerabilities in Canada's financial system, the Bank saw regulatory measures as more effective tools for addressing such vulnerabilities. At the same time, the Bank of Canada makes an important contribution to the promotion of financial stability through its public communications about the system-wide assessment of vulnerabilities and risks.

Finally, after evaluating the properties of a wide variety of measures of core inflation and reviewing the practices of other central banks, the Bank decided to replace the measure of core inflation it had been using with three more reliable measures. The Bank looks at measures of core inflation as an operational guide to policy because total CPI inflation is subject to considerable volatility and does not always provide a good indication of underlying inflationary pressures.

Monetary policy decisions were supported by timely and thorough analysis of developments affecting the Canadian economy, including topics such as the economy's adjustment to lower commodity prices, the drivers of non-commodity exports and developments in oil and non-energy commodity markets.

At its annual conference, the Bank chose to explore the theme of "Unconventional Monetary Policies: A Small Open Economy Perspective" to advance understanding of the effectiveness of different unconventional policy options, including negative interest rates and quantitative easing.

Looking Forward

With the 2016 renewal complete, the Bank has already started to solicit input from Canadian academics, private and public sector economists, and other public policy-makers and observers to help shape the research agenda for the next renewal of the agreement on the inflation-control target in 2021.

To this end, the Bank will foster discussion on a wide range of topics related to Canadian monetary policy, such as its role, objectives, scope and effectiveness, and the importance of transparency and communication.

- The Bank will continue to make progress with its 2016–18 research plan. The experience of the 2007–09 global financial crisis, followed by several years of slow growth, has been a stimulus for all central banks to update their economic models. As such, development of the next generation of models will be a key priority for the Bank in 2017 and beyond.
- Bank staff will also enhance their analysis of important global developments, including movements in global commodity markets, the evolution of China and other emerging-market economies, and the implications of the ongoing weakness in global trade and investment.
- Finally, the Bank plans to improve its understanding of the effectiveness of different unconventional monetary policy options, including negative rates and quantitative easing. In particular, staff will focus on analysis of the sequencing and implementation of unconventional monetary policies, as well as on lessons that can be drawn from the unwinding of such policies in other countries.

More information

- The quarterly *Monetary Policy Report* of the Bank of Canada's Governing Council presents the Bank's base-case projection for inflation and growth in the Canadian economy, and its assessment of risks.
- *Renewal of the Inflation-Control Target, Background Information—October 2016*
- Research priorities for renewing the agreement on the inflation-control target
- Poloz, S. S. 2016. "25 Years of Inflation Targets: Certainty for Uncertain Times." Speech to the Business Council of British Columbia, Vancouver, BC, 1 November.
- *Business Outlook Survey*
- *Bank of Canada Review* (Autumn 2016)

Senior Deputy Governor Carolyn A. Wilkins speaks in June 2016 at Payments Canada's annual conference in Calgary. The topic of the speech was "Fintech and the Financial Ecosystem: Evolution or Revolution?"
Credit: www.photobliss.com

FINANCIAL SYSTEM

Financial System in 2016

The Bank collaborates with its partners in the public and private sectors on specific measures to build a more resilient financial system, including ongoing reforms to address weaknesses identified during the 2007–09 global financial crisis.

These reforms are now well advanced, and authorities, both in Canada and abroad, have turned their attention toward assessing the effects of the reforms, including potential unintended consequences.

The Bank has intensified its focus in recent years on identifying and assessing systemic vulnerabilities and risks in the Canadian financial system. This analysis is reported in the biannual *Financial System Review* (FSR).

In 2016 the two FSRs highlighted the evolution of financial system vulnerabilities related to the high level of indebtedness of Canadian households and imbalances in certain housing markets. Fragile liquidity in the fixed-income market was also identified as a key vulnerability.

Recent housing finance policy measures introduced by the federal government are expected to raise the quality of mortgage lending as well as the resilience of financial institutions. Over time these measures will mitigate risks to financial stability.

The Bank continued to review and, when necessary, update the policies and operating functions that fall under its mandate to be prepared for the materialization of any risks that may cause significant stress on the financial system.

Two priorities for the year included the development of a resolution regime for designated financial market infrastructures (FMIs) in Canada and an expansion of the Bank's role with respect to prominent payment systems.

The Bank of Canada's Role

An effective and resilient financial system is crucial to the long-run stability and growth of the Canadian economy, allowing consumers and firms to purchase goods and services with confidence and to make informed decisions about financial transactions and investments.

Canada's financial system relies primarily on financial institutions, financial markets, and clearing and settlement systems to process all varieties of financial activity—saving, borrowing, investing, buying and selling.

The Bank

- has specific oversight responsibilities for major clearing and settlement systems (financial market infrastructures, or FMIs) that are designated as systemically important and posing payment system risk for Canada;
- facilitates the smooth operation of Canadian payment systems and acts as settlement agent, or "banker," for members of Payments Canada that are direct participants in the Large Value Transfer System (LVTS), Canada's main payment system; and
- provides liquidity on a routine and, if required, extraordinary basis to a range of Canadian financial institutions and designated FMIs.

The Bank works with the Government of Canada, provincial agencies, market participants and other central banks and international organizations to ensure that systemically important and prominent FMIs operate in ways that control risk and promote efficiency and stability in the Canadian financial system.

The Bank is a member of the Senior Advisory Committee that provides advice to the Minister of Finance on vulnerabilities and risks related to financial stability.

Achievements

The Bank worked with other Canadian institutions—as an advisor, partner or lead, when appropriate—to promote domestic financial reforms. Measures touched on banking regulation, over-the-counter (OTC) derivatives, emergency lending assistance, payment systems and a resolution framework for FMIs.

The Bank applied a refined analytical framework in 2016 to assess risks and vulnerabilities in the household sector. Improved access to loan-level data and new visualization techniques, such as geographical heat maps, have helped the Bank understand and communicate how the risks in the household sector are evolving, at both a national and a regional level, as well as the effect of recent federal policy measures on housing markets.

The Bank also refined its monitoring of the shadow banking sector in Canada. While the latest assessment suggests that shadow banking does not represent a substantial vulnerability for the financial system, there are significant gaps in data from and knowledge of this dynamic sector. The Bank continues to collaborate with domestic and international authorities to fill in these gaps, where possible.

With the Office of the Superintendent of Financial Institutions (OSFI) and the Canada Deposit Insurance Corporation (CDIC), the Bank contributed to work by the Department of Finance to develop a Canadian bail-in regime for the large Canadian banks; legislation was introduced in March 2016.

The Bank chaired the federal-provincial OTC Derivatives Working Group and provided advice to OSFI and the Canadian Securities Administrators (CSA) in the areas of fixed-income functioning, Basel liquidity rules and the implementation of derivatives rules.

The Bank chairs the Canadian Fixed-Income Forum (CFIF), which discusses developments in the structure, functioning, practices and related policy issues of the fixed-income market. CFIF members represent a broad mix of 15 small and large institutions active in the Canadian fixed-income market, across both the buy and sell sides.

In 2016 the CFIF conducted an industry-wide survey on fixed-income markets to assess trading, execution and portfolio-management practices by both buy-side and sell-side firms, as well as select active domestic issuers in Canadian fixed-income markets.

The survey reported a slight decline in overall market liquidity over the past two years, which was particularly pronounced in the corporate bond market. This decline has led some investors to adapt their fixed-income trading and investing practices.

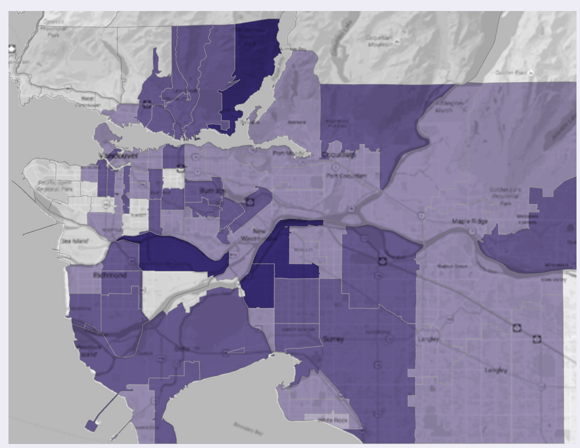
The Bank has fully implemented its updated framework for market operations and conducted work necessary to potentially add new asset classes to the Bank's balance sheet.

Staff worked with provincial fiscal and regulatory authorities to clarify the eligibility requirements for provincially regulated financial institutions to receive emergency lending assistance.

The Governor designated the Automated Clearing Settlement System (ACSS) as a clearing and settlement system that has the potential to pose payments system risk, bringing ACSS under the Bank's formal oversight.

In coordination with the CSA, the Bank published supplementary guidance on its risk-management standards for systemically important FMIs, including requirements for recovery plans.

Vancouver
2014Q4–2015Q3



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The Bank is using new visualization techniques, such as geographical heat maps, to assess risk and vulnerabilities in the household sector. This map of greater Vancouver, for example, shows the geographical distribution of the average loan-to-income ratio among newly originated high-ratio mortgages: darker colours indicate more debt relative to income. As indicated in the December Financial System Review, *the proportion of highly indebted households has continued to rise in most Canadian cities, particularly in Toronto and Vancouver.*

The Bank has an ongoing role in a multi-year initiative to modernize Canada's payment systems, led by Payments Canada in conjunction with financial institutions and other stakeholders. The intent is to establish a new high-value core clearing and settlement system to replace the Large Value Transfer System (LVTS) and the Automated Clearing and Settlement System (ACSS) as well as to deliver a real-time retail payment system.

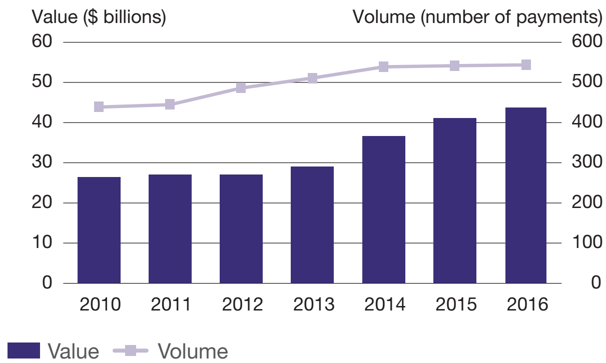
Key achievements in 2016 included approval of a shared vision for the Canadian payments ecosystem and endorsement of a new industry roadmap and a high-level plan to realize this vision. A Canadian payments system simulator was launched and distributed to external stakeholders to support research and analysis around a number of important policy questions linked to the design and modernization of Canada's payments system.

Work was started on Project Jasper, a joint initiative with Payments Canada, Canada's five largest banks and R3, a private sector partner, to develop and experiment with a proof of concept for a distributed-ledger-based interbank payment system. The goal is to investigate the costs and benefits of such a system compared with one based on earlier technology.

The Bank also co-sponsored a conference and collaborated on research and discussion papers entitled "Credit Risk and Collateral Demand in a Retail Payment System" and "Clearing and Settlement Systems from Around the World: A Qualitative Analysis."

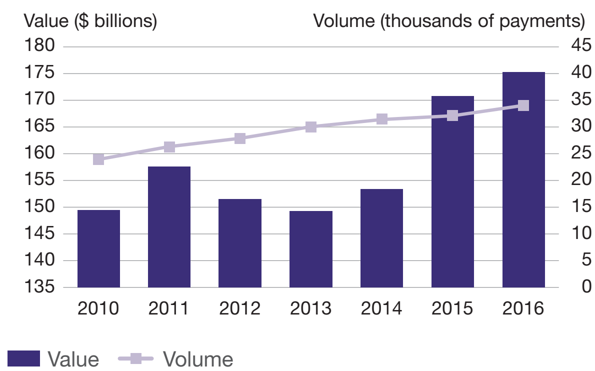
LVTS daily payments sent and received by the Bank of Canada

Average daily value and volume of payments processed



LVTS daily payments sent by all LVTS participants

Average daily value and volume of payments processed



Looking Forward

- The Bank will work to develop a deeper understanding of Canadian shadow banking activities (including those related to asset management and broker-dealers) and assess the vulnerabilities these activities may pose to the financial system.
- The Bank will continue to provide leadership, a secretariat function and analytical support for the CFIF to facilitate discussion on policy issues related to the functioning of Canadian fixed-income markets and to operationalize industry-led initiatives.
- Plans are under way to enhance existing models and develop new methods for risk assessment and research related to the nexus of financial stability and monetary policy, including the effectiveness of macroprudential policy tools.
- OTC derivatives reforms, including margining and clearing, will be implemented in 2017. The Bank will support the Canadian Derivatives Clearing Corporation in its efforts to broaden its repo central counterparty to a wider group of market participants, notably buy-side institutions and other dealers.
- The Bank will host its annual conference on the interaction of macroprudential and monetary policy and the Bank's role in achieving financial stability.
- Changes to the Bank's process to publish foreign exchange rates will be implemented between 1 March and 1 May 2017. Starting in 2017, only the 26 most actively traded currencies against the Canadian dollar will be published, according to a new methodology.

More information

- The *Financial System Review* was published in June and December.
- An article on the updated Emergency Lending Assistance policy framework was published in the *Bank of Canada Review* (Autumn 2016).
- Bank of Canada exchange rates

Michel Assaf and his colleagues in the Financial Markets Department conduct financial market operations from the Bank's trading room.

FUNDS MANAGEMENT

Funds Management in 2016

A number of significant external factors affected the Bank of Canada's funds-management activities in 2016.

- As a result of measures announced in the federal budget, federal government borrowing requirements (and outstanding stock of debt) increased relative to prior years.
- Interest rates around the world remained very low and, in some cases, negative. These low rates continue to pose challenges for the management of Canada's foreign reserves and the Bank of Canada's pension fund assets.
- Demand for Bank of Canada banking and custodial services has increased in recent years and remained high in 2016. Foreign central banks, reserve managers and other official sector institutions, both foreign and domestic, are increasingly looking to reduce counterparty credit risk by having the Bank of Canada provide these services.

Achievements

Consistent with the Government of Canada's objectives, the debt program focused on raising stable and low-cost funding for government programs and services, while maintaining a liquid and well-functioning market for Government of Canada securities. As always, this involves striking a balance between the costs and risks associated with the debt structure.

The 2016–17 debt strategy was adapted to accommodate a material increase in the government's projected borrowing requirements.[1] Three-year bonds were reintroduced, and the size of auctions and benchmarks across maturities was increased. The Bank also undertook significant work to monitor and foster well-functioning government securities markets.

1 The Government of Canada's fiscal year-end is 31 March.

The Bank of Canada's Role

The Bank

- acts as fiscal agent and banker for the Government of Canada, providing efficient and resilient banking services. It administers and provides advice on the federal government's debt and foreign reserves and, in co-operation with the Department of Finance, develops policies and programs for managing Canada's borrowing and investment activities.
- manages the government's cash balances; conducts auctions for domestic debt; manages the assets of the Exchange Fund Account (EFA), which contains Canada's liquid foreign exchange reserves; and administers the government's retail debt program.
- provides banking, settlement and custodial services to the Bank, the federal government, official international financial organizations, foreign central banks, designated financial market infrastructures, financial institutions that are members of those systems, and some federal Crown corporations.
- monitors, manages and reports on financial risks related to activities undertaken as fiscal agent of the government as well as those associated with the Bank's own balance sheet, and provides a managerial and oversight role over the custodial activities relating to collateral management of domestic and foreign operations.
- conducts research and develops analytical tools to enhance policy advice on funds management and payments system issues.
- acts, on behalf of the owner, as the custodian of unclaimed balances—Canadian-dollar deposits or negotiable instruments held by federally regulated banks or trust companies for which there has been no activity for a period of 10 years or longer.
- acts as administrator of the Bank of Canada Pension Plan, including managing the assets held in the Pension Trust Fund and the Supplementary Trust Fund.

As at 31 December 2016,

- approximately $133 billion in Government of Canada marketable bonds were to be issued for the fiscal year ending 31 March 2017, about $40 billion more than the previous year;
- the stock of treasury bills was projected to decline slightly by 31 March 2017 to $134 billion from $138 billion the year before; and
- the total debt stock was $696 billion, a year-over-year increase of about $23 billion.

With respect to foreign reserves, in 2016 the Minister of Finance approved a new Statement of Investment Policy (SIP), which governs the acquisition, management and divestiture of assets held in the Exchange Fund Account (EFA). The SIP includes an updated governance structure, strategic asset allocation and an investment benchmark for the management of reserve assets. It also notes the use of internal credit assessments to inform investment decisions. The asset benchmark, which was introduced as a pilot project in 2015, was formally adopted in 2016.

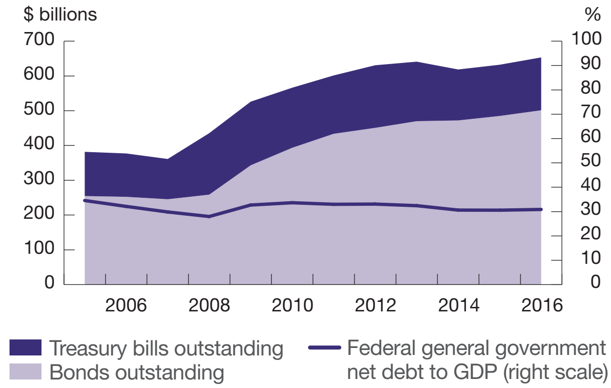
The market value of liquid reserves held in the EFA was about US$73 billion as at 31 December 2016. About 72 per cent of reserves were invested in US dollars, with the balance held in euros, pounds sterling and Japanese yen.

The Bank worked closely with the Department of Finance to develop and introduce a new comprehensive swap management framework, including revised counterparty limits and eligibility criteria, as well as a governance structure, and methods and processes to better manage counterparty exposures.

Revised legal agreements, which require two-way exchanges of collateral, are now in place with almost all cross-currency swap counterparties. The transition to this new framework generated one-time payments to the government totalling approximately $107 million, and it is expected to lower annual funding costs by several million dollars.

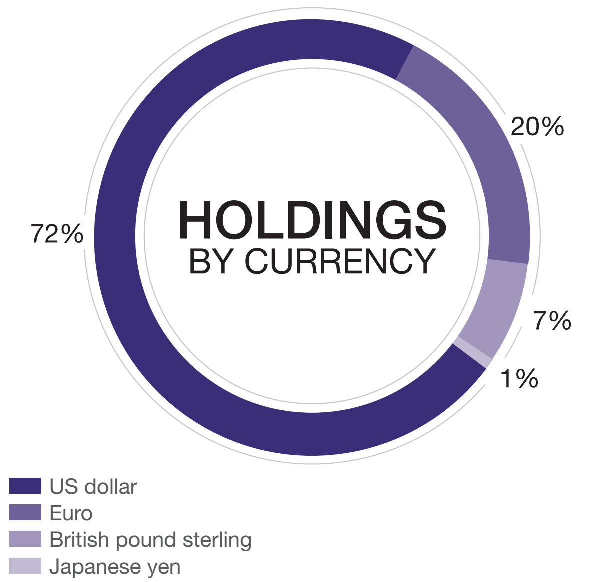
The Bank obtained approval from the Government of Canada to provide banking and custodial services to the Canada Mortgage and Housing Corporation (CMHC), consistent with the Bank's role in promoting the stability of the Canadian financial system and in line with services the Bank already offers to a number of clients.

Domestic marketable debt outstanding



Liquid foreign exchange reserves held in the Exchange Fund Account

As at 31 December 2016



Work continued in 2016 to reduce mechanistic reliance on external credit ratings and promote the use of internal credit assessments. The Bank is now maintaining internal ratings for more than 80 entities, including sovereigns, government-related entities, agencies, multilateral development banks, and financial institutions, and is recognized by central bank peers as a global leader in this area.

The Bank completed an assessment of sourcing options for back-office operations of the retail debt program, managed by the Bank on behalf of the Government of Canada, in anticipation of the future expiry of the existing contract with its third-party vendor. The size of the government's retail debt program continues to decline, with both the stock and volume of annual sales down again this year. Approximately 2 million Canadians hold more than $5 billion in savings bonds sold through the retail debt program.

The Bank implemented recommendations from the 2015 triennial study of the Pension Fund's assets and liabilities. The portfolio's allocation to long-term private assets is being increased. These assets provide a good fit with the pension fund's liability profile and help to diversify the fund's risk exposures and reduce the overall risk while still achieving the expected rate-of-return target.

The Bank maintained its high standard of operational excellence in banking operations with an availability of 99.97 per cent in the Large Value Transfer System (LVTS).

Looking Forward

- The Bank will conduct research and analysis to support the government's objectives of raising stable and low-cost funding, while promoting well-functioning markets for its securities. This will include assessing the robustness of the framework used to issue domestic debt in light of the evolving market structure and regulatory landscape.
- The Bank has established a strategy and timelines within which to modernize the key auction system used to conduct its market operations, with the goal of increasing operational flexibility and efficiency and reducing risk. Development and implementation of the new solution will continue in the years ahead.
- The Bank will begin contract negotiations with the provider of back-office operations and information technology support for the retail debt program. Given the changing needs of the program, improved flexibility, transparency and cost-effectiveness are required.
- The Bank will advance work to take on CMHC as a new client.

More information

- Information on funds management at the Bank of Canada
- The Government of Canada Debt Management Strategy

CURRENCY

Currency in 2016

In 2016 Canada continued its transition from paper to polymer bank notes, now in its fifth year.

At year-end, approximately 2.1 billion Canadian bank notes were in circulation. Polymer notes represented about 84 per cent of the total, an increase from 80 per cent in 2015. Since their proportion now represents substantially all notes in circulation, the pace of the replacement rate is likely to slow significantly in years to come.

The *Polymer* series continued to perform well in circulation, lasting a minimum of 3.5 times longer than paper. The increased durability of polymer, along with its recyclability, results in more economical and environmentally friendly bank notes.

The polymer notes are also difficult to counterfeit, reflected by Canada's low counterfeiting rate. At the end of 2016, the counterfeiting rate was 9 parts per million (ppm), well below the target of 30 ppm.

Most counterfeiting remains focused on the previous series of paper bank notes. The Bank continued to pursue its counterfeit-deterrence activities with the retail community as well as its collaboration with the Royal Canadian Mounted Police (RCMP) and Public Safety Canada through the National Counterfeit Enforcement Strategy.

Achievements

The Bank undertook considerable work in 2016 to develop a commemorative bank note and plan for the next series of polymer notes. Activities ranged from the development of security features and visual content to planning for production and distribution.

The Bank also strengthened its commitment to consult Canadians on the design of future bank notes. A consultation process was launched to select an iconic Canadian woman to be featured on the first bank note of its next series, expected to be in circulation in late 2018.

The Bank of Canada's Role

The Bank of Canada is responsible for providing Canadians with bank notes they can use with confidence. The Bank oversees the complete life cycle of a bank note, including design, development, production, distribution, removal and destruction. The goal is to ensure that bank notes in circulation continue to meet the needs of Canadians by being secure against counterfeiting, of a high standard of quality and available in sufficient supply.

The Bank undertakes a broad spectrum of research to inform the strategic direction for its currency function. Research topics include bank note security and design, the quality and performance of notes in circulation, the use of cash, and the future of bank notes. The Bank also studies the oversight, regulation and issuance of e-money and retail electronic payment methods.

Regular consultations with stakeholders in law enforcement, retail and banking, and the public at large provide valuable information on topics such as how cash is being used, the visual content of future bank notes and the use and cost of alternative payment systems.

To deter the counterfeiting of Canadian currency, the Bank collaborates with law enforcement agencies and the judiciary and conducts educational activities to increase the routine verification of bank notes by retailers and the public.

The Bank participates in international working groups and collaborates with research institutes and other central banks to pool knowledge, share opinions and resources, exchange best practices and contribute to the evolution of research in currency-related fields.

The consultation yielded more than 26,300 submissions from Canadians, making it the largest public engagement initiative in the Bank's history.[2]

The Bank also completed design development, testing and focus group consultation for the commemorative bank note celebrating the 150th anniversary of Confederation in 2017.

Currency operations continued to supply Canadians with secure, high-quality bank notes through rigorous supply-chain management and quality-assurance practices, as well as ongoing collaboration with financial institution partners.

The Bank's cash-processing centres are being modernized to ensure they remain cutting-edge and adaptable to a changing cash-distribution environment. Key priorities include information technology systems; control, security and auditing processes; cash-handling and packaging systems; and employee training.

The Governor, left, speaks to Ottawa students Andrin Lewis of Roberta Bondar Public School, middle, and Sonia Larouche of École élémentaire publique Gabrielle-Roy, right, in April 2016. Students from both schools created artwork representing women who inspire them, part of an event highlighting the nomination process to select a Canadian woman to be featured on a new bank note.

Through the Currency Information Management Strategy, the Bank has developed the capability to collect and analyze data from many sources to enhance the quality of bank notes in circulation, identify trends in the use of cash and map the movement of bank notes throughout the distribution system.

The strategy has resulted in several improvements. The exchange of data with supply-chain partners and key stakeholders was improved and automated; infrastructure and technology was upgraded to support staff analysis of bank note trends; and pilot studies were conducted to assess the effectiveness of note flow tracking.

The Bank is part of a research consortium that includes the National Research Council Canada and partners from the public and private sectors. A study was completed in 2016 on polymer bank note durability, and research related to bank note technologies and consumer behaviours regarding the use of cash is ongoing.

Research on e-money, part of the Bank's interest in financial technology (fintech), examined questions related to digital currencies issued by central banks, the interaction between public and private monies, new payment technologies and other developments. The Bank continued work on its Cost of Payments Study, which will help inform the development of Canada's next generation of payment systems.

The Bank's regional offices in Vancouver, Calgary, Toronto, Montréal and Halifax continued to provide a strong presence across Canada, delivering currency education programs to local law enforcement partners and the RCMP, financial institutions and the retail community. Regional staff also provided support for the public consultations on bank note design.

2 See the Communications and Outreach section for information on the consultation process.

Viola Desmond chosen as the Bank NOTE-able woman

Pictured above from left, Finance Minister Bill Morneau; Governor Stephen S. Poloz; Patty Hajdu, Minister of Status of Women; and Wanda Robson, sister of Viola Desmond, engage with the audience at the unveiling of Viola Desmond as the Bank NOTE-able woman.

Below: The Governor addresses the guests assembled for the announcement, and the Senior Deputy Governor meets Mrs. Robson.

Ms. Viola Desmond, an icon of the human rights and freedoms movement in Canada, was chosen to appear on Canada's $10 bank note, expected in late 2018.

The Minister of Finance selected Ms. Desmond from a short list of five Canadians who, together, illustrate the diverse and important contributions that women have made in shaping Canada's history.

The announcement, on 8 December 2016, concluded the selection process that began with an open call for nominations that resulted in an initial qualifying list of 461 women submitted by Canadians.

Ms. Desmond was a successful Nova Scotia business-woman who declined to leave a whites-only area of a movie theatre in 1946 and was subsequently imprisoned, convicted and fined.

Her court case was the first known legal challenge against racial segregation brought forth by a Black woman in Canada. Desmond's perseverance, and the attention generated by her case, paved the way for a broader movement to recognize the importance of human rights in Canada.

Looking Forward

- Work will continue on the production of a commemorative $10 bank note to mark the 150th anniversary of Confederation. The Canada 150 commemorative bank note will be broadly available to Canadians in June 2017 with the production of 40 million notes.
- Now that Viola Desmond has been chosen to be featured on the front of the 2018 $10 bank note, design and production will proceed. Canadians will be further consulted through focus groups.
- The Bank will launch a two-year plan to develop and test new security features for the next series of bank notes.
- Through its Currency Information Management Strategy, the Bank will enhance the exchange and integration of bank note data from supply-chain partners and further develop its data analysis capacity.
- The Bank will lead discussions on the bank note distribution system, in collaboration with major financial institutions, to ensure continued efficiency. The modernization of bank note processing centres will continue.
- The Bank will advance its research on e-money and e-payment technologies, as well as on leading-edge security technologies for bank notes. This will include a survey on the use of bitcoin.
- Results of the Cost of Payments Study will be released in early 2017, providing insight on the cost of cash and other payment methods in Canada. Preparations will also be made for the next Methods-of-Payment Survey.

More information

- Viola Desmond was chosen as the Bank NOTE-able woman to be featured on the new $10 bank note: news release and webcast
- Cost of Payments Study

MANAGING THE BANK OF CANADA

Managing the Bank in 2016

A strong management and operating framework provides the foundation for the Bank of Canada's core functions and activities.

Efficient, cost-effective and innovative operations promote employee engagement and productivity and contribute to the achievement of the business objectives outlined in the Bank's medium-term plan (MTP).

In addition to the economists and financial system specialists who work in the Bank's core functions, leaders and staff in corporate administration departments focus on the delivery of effective and efficient operations. This involves the management of

- people—recruiting, engaging and retaining highly qualified employees;
- corporate processes—executive decision making and governance, compliance, risk management, legal systems, corporate policy and communications;
- assets—maintaining buildings, securing people and physical assets, procuring services and managing information;
- finances—budgeting, accounting, control and audit; and
- information—technology, data and security.

The highlight of 2016 was the completion of the Head Office Renewal project, as planned, in November, within its construction budget.

For the seventh consecutive year, the Bank was named one of Canada's Top 100 employers and one of the top 25 employers in the National Capital Region.

Composition of Bank staff, by role

Approximate, for 2016

* Total number includes approximately 1,500 employees in core operations and 200 working on projects (temporary).

There was an increase in the number of employees nominated by their peers for awards of excellence in 2016, the program's third year. Some 51 nominations were received, and 13 employees were recognized by the Bank for their contributions in the areas of innovation, work environment and collaboration.

Once again, Bank employees voluntarily participated in the Bank's annual workplace charitable campaign. For a second year, in addition to the traditional focus on the United Way, staff members were able to make donations to Health Partners, a group of national health charities. A record $287,299 was raised through direct contributions and internal fundraising events.

Bank of Canada—Principles of Corporate Administration

To be

- a value-added business partner, with relationships and knowledge that business lines need to solve problems
- operationally excellent, with efficient and integrated processes and systems, superior analytics, and shared planning and budgeting
- easy to do business with, delivering efficient and responsive services and advice
- effective corporate stewards, able to provide the advice, guidance and support needed for wise decision making and stewardship of the Bank's finances, information and employees

Human Resources

Considerable effort is made each year to provide employees with a superior work environment, distinctive development opportunities and competitive total compensation.

The Bank launched a three-year project in 2016 to review and redesign its human resource (HR) programs, practices and administrative tools. HR modernization objectives were developed after a thorough needs assessment, which included extensive employee consultation. Three areas of priority were selected:

- initiatives to support leaders in reinforcing a culture of innovation, focusing on meaningful coaching and development conversations;
- programs to attract and engage employees, including a much simpler and more responsive approach to managing employee performance and development; and
- new tools to make it easier for leaders and employees to process HR-related transactions.

In line with objectives established in the MTP and the new leadership competencies of the Bank, the Governor and Senior Deputy Governor championed opportunities for Bank leaders at all levels to build skills that promote innovation and strategic risk taking. These included the introduction of a standardized program for coaching and feedback, custom leadership development and new leadership tools and resources.

Strategies were introduced in 2016 to respond to complex and changing recruitment needs. Targeted sourcing was used to fill hard-to-hire positions, such as cyber security experts, and efforts were increased to recruit women to work in economics and financial positions.

At the Tell Us Your HR Story kiosk at the annual employee conference, Bank staff shared their views about HR services that have a lasting impact. Here Gillian Brouse, Manager of HR Modernization, talks to Iris Zhang, who works in the Corporate Services department.

The recruitment website was enhanced and social media tools were used to increase traffic on the university recruitment campaign website.

The Bank enhanced programs to promote diversity and employment equity in 2016. For example, scholarship recipients (Aboriginal peoples and persons with disabilities) completed work placements in a field relevant to the Bank's core functions, and a job placement program for persons with disabilities was promoted for expanded use within the Bank.

The Bank augmented internal communications activities to support the changes under way throughout the year. In addition to communicating the many facets of the move back to head office, the Bank developed strategies to help employees understand and apply new or updated corporate policies and procedures.

Some 900 Bank staff took advantage of the Wellington Open House in December, in preparation for the move back to the renewed facility throughout the first quarter of 2017. Here Vanessa MacIsaac, an employee in the Information Technology department, reviews the research and information services available at the Knowledge Centre.

Operating Infrastructure

The Bank's operating infrastructure must be adapted and improved each year to keep up with the rapid pace of change in technology and constantly evolving business needs, while reducing risks related to its operating systems.

The renewal of the Wellington Street head office presented an opportunity for much of this modernization in 2016:

- Technology was renewed, with extensive use of wireless applications.
- Workspaces were modernized, with open-concept office floors complemented by more meeting rooms and collaborative spaces.
- Operating models were modified to promote new ways of delivering employee services.
- A new Knowledge Centre supports information management and research, an Idea Space facilitates collaborative activities, and employees can go to the Kiosque on the main level to get information technology (IT) and other services in person.

An extensive change-management process was used to familiarize employees with the many features of the new building and assist them with all phases of the move back to Wellington.

Enterprise security systems were enhanced to meet the needs of the renewed head office, and the Bank brought in Brookfield Global Integrated Solutions as its facilities services provider to promote efficiency and tap into specialized external services and expertise.

A new incident-management structure was introduced and tested in a continuity of operations exercise in 2016.

The Bank's new cloud strategy features a standard method of delivery and clear accountabilities for all cloud services at the Bank. A key component is the Cloud Centre of Excellence, which will promote best practices in the use of cloud solutions.

Significant progress was made on embedding innovation into day-to-day thinking, and the Bank took steps to improve a number of internal operating processes in 2016. Lean methodology, for example, is being used to make internal processes clearer from a client perspective and easier to administer.

To support initiatives established in the MTP, the Bank also enhanced its process to oversee and manage Bank investments. Internal Audit and Enterprise Risk Management staff contribute to the assessment of benefits and enterprise risks related to project business cases.

The Technology Evolution kiosk at the annual employee conference introduced the new technologies planned for the renewed head office. From left, Mario Lulic, Jeffrey Birch and Martin Khouzam demonstrate some of the new mobile devices.

Resilience

A focus for 2016 was building overall resilience in the Bank's IT infrastructure. Significant progress was made on key components of the IT strategy, emphasizing technology infrastructure, while applying best practices from other central banks and related institutions:

- The Bank continues to strengthen its cyber security. Work in 2016 focused on clarifying standards, roles and responsibilities related to mitigating cyber risks.
- The Business Recovery Enhancement (BRE) strategy and roadmap were developed to identify measures to safeguard the integrity of Bank systems. Ongoing system modifications will improve the recovery capability of mission-critical systems.
- The Bank completed a three-year program to improve the resilience of the network infrastructure that supports its High Availability Banking System.
- Major system upgrades were made to various trade processing systems, and foreign exchange swap lines with other central banks were tested to enhance market resilience.

Looking Forward

- All employees will be relocated to the Wellington Street location by the end of the first quarter of 2017.
- Programs will encourage employees to use the new tools and spaces effectively, including the Idea Space, to encourage creativity and experimentation.
- The revised approach to managing individual performance will be launched in 2017, including training for leaders, simplified core competencies for employees and new online tools for documenting performance.
- Phase one of the BRE to safeguard the integrity of Bank systems will be completed in 2017, to be followed by phase two, targeted for completion at the end of 2018.
- A re-assessment of the Bank's cyber security posture will be prepared in 2017.

The Governor speaks to students from Roberta Bondar Public School and École élémentaire publique Gabrielle-Roy in Ottawa, April 2016. Canadians of all ages took part in the nomination process to select a woman to be featured on a new bank note.

COMMUNICATIONS AND OUTREACH

Communications and Outreach in 2016

The Bank of Canada is committed to openness and transparency in communicating its policies and actions.

Households, businesses and investors can have more confidence in the value of their money and the safety of their financial system when they better understand the Bank's work.

The objective is to communicate with Canadians clearly and effectively, while providing a comprehensive account of the Bank's decisions, research and analysis.

In 2016 the Bank increased its efforts to

- reach out to stakeholder groups and Canadians more generally;
- use a broader range of channels, including digital and social media; and
- develop innovative ways to reach new audiences, such as the new Bank of Canada Museum, opening in 2017.

The Bank's top priority is to help Canadians understand the economic and inflationary factors that drive its monetary policy decisions. In 2016 communications activities were focused on explaining the Bank's agreement with the federal government to renew the inflation-control target, which reached its 25th anniversary.

With a click on a web page, such as the one shown, visitors to the Bank of Canada website can view video webcasts of press conferences by the Governor (right) and the Senior Deputy Governor (left) following the release of major policy documents. Here they are shown answering media questions about the Financial System Review *released on 15 December 2016.*

On 24 October, the Bank published the *Joint Statement of the Government of Canada and the Bank of Canada on the Renewal of the Inflation-Control Target*, along with a comprehensive background document outlining research on three key questions, a letter from the Governor to the Minister of Finance and a range of explanatory content on social media. The Bank also held a background briefing for journalists, and, in early November, the Governor delivered a speech on the importance of the Bank's inflation-targeting framework.

The Bank also took a number of specific steps to improve monetary policy communications throughout the year:

- The content of the quarterly *Monetary Policy Report* (MPR) was streamlined and an enhanced explanation of risks to the outlook was added.
- The Governor's MPR opening statement now contains additional details about key judgments and factors underlying Governing Council's monetary policy decisions.
- To expand engagement with external stakeholders and the public, the Bank continues to promote digital media platforms as the primary means of delivering information to the public.

The Bank also continued the 2015 initiative to publish staff analytical notes to provide more in-depth background information on staff analysis relevant to the Bank's projections or activities.

These initiatives increase the Bank's transparency around research and analysis and give Canadians easy access to countless data observations.

Through the Bank's comprehensive website, the public has access to daily statistics as well as the Bank's notices and publications, surveys, research papers, speeches, public reports, backgrounders and videos.

The Bank has also started publishing additional data on the web, including a new service that provides timely access to data related to Bank research and staff papers.

In addition, the Bank is increasing its use of social media tools such as Twitter, LinkedIn, RSS feeds, Flickr and YouTube.

Finally, the Bank continues to communicate with Canadians through traditional means as well. In 2016, staff processed a total of 15,020 telephone calls, 10,550 emails, 115 letters and 106 facsimiles, responding to a wide range of questions and comments about the Bank and its activities.

17,039 LinkedIn followers

100,000 Twitter followers

2.6 million—average monthly visitors to the Bank's website

2,246 YouTube subscribers
247,300 video views

Regional Offices

The Bank's five Canadian regional offices in Vancouver, Calgary, Toronto, Montréal and Halifax play a key public liaison role for the Bank, providing a perspective on regional economic developments and maintaining close ties with industry, government, educational institutions and other organizations and associations.

The regional offices also make an important contribution to the Bank's understanding of financial markets. Representatives in the Toronto and Montréal offices consult regularly with financial market participants across the country, and the New York office serves as a liaison with the financial community in the United States.

Consulting Canadians

A broad public consultation was held in 2016 to select an iconic Canadian woman to be featured on the first bank note of the Bank's next series, expected in late 2018.[3] Participation from the public was strong, making this the largest and most comprehensive public engagement initiative in the Bank's history:

- Prime Minister Justin Trudeau and Finance Minister Bill Morneau made an announcement inviting Canadians to send in nominations.
- The Bank appointed an independent advisory council to narrow down the list of nominees, supported by an expert panel and subject matter experts.
- A formal public opinion survey was conducted regarding the 12 nominees on the long list.
- Focus groups were held to assess Canadians' views of the five women on the short list.
- Social media channels were used extensively to engage Canadians throughout the process, including the #bankNOTEable and #surunBILLET Twitter hashtags, historical information and photographs of nominees posted on various platforms, and a colourful online infographic to explain the selection process.
- Tweets about Viola Desmond and the #bankNOTEable campaign topped 90,000.

3 Please see page 32 in the Currency section for more information on the 2018 bank note.

Nominations from Canadians generated a list of 461 women eligible for the honour of appearing on a bank note in late 2018.

The Bank's Annual Activities

Left: Senior Deputy Governor Carolyn A. Wilkins spoke before the Greater Vancouver Board of Trade in April 2016. The topic was "China's Great Transition: What It Means for Canada." Credit: Greater Vancouver Board of Trade

Right: Members of Governing Council met with a wide range of private and public sector stakeholders throughout the year to get a broad, regional perspective on Canada's economy. Deputy Governor Timothy Lane, right, toured the G3 Thunder Bay port terminal with manager Paul Kennedy in September 2016.

Extensive outreach and stakeholder engagement activities ensure that the views of individuals, businesses and organizations in Canada are understood and considered by the Bank in the course of conducting its policy actions.

Eight times a year, the Bank announces its decision on the key policy interest rate, complemented quarterly by the release of its *Monetary Policy Report*.

The Bank also publishes its *Financial System Review* twice a year to help Canadians understand risks to the stability of Canada's financial system.

In addition to these regular publications/tools, speeches are delivered across the country and to international audiences by members of Governing Council to communicate important Bank messages to Canadians and international stakeholders. The Governor delivered eight public speeches in 2016, the Senior Deputy Governor (SDG) delivered four, and the Deputy Governors delivered a total of eight.

The Governor and the SDG hold news conferences and give interviews following most major announcements. In 2016, the Governor held 14 press conferences, including 6 with the SDG and 2 with the Minister of Finance.

The Governor and the SDG appear semi-annually before the House of Commons Standing Committee on Finance and the Senate Committee on Banking Trade and Commerce, as they did in the spring and fall of 2016.

Overall, Governing Council members conducted 22 media interviews and 2 media round tables. Members of the media attended 33 lock-ups at the Bank's head office to obtain embargoed copies of speeches and publications.

Members of Governing Council also hosted regular consultations and round-table meetings with a wide range of private and public sector leaders throughout the year.

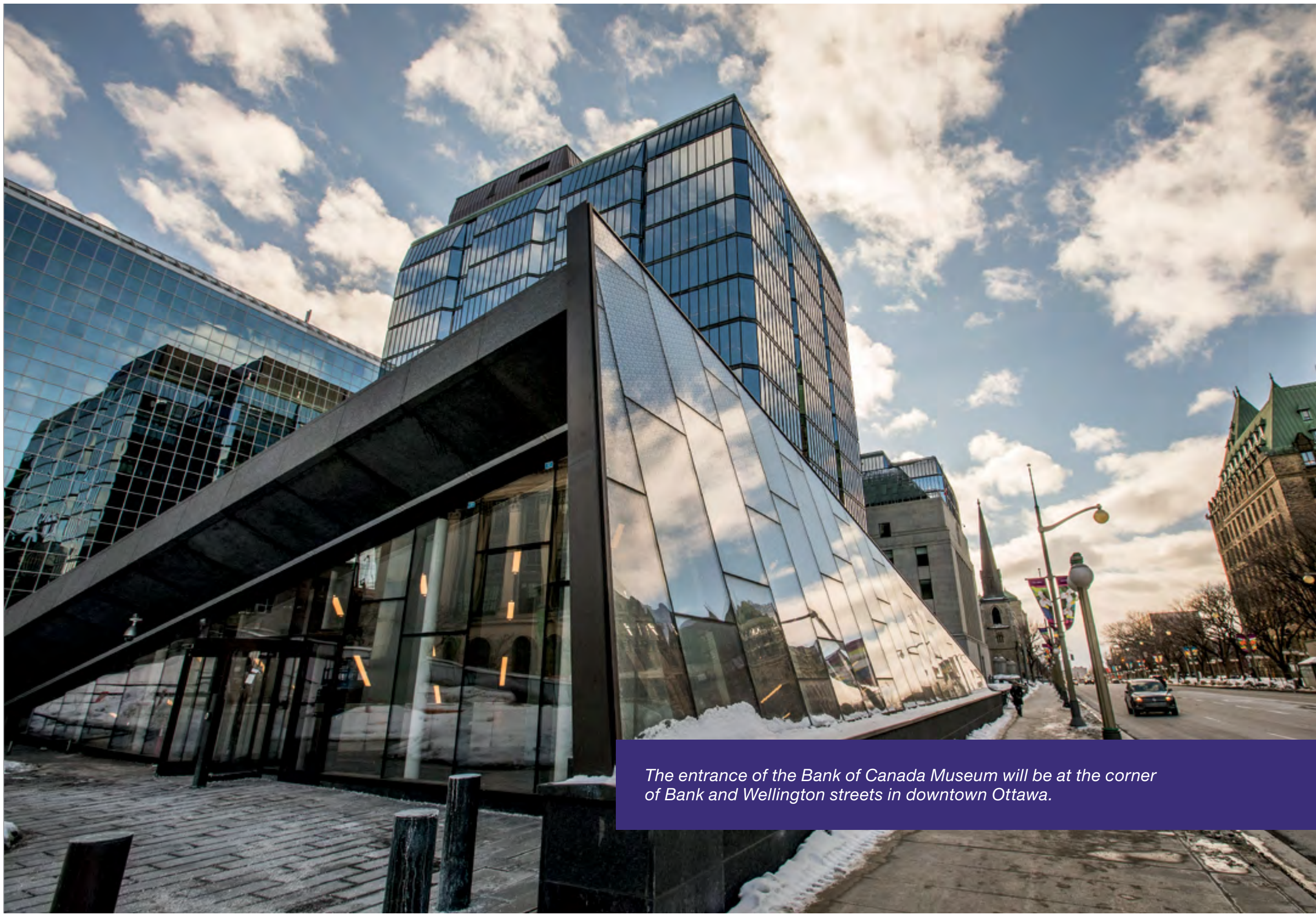
Bank of Canada Museum

The new Bank of Canada Museum in Ottawa, scheduled to open in 2017, has been designed to serve as one of the Bank's key educational and communications tools for the public. It has an expanded mandate to feature and explain all of the Bank's core functions in addition to its traditional function as a showcase for Canada's National Currency Collection. Museum designers were contracted to develop and design the museum, using state-of-the-art content-delivery and display technologies.

Decoding E-Money, one of the Bank's travelling exhibits, educated Canadians about the past, present and potential future of currency in Canada and the world.

The museum space has been completely rebuilt as part of the renewal of the head office, with a new entrance inside a large pyramid structure on the corner of Wellington and Bank streets.

The Museum continued with its program of travelling and temporary exhibitions in 2016 to extend the Bank's outreach activities beyond Ottawa. *Decoding E-Money,* for example, uses touch-screen media, board games and videos to educate Canadians about past currencies and the future of alternative forms of currency currently in use.



The entrance of the Bank of Canada Museum will be at the corner of Bank and Wellington streets in downtown Ottawa.

Research and Academic Outreach

High-quality research underpins all of the Bank's work and played an important role in informing policy analysis in 2016.

The Bank's Medium-Term Research Plan, 2016–2018 outlines research priorities for the next three years, in line with the Bank's overall medium-term plan.

In 2016, the Bank posted 63 staff working papers and 22 staff discussion papers to its website, and 66 research papers were published in external journals. Ongoing research is highlighted publicly through a monthly research newsletter and "latest research" link.

A large part of the Bank's research effort in 2016 was focused on the renewal of the inflation-control agreement. It also informed policy in many other areas, such as financial stability, financial market infrastructure, e-money, the next generation of payment systems, global trade and commodity prices.

Senior Deputy Governor Carolyn A. Wilkins presents the 2016 Governor's Award to Liyan Yang of the University of Toronto.

The annual award is given to exceptional assistant and associate professors doing exemplary work in fields related to central banking.

The Bank continues its engagement with academic and other research partners with the aim of fostering rigorous discussion and information exchange on topics of importance.

Two new participants joined the Visiting Scholar program in 2016, bringing the total number of scholars to six. The program provides outstanding scholars with an opportunity to work at the Bank of Canada, while giving Bank researchers an opportunity to work closely with external experts to address innovative policy-related research questions connected to the Bank's core functions.

Interest in the program has grown externally and internally, and a number of joint projects are under way.

Visiting Scholars in 2016:

- Victor Aguirregabiria, University of Toronto
- Andrew Levin, Dartmouth College
- Yuriy Gorodnichenko, University of California, Berkeley
- Ricardo Lagos, New York University
- Itay Goldstein, Wharton School of the University of Pennsylvania
- Charles M. Kahn, Professor Emeritus at the University of Illinois

The Bank of Canada's Fellowship Program fosters excellence in research at Canadian universities and promotes research partnerships with external experts in areas important to the Bank's mandate. Fellows receive financial support from the Bank.

The recipients in 2016 were

- Francesco Trebbi, University of British Columbia; and
- Daniel Trefler, University of Toronto.

The Governor's Award, given to exceptional assistant and associate professors doing exemplary work in fields related to central banking, was presented to Liyan Yang of the University of Toronto.

McGill University won the inaugural Governor's Challenge national event in February 2016. Here, McGill student Valentyn Litvin presents his group's monetary policy recommendations to a panel of expert judges in Ottawa. More than 140 participants from 24 Canadian universities participated in the 2016–17 Governor's Challenge, with the finals held in February 2017.

In early 2016, the Governor hosted the finals of the first annual Governor's Challenge—an annual university competition designed to promote understanding of the role of monetary policy in Canada's economy. Teams of undergraduate students in economics analyze and forecast developments in the economy and present monetary policy recommendations to judges.

The winning team in 2015–16 was from McGill University. The second year of the competition took place in November, with participation from 24 Canadian universities. Five teams were selected to compete in the finals in Ottawa in February 2017.

The Bank also organized several conferences and workshops in 2016 to engage external stakeholders and researchers.

More Information

- Bank of Canada Fellowship program
- Visiting Scholar program
- Governor's Challenge
- Carolyn A. Wilkins' speech at the Greater Vancouver Board of Trade
- Bank of Canada Museum
- Head Office Renewal
- General Inquiries
  1-800-303-1282
  info@bankofcanada.ca
  www.bankofcanada.ca

Governor Stephen S. Poloz delivered the keynote address at the Canada–US Securities Markets Summit held in New York in April 2016 by the Investment Industry Association of Canada (IIAC) and the Securities Industry and Financial Markets Association (SIFMA). His topic was "A New Balance Point: Global Trade, Productivity and Economic Growth." Credit: Bloomberg L.P.

GLOBAL ENGAGEMENT

Global Engagement in 2016

The Bank of Canada's work on the international stage helps it achieve its mandate each year. Understanding the global economy is essential to both formulating monetary policy in Canada and identifying risks to the financial system.

Sharing information and insights with global counterparts is key to developing that understanding. Such engagement helps the Bank address complex and often interrelated global economic, financial and regulatory challenges, as well as a range of common issues pertaining to financial system policies and central bank operations.

During 2016, international discussions on the global economy focused prominently on understanding the sources of sluggish global growth, including the structural slowdown in global trade and investment. Related factors include future prospects for global demand and the ongoing structural transformation in the Chinese economy. The Bank will continue to monitor the outcome of these developments, which affect Canada directly through exports and terms of trade, oil and non-energy commodity prices and financial conditions.

These and other topics were discussed at meetings of the G20 and the International Monetary Fund (IMF) in 2016. Canada's representatives supported the thrust of the G20 leaders' commitment to use the full range of policy tools—monetary, fiscal and structural—to achieve strong, sustainable, balanced and inclusive growth.

The Bank of Canada's International Role

The Governor, Senior Deputy Governor, Deputy Governors and other Bank leaders engage in dialogue on global economic and financial developments through bodies such as

- the G7 and the G20,
- the International Monetary Fund (IMF),
- the Financial Stability Board (FSB),
- the Bank for International Settlements (BIS),
- the International Organization of Securities Commissions (IOSCO), and
- the Organisation for Economic Co-operation and Development (OECD).

The Governor serves on the BIS Board of Directors, which determines the strategic and policy direction of the BIS and supervises BIS management. He chairs the Board's Audit Committee, examining matters related to internal control systems and financial reporting.

The Bank of Canada supports FSB activities to develop and promote effective regulatory, supervisory and other financial sector policies in the interests of financial stability around the world.

The Senior Deputy Governor is a member of the FSB Plenary and the FSB Standing Committee on Assessment of Vulnerabilities (SCAV), which monitors and assesses vulnerabilities in the global financial system.

The Bank contributes to the final design of Basel III through its participation in the Basel Committee, the Policy Development Group and various other working groups in the areas of sovereign exposures and liquidity regulation.

Bank officials also participate in a variety of international working groups and committees, either to develop specific recommendations for parent committees or to exchange ideas and collaborate with economists and researchers from other countries.

International Dialogue

The Bank develops strategic working relationships with international counterparts on a bilateral basis and in various groupings to address specific or important topics in which they share a common interest. The work is often conducted by committees of global organizations.

The Americas

Given the many common economic issues and significant trade and financial linkages in the Western Hemisphere, in 2016 the Bank chose to focus on joint activities that affect countries in North and South America.

In early 2016, Governor Poloz was appointed chair of the Bank for International Settlements Consultative Council for the Americas (BIS CCA) for a two-year period.[4] Composed of the governors of the eight central banks in the Americas that are members of the BIS, the group facilitates communication among governors and their officials and the BIS on matters of interest to the central banking community in the region.

A key topic in 2016 was the beginning of monetary policy normalization in the United States and its resulting effect on exchange rates and capital flows in North and South American countries.

Senior Deputy Governor Wilkins co-chaired, with Governor Worrell (Central Bank of Barbados), the Financial Stability Board (FSB) Regional Consultative Group for the Americas (RCGA), with members from 20 jurisdictions in the Americas. The group engaged industry on financial topics of particular interest to the Americas, notably the withdrawal of correspondent banking services in certain jurisdictions and the size and importance of the shadow banking sector in the region.

4 The BIS established the CCA in 2008.

Finance Minister Bill Morneau and Governor Stephen S. Poloz represented Canada at the IMF meeting of G20 finance ministers and central bank governors in Washington DC, 14–15 April 2016.

Building Stronger Financial Systems

In the face of rapid changes to global financial networks—enabled by new technologies—central banks and related agencies have been working together to improve international financial systems and regulatory frameworks.

Joint activities often focus on specific topics or issues that are likely to have a bearing on monetary policy or international financial stability.

Fintech

Financial technology, also known as fintech, is an area of interest for all central banks as it relates to the issuance of currency, financial stability and monetary policy. The topic took on increasing prominence in 2016.

Fintech refers to innovation in digital financial services, such as e-money and distributed ledger applications, which is starting to transform global financial systems across a broad range of services.

The potential benefits of fintech are significant, with the promise of better efficiency and cost-effectiveness of payment systems and convenient payment options for consumers. However, these innovations also imply changes ahead for all entities involved in payment systems, such as regulatory authorities and central banks, financial institutions, and new entrants to the market.

The potential benefits of fintech are significant, with the promise of better efficiency and cost-effectiveness of payment systems and convenient payment options for consumers.

Given the broader financial sector policy implications, other Canadian regulatory agencies are also studying the opportunities and risks of fintech for the financial sector and supporting regulatory framework.

The Bank contributes subject matter expertise and leadership to fintech policy development through various international organizations.[5]

The Governor is a Global Agenda Trustee for the World Economic Forum's Future of the Global Financial System initiative. With members from both the private sector and government or regulatory policy-makers, the initiative is focused on building a more efficient, resilient and equitable global financial system.

The Senior Deputy Governor has a leadership role in the FSB's work on fintech. The SDG chairs the international committee that is leading this work, which involves significant international outreach (to academics, technology companies and financial institutions) as well as coordination with other jurisdictions that are members of the FSB.

Shadow banking

Shadow banking, defined by the FSB as "credit intermediation involving entities and activities outside of the regular banking system,"[6] is a growing trend in the global financial system. While making credit available through non-bank channels has the potential to provide significant economic benefits, the FSB sees these alternative channels as a source of systemic risk, especially when they are structured to perform bank-like functions.

5 These include the FSB; the International Organization of Securities Commissions (IOSCO); the BIS Committee on the Global Financial System (CGFS), which monitors developments in global financial markets for central bank governors; the Committee on Payments and Market Infrastructure (CPMI); and the Basel Committee on Banking Supervision (BCBS).

6 http://www.fsb.org/wp-content/uploads/global-shadow-banking-monitoring-report-2015.pdf The term covers a wide range of activities, including securitization, repos and money market funds, as well as some activities of non-bank financial institutions, such as finance companies and investment dealers.

On behalf of domestic financial regulators, the Bank led Canada's participation at several FSB groups on shadow banking in 2016.

The Senior Deputy Governor led the team that prepared the FSB's thematic peer review of the implementation of its Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities.

The peer review concluded that, while progress has been made, much work is needed, by both member authorities and the FSB, to ensure risks related to shadow banking are being monitored and mitigated effectively around the world.

Finance Minister Bill Morneau and Senior Deputy Governor Carolyn A. Wilkins participate in a joint conference of the People's Bank of China and the International Monetary Fund in April 2016. The conference focused on strengthening the international monetary system and international experience in resolving debt problems.

Operations and Technical Assistance

Canada promotes best practices in central bank operations through joint activities with other central banks, the BIS and other international organizations. The Bank's goal is to promote innovation and excellence in central banking policy and operations in Canada and abroad.

BIS forums such as the Group of Computer Experts, the Working Party on Security Issues and the Central Bank Internal Auditors group help the Bank to keep abreast of security and information technology issues and trends.

The Bank also provides technical assistance to other central banks and international agencies that can benefit from its expertise. Participating institutions may visit the Bank, submit questionnaires or have discussions by video or teleconference. Staff will occasionally travel to the participating institutions, generally as part of a broader initiative with external funding.

In 2016, the Bank accommodated 47 requests for technical assistance, providing advice and expertise on a range of topics such as stress-testing capabilities and national balance sheet accounts, human resource issues, bank note production, business outlook surveys and strategic planning.

More information

- Wilkins, C. A. 2016. "Fintech and the Financial Ecosystem: Evolution or Revolution?" Remarks to Payments Canada, Calgary, Alberta, 17 June.
- Lane, T. 2016. "Follow the Money: A Canadian Perspective on Financial Globalization." Remarks to the Centre for International Governance Innovation (CIGI), Waterloo, Ontario, 16 November.
- IMF Press Release. 2016. "Christine Lagarde Calls for Broad-based Policy Effort to Reinvigorate Growth." 24 July.
- World Economic Forum

GOVERNANCE OF THE BANK OF CANADA

Governance in 2016

The *Bank of Canada Act* provides the legal authority and framework for governance of the Bank of Canada.

Governor

The Governor of the Bank of Canada is both the Chief Executive Officer of the Bank and Chair of its Board of Directors.

Pursuant to the *Bank of Canada Act*, the Governor has specific authority and responsibility for the business of the Bank, including the formulation and implementation of monetary policy, the provision of fiscal-agent services to the government, the issuance of bank notes and the provision of liquidity to the financial system. The Governor oversees Canada's major financial clearing and settlement systems, as set out in the *Payment Clearing and Settlement Act*.

In his role as Chair, the Governor leads the Board in its oversight responsibilities for financial and administrative matters at the Bank.

Board of Directors

The Board of Directors of the Bank of Canada is composed of the Governor, the Senior Deputy Governor and 12 independent directors.

All independent directors are appointed for three-year renewable terms by the Governor-in-Council (the Cabinet). The Deputy Minister of Finance is an ex-officio, non-voting member of the Board.

The Board has specific responsibilities related to financial and accounting matters and human resources. Monetary policy is neither formulated nor implemented by the Board.

The Bank strives to maintain leading standards of corporate governance and management. To that end, the Board and senior management stay informed about best practices used by similar public institutions, central banks and private sector organizations.

Board members also keep the Bank informed about prevailing economic conditions in their respective regions.

Changes to the Board of Directors in 2016

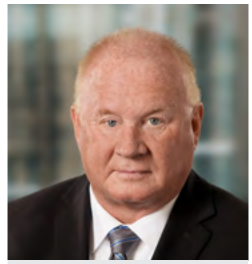
Hassan Khosrowshahi (Vancouver, British Columbia) resigned as a member of the Board of Directors in November 2016.

Derek D. Key was selected by the independent directors to continue in his role as Lead Director for a second two-year term, ending September 2018.

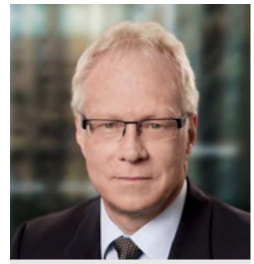
The Board of Directors

Stephen S. Poloz[2*]
Governor

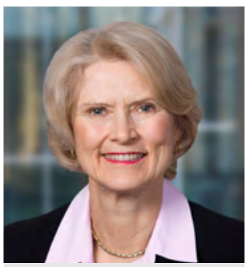
Carolyn A. Wilkins[2, 7*]
Senior Deputy Governor



Norman M. Betts[4, 7]
Fredericton, New Brunswick



Alan Andrew Borger[3, 5]
Winnipeg, Manitoba

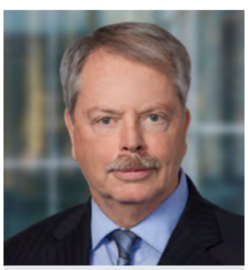


Phyllis Clark[2, 4*, 5]
Edmonton, Alberta

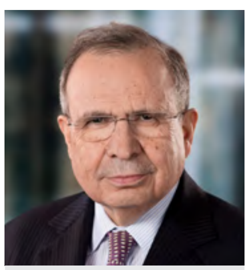
Colin Dodds[6, 7, 8*]
Halifax, Nova Scotia

Monique Jérôme-Forget[2, 3, 6*]
Montréal, Quebec

Claire Kennedy[2, 3*, 4, 6]
Toronto, Ontario

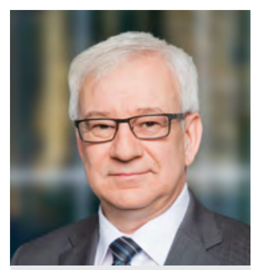


Derek D. Key[1, 2, 3, 5*]
Summerside, Prince Edward Island

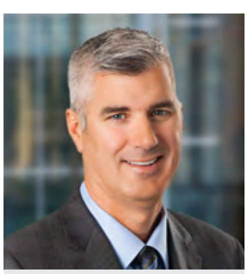


Hassan Khosrowshahi[**4, 5]
Vancouver, British Columbia

Wes Scott[4, 7]
Toronto, Ontario



Jean Simon[3, 6]
Saguenay, Quebec



Greg Stewart[6, 7]
Regina, Saskatchewan

Martin Sullivan[5, 6]
Calvert, Newfoundland and Labrador

Paul Rochon[2]
Deputy Minister of Finance, Member ex officio

1. Lead Director
2. Member of Executive Committee
3. Member of Corporate Governance Committee
4. Member of Audit and Finance Committee
5. Member of Capital Projects Committee
6. Member of Human Resources and Compensation Committee
7. Member of Pension Committee
8. Chair of the Fellowship Nominating Committee

* Indicates committee chair
** Resigned, effective 30 November 2016

Board of Directors and Committee Meetings

The Board and its committees meet regularly in Ottawa throughout the year. The Board holds one meeting outside of Ottawa as part of the Bank's regional outreach program. In 2016, the Board met six times, and the external meeting was held in Whitehorse, Yukon.

In addition, the *Bank of Canada Act* provides for an Executive Committee to act in place of the Board. In 2016, the Executive Committee met twice: in July to receive an economic briefing from the Senior Deputy Governor and in September to receive the Bank's Annual Senior Officer and Succession Planning Report.

Each committee has terms of reference outlining the responsibilities of the committee and its chair and adopts a work plan for the year.

An independent director acts as Chair of the Fellowship Program Nominating Committee. That post was held by Colin Dodds in 2016.

Standing Committees of the Board of Directors

Committee	Chair	Mandate	Number of meetings in 2016[a]
Audit and Finance Committee	Phyllis Clark	▪ To provide Board oversight on the financial affairs of the Bank, including its medium-term plan, annual budget and expenditures, and on internal and external audit activities	6
Human Resources and Compensation Committee	Monique Jérôme-Forget	▪ To provide Board oversight on human resources policies and practices, compensation policies, succession planning and senior executive performance ▪ To recommend compensation for the Governor and the Senior Deputy Governor, within ranges set by the Governor-in-Council and subject to its approval	5
Corporate Governance Committee	Claire Kennedy	▪ To oversee corporate governance policies and practices, including Board effectiveness, Board member education, terms of reference of the Board and its committees and the composition of Board committees	3
Capital Projects Committee	Derek D. Key	▪ To provide Board oversight for significant Bank projects, including the Head Office Renewal Program	7
Pension Committee[b]	Carolyn A. Wilkins	▪ To provide advice to the Board on the Bank's responsibilities as sponsor and administrator of the Bank of Canada Pension Plan, including Plan investment policies, Plan administration, communications and stakeholder relations	4

a. Attendance figures for the Board are published on the Bank of Canada website.
b. The Pension Committee is composed of four independent directors, the Senior Deputy Governor and three other members of management.

Board independence

Given that the Governor is both Chair of the Board of Directors and Chief Executive Officer, the independent (non-management) directors elect a Lead Director for a two-year renewable term to act as a key point of contact with the Governor. Derek D. Key acted as Lead Director in 2016.

The Board and its committees regularly hold sessions without management or non-independent directors present. Each standing committee of the Board, except the Pension Committee, consists solely of independent directors.

The Audit and Finance Committee provides Board oversight of the Bank's internal auditors and manages the relationship with the Bank's external auditors, who are appointed by the Governor-in-Council. This committee meets privately on a regular basis with the joint auditors, the Chief Internal Auditor, and the Chief Financial Officer and Chief Accountant.

The Board and its committees have the right to retain independent advisors at the Bank's expense.

Board conduct, effectiveness and education

The Board regularly conducts an assessment of its effectiveness by soliciting directors' views on various aspects of the Board's operations, governance and activities. New directors participate in a comprehensive orientation program. The Board has implemented an ongoing director education program and regularly examines its education requirements.

The *Bank of Canada Act* specifies eligibility requirements for members of the Board, including rules to prevent conflict of interest. The Board has also adopted its *Code of Business Conduct and Ethics* for the independent directors.

Director compensation

Independent directors are paid within the ranges established under the *Remuneration Guidelines for Part-Time Governor-in-Council Appointees in Crown Corporations*, administered by the Privy Council Office.

Board member compensation

- Annual retainer: $8,000
- Executive Committee, additional retainer: $3,000
- Committee Chair, additional retainer (excluding Corporate Governance): $1,000
- Corporate Governance Committee Chair, additional retainer: $2,000
- Per diem for meeting attendance: $625

The Bank reimburses independent members of the Board in accordance with its policy for travel, meals and accommodation expenses claimed while attending meetings of the Board, its committees or other Board-related events.

The Governor, the Senior Deputy Governor and the Deputy Minister of Finance receive no compensation for their duties as members of the Board.

Executive Council, from left: Deputy Governor Timothy Lane, Senior Deputy Governor Carolyn A. Wilkins, Chief Operating Officer Filipe Dinis, Governor Stephen S. Poloz, Deputy Governor Sylvain Leduc, Deputy Governor Lynn Patterson, Deputy Governor Lawrence Schembri.

Bank of Canada Management

Governor and Senior Deputy Governor

The Governor and the Senior Deputy Governor are appointed for terms of seven years by the independent directors with the approval of the Governor-in-Council. The length of the term allows the Governor and the Senior Deputy Governor to adopt medium- and longer-term perspectives, which are essential to conducting effective monetary policy.

The salaries of the Governor and the Senior Deputy Governor are determined by the Board within ranges established by the Government of Canada's Advisory Committee on Senior Level Retention and Compensation. They are subject to approval by the Governor-in-Council.

The remaining components of their total compensation are related to their membership in the Bank of Canada Pension Plan and health and dental benefits. The *Bank of Canada Act* stipulates that the salaries of the Governor and the Senior Deputy Governor shall not include any performance-based element.

The Governor is assisted by the Governing Council in the Bank's policy-making functions, namely

- conducting monetary policy, and
- promoting a safe and efficient financial system.

Governing Council

The Governing Council is made up of the Governor, the Senior Deputy Governor and four Deputy Governors.

In February 2016, the Board of Directors appointed Sylvain Leduc as a Deputy Governor. Agathe Côté retired effective 16 January 2016.

Two committees are in place to provide advice to the Governing Council.

1. *Monetary Policy Review Committee*

   The Monetary Policy Review Committee (MPRC) meets regularly to share information and to provide advice to the Governing Council on monetary policy. The committee plays an important role in the assessment of economic conditions.

   The MPRC consists of the Governing Council, the General Counsel and Corporate Secretary, advisors, chiefs of the economics and communications departments, the financial market directors in Montréal and Toronto, and the Bank's senior representative in New York. The MPRC is chaired by the Governor or, in the absence of the Governor, by the Senior Deputy Governor.

2. *Financial System Review Committee*

   The Financial System Review Committee (FSRC) is the main forum for the presentation and discussion of financial system issues. It has broad membership that includes all of the members of the MPRC and the Chief of the Currency Department. The FSRC is chaired by the Governor or, in the absence of the Governor, by the Senior Deputy Governor.

Bank of Canada management structure

The Chief Operating Officer oversees strategic and operational planning, administration and operations.

The **Executive Council** is the primary forum for management discussion and decisions on the Bank's strategic direction. It is composed of members of the Governing Council and the Chief Operating Officer.

The Bank also has six advisors and a Chief Risk Officer who provide advice and expertise to the Governing Council and the Executive Council.

The **Leadership Forum** focuses on strategic Bank issues and building a leadership culture. Board debriefs, seminars and other meetings are key means of information sharing. The forum consists of members of the Executive Council, together with the Bank's advisors and chiefs.

The **Senior Management Council** supports the work of the **Executive Council** by overseeing operational issues, corporate programs, strategic initiatives, financial reporting, annual planning and related risks. The Senior Management Council is composed of the Senior Deputy Governor (Chair), the Chief Operating Officer (Co-Chair), the General Counsel and Corporate Secretary, the Chief Risk Officer, the Chief Financial Officer and Chief Accountant, the Chief of Human Resources, the Chief of Corporate Services, and four other department chiefs on 18-month rotations. In 2016, the rotating positions were filled by the chiefs of Currency, Financial Markets, Information Technology Services and International Economic Analysis.

The Bank's departments are Audit, Canadian Economic Analysis, Communications, Corporate Services, Currency, Executive and Legal Services, Financial Markets, Financial Services, Financial Stability, Funds Management and Banking, Human Resources, Information Technology Services and International Economic Analysis. In addition, there is a Chief of Economic and Financial Research who coordinates the research activities across the economics departments.

Compliance and ethics

The Bank requires that all employees observe the highest standards of professional ethics. To this end, the Bank's comprehensive *Code of Business Conduct and Ethics* is in place to address the personal and professional conduct of Bank employees.

The Code serves as a guide for all employees on the professional ethics expected by the Bank, including behaviour related to conflict of interest, work environment, confidentiality, conduct of personal financial transactions and handling of information. Senior employees and those with access to certain confidential information are subject to enhanced trading restrictions.

Once a year, Bank employees, individuals seconded to the Bank and certain consultants are required to formally acknowledge their awareness of, and compliance with, the Code.

The *Code of Business Conduct and Ethics* is reviewed annually by the Board.

Disclosure of wrongdoing framework

The Bank has a policy and processes to support the disclosure of wrongdoing, including the provision of information to employees on how to report wrongdoing. The processes also provide for management's role in disclosures, investigations and reporting.

Senior Management[1]

Governing Council

Governor
Stephen S. Poloz*

Senior Deputy Governor
Carolyn A. Wilkins*

Deputy Governors
Timothy Lane,* Sylvain Leduc,* Lynn Patterson,* Lawrence Schembri*

Chief Operating Officer
Filipe Dinis*

Chief of Staff to the Governor and Senior Deputy Governor
Rosemarie Boyle

General Counsel and Corporate Secretary and Chief, Executive and Legal Services
Jeremy S. T. Farr

Advisors
Paul Chilcott, Don Coletti, Dale Fleck, Sheryl King, Sharon Kozicki, Stephen Murchison

Interim Chief Risk Officer
Carmen Abela

Audit
Julie Champagne, *Chief Internal Auditor*

Canadian Economic Analysis
Eric Santor, *Chief*

Communications
Jill Vardy, *Chief*

Corporate Services
Dinah Maclean, *Chief*

Currency
Richard Wall, *Chief*

Economic and Financial Research
Rhys Mendes, *Chief*

Financial Markets
Toni Gravelle, *Chief*

Financial Services
Carmen Vierula, *Chief Financial Officer and Chief Accountant*

Financial Stability
Ron Morrow, *Chief*

Funds Management and Banking
Grahame Johnson, *Chief*

Human Resources
Alexis Corbett, *Chief*

Information Technology Services
Sylvain Chalut, *Chief*

International Economic Analysis
Césaire Meh, *Chief*

1 As at 31 December 2016
* Member of Executive Council

RISK MANAGEMENT

Risk Management

The Bank of Canada is exposed to a range of risks from internal and external factors that may influence its ability to achieve its mandate and strategic goals. The Bank maintains a strong risk management culture and an enterprise risk management (ERM) framework that promotes the consistent management of strategic, operational and financial risks. The Bank's ERM processes, which are integrated into the Bank's governance and decision making, allow significant and emerging risks to be identified and appropriately managed, in keeping with the Bank's risk appetite statement (RAS). When required, action plans for new or strengthened risk treatments and controls are developed and implemented.

The Bank of Canada's Risk Appetite Statement

The Bank of Canada's mandate is to promote the economic and financial welfare of Canadians. We pursue our mandate by keeping inflation low, stable and predictable, fostering a safe and efficient financial system, serving as fiscal agent to the Government of Canada, and providing Canadians with bank notes they can use with confidence. Our vision is to be a leading central bank—dynamic, engaged and trusted—committed to a better Canada.

As a central bank, we face a specialized and complex environment in which we manage a range of risks arising from external forces, as well as from our own activities. The operational and financial risks that confront us across all our activities are managed through sound internal controls. At the same time, the policy domain is highly strategic and dynamic in nature, since, at the core, the central bank makes decisions that anticipate the future in the context of uncertainty and, sometimes, public debate. We use judgment to weigh and manage all risks in light of their potential impact on the Bank's credibility, reputation and capacity to achieve its long-term objectives.

Bank employees manage these various risks in accordance with their delegated authority and within a comprehensive system of controls and deliberation processes designed to be commensurate with risk. We regularly monitor known risks and scan the horizon to identify emerging risks in both policy and operational areas.

Accordingly, our risk-management activities are guided by the following:

1. We seek to minimize and manage the impact of risks that could undermine the Bank's ability to fulfill its mandate.
   - We actively seek to prevent the occurrence of material risk events that affect our ability to carry out and support our core functions.
   - We have governance arrangements that help us scrutinize and evaluate the potential consequences of our major policy and operational decisions.
   - Through our systems and practices, we seek to anticipate and assess new risks to our core functions, and respond to risks effectively should they materialize.
2. We take informed risks to foster innovation, advance our research and policy development, and to improve our operations and business practices.
   - We encourage leading-edge research and innovative lines of inquiry, including constructive public discourse and debate, to advance our policy thinking and frameworks.
   - We pursue process and technological innovation to respond to and mitigate emerging risks, and to increase effectiveness, efficiency and resilience.
   - We consider alternative futures and approaches to meeting our mandate within the context of a changing environment.

Enterprise Risk Management in 2016

In 2015, the Bank introduced a new ERM policy and framework as well as its RAS in the first phase of a three-year initiative to modernize its ERM practices. The focus in 2016 was to further refine the framework and related processes and increasingly integrate the richer risk information into decision making and strategic planning. These enhancements have produced a more systematic approach to risk management, characterized by heightened engagement in risk-related discussions and increased consideration of risk and risk appetite in important Bank decisions.

The Bank's Risk Appetite

The Bank, like any organization, cannot achieve its objectives without taking some degree of risk. While taking risk in an uncalculated fashion can lead to negative consequences, unwarranted risk aversion can also create risks—stifling innovation and leading to inefficiency in operations.

The RAS articulates the Bank's philosophy of risk management as well as the type and amount of risk, at a broad level, that the Bank is willing to accept. The RAS is principles-based and provides high-level guidance to staff on acceptable risk taking.

Risk Governance

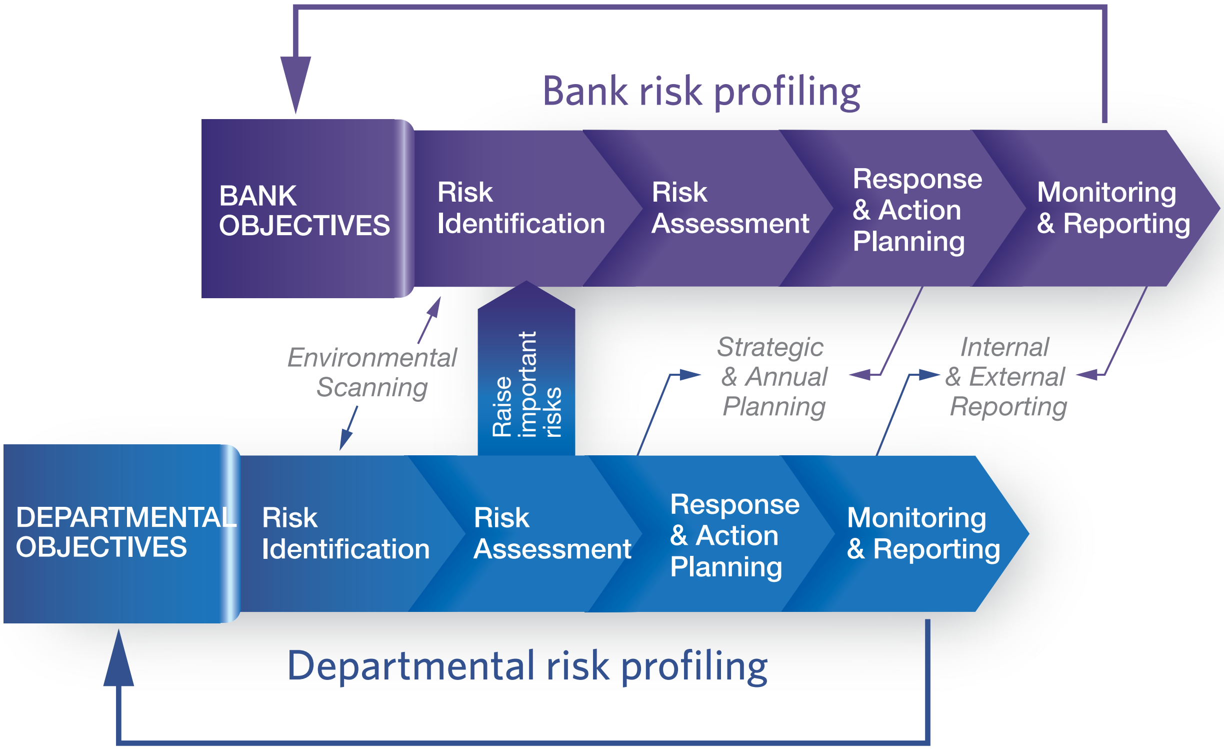
The Executive Council (EC) oversees ERM and the implementation of sound management processes to safeguard the Bank. It reviews and approves changes to the ERM policy, framework and RAS, in consultation with the Board of Directors, which has an oversight role in the Bank's performance of risk management.

The Senior Management Council (SMC) actively participates in enterprise-wide discussions on risk and integrates ERM in decision making. The Risk Oversight Committee (ROC), an SMC subcommittee, contributes to the development of the Bank's risk profile, monitors risk-related activities and issues, and prepares regular reports for the SMC, EC and Board of Directors. The ROC is chaired by the Chief Risk Officer (CRO).

The Bank follows a standard "lines of defence" approach to the roles, responsibilities and accountabilities for risk management, control, policy, monitoring and assurance within the Bank:

- The first line of defence lies within the individual business units. They identify and own the risks in their areas of responsibility and are accountable for the timely and effective management of any risks that could affect the achievement of their objectives.
- The second line of defence involves the policy-making, monitoring and compliance roles performed by a range of risk-management and compliance business functions within the Bank, such as the CRO and ERM team, the compliance and financial risk offices and security services.
- The Audit Department acts as the third line of defence. It independently verifies and provides assurance on risk management and control to the Governor and the Board's Audit and Finance Committee.

Risk-Profiling Process



Principal Risks

The Bank classifies its risks comprehensively in three categories: strategic, financial and operational. Since any type of risk may have an impact on an organization's reputation, the Bank does not consider "reputational risk" to be a separate category. This risk-classification scheme forms the foundation for enterprise-wide communication and integration of risk information.

Strategic risks arise from external conditions, such as widespread shifts in public opinion or changes in economic or legal parameters, and the potential that business strategies are not aligned with the environment.

Strategic risks are managed by continuously scanning the environment, maintaining extensive networks and conducting research to identify and develop policy and operating measures to mitigate risk. The Bank also recognizes the important role of stakeholder engagement and communications in the achievement of its business objectives.

Financial risks relate to the potential for financial losses arising from credit, market and liquidity risks.

The Bank's balance sheet is exposed to these risks through its asset portfolio, consisting primarily of securities that represent direct obligations of the Government of Canada. The financial risk associated with this exposure is low, given the nature of the securities and how they are managed.

Senior management has established a system of internal controls for its financial assets and liabilities. The Bank's Financial Risk Office monitors and reports on these risks.

Financial risks are discussed in detail in the notes to the Bank's financial statements.[7] Financial risks associated with the Bank's role as fiscal agent are not reflected in the Bank's financial statements. These risks are subject to oversight under the Funds Management Governance Framework of the Government of Canada and the Bank of Canada and are borne by the government.

Operational risks are sourced in operational conditions and practices, including people, processes, technology and other infrastructure. The Bank has identified and manages operational risks in the following categories:

- business resilience and security,
- systems and physical infrastructure,
- people and culture,
- information and communication,
- business practices, and
- governance.

The Bank operates in an increasingly complex security and threat landscape and is thus exposed to risks related to business continuity, cyber security and physical and personnel security. To manage these risks, the Bank maintains considerable cyber and physical security programs as well as a robust continuity of operations program. When beneficial, these programs are supported by collaboration with other central banks and with the federal security and intelligence community. In addition, a number of strategic initiatives are under way to further strengthen the business resilience and security posture.

An important area of operational risk is systems and infrastructure, particularly in relation to mission-critical systems and tools. Examples include the systems that support payment clearing and settlement, securities auctions and the management of foreign exchange reserves. The Bank invests in and renews these systems as needed.

The Bank faces internal and external risks related to human resources. In particular, a very competitive labour market affects the Bank's ability to attract and retain experts in specialized fields, such as the financial sector and cyber security. The Bank is in the process of reviewing and updating its HR programs and policies to focus on these challenges.

The rapidly changing global economic and financial environment increases the risk that the Bank will not have the best possible economic data, market intelligence or economic models needed to inform its policy decisions. This risk is managed through an extensive research and analysis program, as well as collaborating and sharing information with other central banks and with other partner agencies.

Consistent with similar organizations, the Bank has operational risks related to its business practices and governance of business activities. Fundamental to managing these risks are clear governance structures; effective internal policies, processes and standards; and careful priority setting.

7 Additional information on financial risk management starts on page 93.

2016 FINANCIAL RESULTS

Overview

The Bank of Canada is a Crown corporation wholly owned by the Government of Canada and accountable to the Minister of Finance. It works closely with the Department of Finance and other federal and provincial financial regulators to promote a strong economy and oversee Canada's financial systems.

The Bank's financial structure supports its arm's-length relationship with the government in the conduct of monetary policy. The Bank has an independent revenue stream to fund its activities and operations; net income remaining after expenses is remitted to the Government of Canada in accordance with the requirements of the *Bank of Canada Act*. The Bank does not have a budget appropriation from the government.

Managing the Balance Sheet

The Bank's holdings of financial assets are generally driven by its role as the exclusive issuer of Canadian bank notes. The Bank invests the proceeds from the issuance of notes into Government of Canada securities that are acquired on a non-competitive basis.

The Bank's investments broadly mirror the structure of the federal government's nominal domestic debt outstanding. This makes the Bank's balance sheet a neutral factor in the government's debt-management and fiscal-planning activities.

Financial position
(Millions of Canadian dollars)

	As at 31 December	
	2016	**2015**
Assets		
Cash and foreign deposits	19.3	11.2
Loans and receivables	8,282.2	6,096.7
Investments	97,032.7	94,389.0
Capital assets[a]	606.9	469.3
Other assets	164.9	180.7
Total assets	106,106.0	101,146.9
Liabilities and equity		
Bank notes in circulation	80,478.6	75,496.9
Deposits	22,831.5	24,592.9
All other liabilities[b]	2,308.9	558.9
Equity	487.0	498.2
Total liabilities and equity	106,106.0	101,146.9

a. Includes *Property and equipment* and *Intangible assets*
b. Includes *Securities sold under repurchase agreements* and *Other liabilities*

Assets

The Bank's investments grew in 2016 (an increase of $2,643.7 million or 3 per cent) generally driven by increases in bank notes in circulation. *Government of Canada bonds* increased by $4,082.4 million and *Government of Canada treasury bills* decreased by $1,428.5 million. The revised framework for financial market operations implemented in the fourth quarter of 2015 included the introduction of a regular program of term purchase and resale operations and a corresponding reduction of the Bank's minimum purchase of nominal bonds. During 2016, the decrease in the minimum purchase of nominal bonds from 20 to 15 per cent was offset by higher volumes of bonds auctioned on behalf of the Government of Canada. *Government of Canada treasury bills* purchases are based on the Bank's balance sheet needs. Because of an increase in *Securities purchased under resale agreements*, there was a 2 per cent decrease in the proportion of *Government of Canada treasury bills* in relation to total assets. On 3 February 2017, the Bank announced a reduction in the minimum purchase amount of nominal bonds at auctions from 15 per cent to 14 per cent.

The balance of the change in investments resulted from a decrease of $10.2 million in the fair value of the Bank's investment in shares of the Bank for International Settlements (BIS).

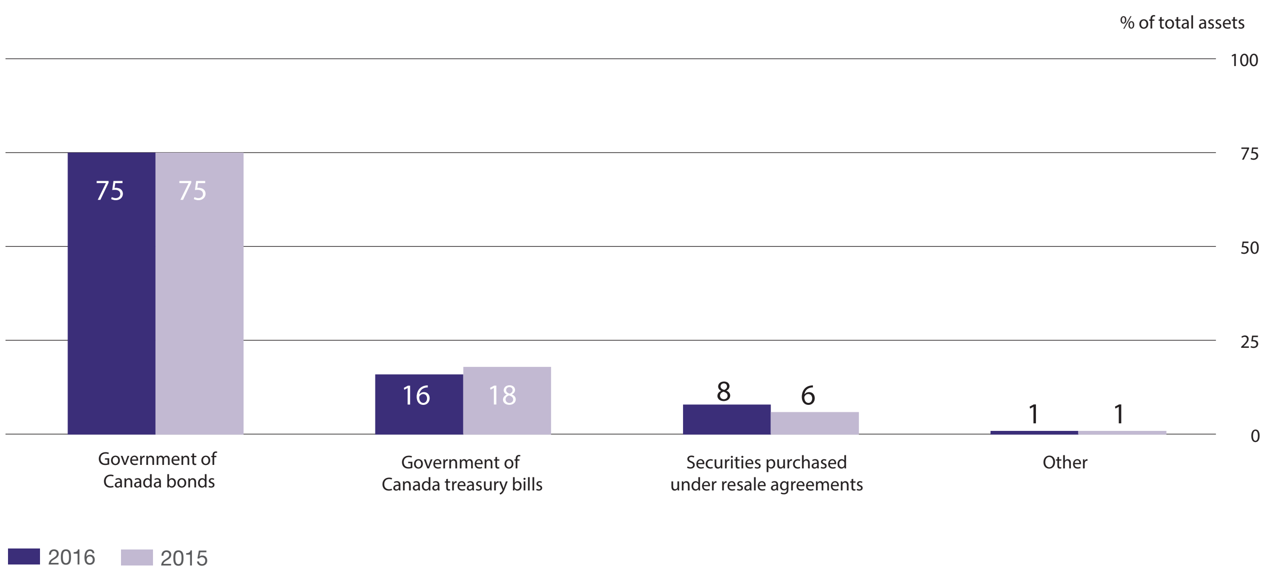
The Bank's *Loans and receivables* increased in 2016 (an increase of $2,185.5 million or 36 per cent) in connection with securities purchased under resale agreements as a result of the revised framework for financial market operations introduced in the fourth quarter of 2015.

The Bank's Head Office Renewal Program was completed in the fourth quarter of 2016. Construction and fit-ups on the building drove the majority of capital asset spending in 2016.

Other assets include the net defined-benefit asset related to the Bank's registered pension plan. The net defined-benefit asset decreased compared with that of December 2015 primarily because of a decrease in the discount rate[8] partially offset by positive asset returns in 2016 (as described in the discussion of *Other Comprehensive Income*).

8 The net defined-benefit liability/asset is measured using the discount rate in effect as at the period-end. The rate as at 31 December 2016 was 3.9 per cent (4.1 per cent at 31 December 2015).

Asset profile
As at 31 December



Liabilities

The *Bank notes in circulation liability* represents approximately 76 per cent of the Bank's *Total liabilities and equity*. Currency continues to remain an essential means of undertaking transactions in Canada. The value of Bank notes in circulation increased by 7 per cent since 31 December 2015, largely driven by a higher demand for the $100 denomination and continued growth in the other denominations.

The second-largest liability on the balance sheet consists of deposits held for the Government of Canada and other financial institutions. The main components of the *Deposits* liability are $20,000.0 million held for the government's prudential liquidity-management plan and $228.4 million held for the government's operational balances. The Government of Canada operational balance[9] decreased by $2,388.9 million compared with year-end 2015. This decrease is notably due to overnight reverse repurchase agreement transactions executed on 31 December 2016 as described further below. Also in *Deposits* is $499.7 million held for members of Payments Canada to support the smooth operation of the Canadian payments system.

All other liabilities consist mainly of securities sold under repurchase agreements, the surplus payable to the Receiver General for Canada and the net defined-benefit liabilities for the Bank's deferred employee benefit plans (which include the liability for the Supplementary Pension Arrangement and unfunded post-employment defined-benefit plans).

Securities sold under repurchase agreements increased by $1,500.0 million since 31 December 2015 in connection with overnight operations as at 31 December 2016.

Changes in the surplus payable to the Receiver General for Canada are the result of the timing of cash payments to the Receiver General for Canada. Net income earned on the Bank's assets, after deductions for operating expenses and allocations to reserves, is paid each year to the Receiver General. For the 12-month period ended 31 December 2016, the Bank transferred cash payments of $849.5 million. At 31 December 2016, the surplus payable was $468.8 million ($249.5 million at 31 December 2015).

Increases in the liabilities related to defined-benefit plans[10] are mainly due to a decrease in the discount rate used to value these liabilities partially offset by positive asset returns (as described in the discussion on *Other Comprehensive Income*).

9 The operating portion of the deposit is dependent on the cash needs of the Government of Canada, and fluctuations that occur are a result of decisions related to cash-flow management.

10 The net defined-benefit assets and liabilities are measured using the discount rate in effect as at the period-end. The rate as at 31 December 2016 was 3.9 per cent (4.1 per cent at 31 December 2015).

Managing Equity

The Bank of Canada operates safely with a low capital base relative to its assets. The Bank's primary equity includes $5 million of authorized share capital and a $25 million statutory reserve. In accordance with the *Bank of Canada Act*, the Bank remits its surplus, after funding operations, to the Receiver General for Canada and does not hold retained earnings.

One reason it can safely operate with a low capital base is because the Bank's balance sheet is not exposed to significant foreign currency risk or the gold holdings that are often held by other central banks. Canada's foreign reserves are held by the Exchange Fund Account and not by the Bank. The Bank's exposure to currency risk is primarily through its holdings of shares in the BIS.

Given the small size of the Bank's exposure to currency risk relative to its total assets, currency risk is not considered significant.

The Bank's asset portfolio also has a low credit risk since it consists mainly of Government of Canada bonds with AAA credit ratings. As well, the holdings in Government of Canada bonds are not subject to fair-value accounting since they are acquired with the intention to hold until maturity and are accounted for using the amortized cost method. Other financial assets, such as advances and loans related to repurchase agreements, are collateralized obligations of various Canadian-based financial institutions.

The Bank also holds a special reserve of $100 million to offset valuation losses arising from changes in the fair value of available-for-sale (AFS) assets (see note 16 of the Financial Statements). There has been no change in the reserve since its inception.

The largest reserve held by the Bank is the AFS reserve, which consists of fair-value changes in the Bank's investment in the BIS and the portfolio of Government of Canada treasury bills. These fair-value changes are reported in *Other Comprehensive Income* and accumulated in the AFS reserve within *Equity* (see note 16 of the Financial Statements). As at 31 December 2016, this reserve totalled $357.0 million ($368.2 million at 31 December 2015) and consisted primarily of the fair value change in the Bank's investment in the BIS.

Results of operations
(Millions of Canadian dollars)

	For the year ended 31 December	
	2016	2015
Total income	1,531.3	1,635.5
Total expenses	466.4	459.7
Net income	1,064.9	1,175.8
Other comprehensive income (loss)	(7.3)	62.6
Comprehensive income	1,057.6	1,238.4

Income

Total income for 2016 was $1,531.3 million, a decrease of $104.2 million, or 6 per cent, compared with the previous year. The income generated from the assets backing the bank notes in circulation (net of bank note production and distribution costs) is referred to as "seigniorage"; this generates a stable source of funding for the Bank's operations. Investment revenue also includes revenue on investments backing the *Deposits*.

The Bank's primary source of revenue is *Interest earned on investments*, which is derived from investments in Government of Canada securities and fluctuates with market conditions. In 2016, the Bank recorded $1,605.6 million in interest revenue from treasury bills and bonds, a decrease of $141.8 million from the previous year. The decline in *Interest revenue* is due mainly to the lower yields on newly acquired bonds and treasury bills compared with yields on investments that have matured, which is partially offset by higher overall average holdings throughout the period. The interest earned on purchase and resale agreements increased by $33.1 million in connection with the revised framework for financial market operations. The remaining component is dividend revenue from the Bank's investment in the BIS.

Income is reported net of the interest paid on Government of Canada deposits. Interest rates paid on deposits are based on market-related rates, which were lower in 2016, resulting in a $6.1 million decrease in *Interest expense on deposits*. The effect of lower interest rates paid on Government of Canada deposits was slightly offset by higher average daily deposit balances throughout the period.

The Bank's revenues from its remaining sources[11] decreased slightly from 2015 levels.

11 Other sources of revenue include interest earned on lending facilities and client deposits, as well as safekeeping and custodial fees.

Expenses

Operating expenses were in line with expectations for 2016 and increased by $6.7 million compared with the previous year, as a result of increases in staffing and premises costs in support of the Bank's medium-term plan (MTP) initiatives partially offset by the lower production of bank notes.

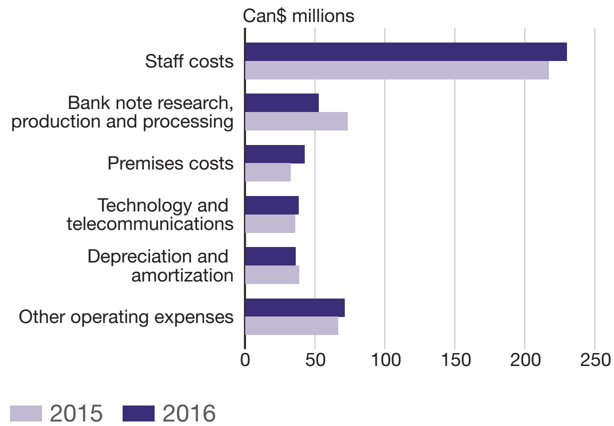
Staff costs increased by $12.8 million in 2016 compared with 2015. The increase was the result of increased staffing to support MTP initiatives, salary adjustments to maintain market competitiveness and higher benefit costs associated with the Bank's defined-benefit plans.

Costs associated with bank note production were $20.3 million lower than the previous year. During 2016, 214 million polymer notes were received compared with 335 million notes received in 2015.

The remaining expenses (*Premises costs, Technology and telecommunications, Depreciation and amortization* and *Other operating expenses)* represent 40 per cent of the Bank's total operating expenses. These costs increased by $14.2 million in total compared with 2015. This increase was mostly driven by MTP initiatives.

Bank of Canada Expenses

For the year ended 31 December



Other Comprehensive Income

Other comprehensive income (loss) of $7.3 million includes remeasurement gains of $4.1 million on the Bank's net defined-benefit plan asset and liabilities, and a decrease of $11.4 million in the fair values of AFS assets.

Remeasurements of the net defined-benefit liability/asset are affected by the return on plan assets and by changes in the discount rate used to determine net defined-benefit obligations. The remeasurements recorded in 2016 are mostly the result of positive asset returns of the Bank's registered pension plan, which was partially offset by a 20-basis-point decrease in the discount rate used to value the related net defined-benefit liability/asset.[12] The 20-basis-point decrease in the discount rate reflects the change in AA-corporate-bond yields over the past 12 months.

AFS assets are composed of Government of Canada treasury bills and the Bank's investment in the BIS. Fair-value changes are accumulated in the reserve for AFS assets within the Bank's *Equity* (see note 16 of the Financial Statements). At 31 December 2016, the fair value of the Bank's investment in the BIS was $395.0 million, representing a decrease of $10.2 million driven by changes in the exchange rate. The remainder of the change resulted from a decrease in the fair value of the Bank's portfolio of treasury bills.

12 The net defined-benefit liability/asset is based on the discount rate as at the period-end. The rate in effect at 31 December 2016 was 3.9 per cent (4.1 per cent at 31 December 2015).

Surplus for the Receiver General for Canada

The Bank's operations are not constrained by its cash flow or by its holdings of liquid assets since income is predictable and exceeds expenses. The net income of the Bank, less any allocation to reserves, is considered to be ascertained surplus (surplus), which was $1,068.8 million in 2016. In accordance with the requirements of the *Bank of Canada Act*, the Bank remits its surplus to the Receiver General for Canada and does not hold retained earnings.

The remittance agreement with the Minister of Finance allows the Bank to deduct from its remittances to the Receiver General and withhold an amount equal to unrealized losses on AFS assets, unrealized remeasurement losses on post-employment defined-benefit plans, and other unrealized or non-cash losses. Subsequently, amounts held back are issued upon the recognition of unrealized gains.

The Bank reimbursed $3.9 million from its previously withheld remittances of surplus to the Receiver General mainly as a result of actuarial gains on the defined-benefit plans in 2016. At 31 December 2016, $109.4 million in withheld remittances was outstanding.

Looking Ahead to 2017

The Bank's 2017 Plan
(Millions of Canadian dollars)

	2017 budget		2016 actual	
	$	%	$	%
MTP expenditures	412	66	390	61
Bank note production	57	9	49	8
Non-current deferred employee benefits	16	3	13	2
Head Office Renewal and strategic investment programs	137	22	188	29
Total expenditures[a]	622	100	640	100

a. Includes operational and capital expenditures

The Bank's forecasts for its operations do not include projections of net income and financial position. Such projections would require assumptions about interest rates, which could be interpreted as a signal of future monetary policy.

The Bank's MTP, now in its second year, is based on a commitment of 2 per cent growth of MTP expenditures between 2015 and 2018. This represents zero real growth, consistent with the Bank's 2 per cent inflation target.

The initiatives launched in 2016 will continue in 2017 for implementation over the duration of the current and the next MTP. The projected cumulative average growth over the life of the MTP remains aligned with our commitment of 2 per cent.

Bank note production costs will be higher in 2017 to reflect the deferral of the costs associated with the production of the commemorative $10 bank note marking the 150th anniversary of Confederation from late 2016 to early 2017.

In 2017, the Bank also expects to see capital expenditures drop to $35.0 million from $172.0 million in 2016, reflecting the completion of several key capital projects, including the Head Office Renewal Program and the design and building of the Bank of Canada Museum. The Bank will remain focused on strengthening its business continuity posture by continuing work on cyber security and business-resiliency initiatives.

Accounting and Control Matters

The Bank is a Government Business Enterprise as defined by the *CPA Canada Public Sector Accounting Handbook* and, as such, adheres to the standards applicable to publicly accountable enterprises as outlined by the Chartered Professional Accountants of Canada (CPA Canada). In compliance with this requirement, the Bank has developed accounting policies in accordance with International Financial Reporting Standards (IFRS).

The Bank of Canada Act requires the Bank to submit audited financial statements for the fiscal year ending 31 December to the Minister of Finance, accompanied by a summary report, by the end of February. The Minister then presents the *Annual Report* to Parliament, and a copy of the financial statements is published in the *Canada Gazette*.

Funding of deferred employee benefit plans

The Bank sponsors a funded defined-benefit pension plan (the registered pension plan) and a partially funded Supplementary Pension Arrangement[13] to provide retirement income benefits to eligible employees. Plans are funded in accordance with applicable federal pension legislation and actuarial standards of practice in Canada to ensure proper funding of employee benefit obligations. The Bank also sponsors unfunded benefit plans including post-retirement and post-employment benefits.

13 The Supplementary Pension Arrangement was established to pay pension benefits to employees with annual earnings above the amount covered by the registered pension plan, as provided under the *Income Tax Act* (Canada).

The registered pension plan

The Bank has been conducting annual actuarial valuations of the plan for funding purposes since 2008, with the latest completed valuation as at 1 January 2016. On a going-concern basis (which assesses the plan over the long term on the assumption that it will operate indefinitely), the funding status of the plan at 1 January 2016 was an actuarial surplus ratio of 130 per cent. On a solvency basis (which assesses the plan on the assumption that it would be terminated on the date of the valuation), the funding status of the plan was an actuarial solvency ratio of 101 per cent.

The funding requirements of the plan are determined by the going-concern valuation. The Bank's estimated funding requirement for 2017 is $24.3 million, in regular contributions to cover current service costs.

Internal control over financial reporting

The Bank maintains an internal control framework to evaluate the design and effectiveness of internal controls over financial reporting, as well as disclosure controls and procedures to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the financial statements.

FINANCIAL STATEMENTS

31 December 2016

Financial Reporting Responsibility

Management of the Bank of Canada (the Bank) is responsible for the financial statements, which are prepared in accordance with International Financial Reporting Standards. The amounts and financial information included in the statements reflect management's best estimates and judgment. Financial information presented elsewhere in the *Annual Report* is consistent with the financial statements.

Management is responsible for the integrity and reliability of the financial statements and the accounting system from which they are derived. The Bank maintains a system of internal controls to provide reasonable assurance that transactions are properly authorized and recognized, that financial information is reliable, that assets are safeguarded and liabilities recognized, and that operations are carried out effectively. The Bank's internal audit department reviews internal controls, including the application of accounting and financial controls.

The Board of Directors is responsible for ensuring that management fulfills its responsibilities for financial reporting and internal controls and exercises this responsibility through the Audit and Finance Committee of the Board. The Audit and Finance Committee is composed of members who are neither officers nor employees of the Bank and who are financially literate. The Audit and Finance Committee is therefore qualified to review the Bank's annual financial statements and to recommend their approval by the Board of Directors. The Audit and Finance Committee meets with management, the Chief Internal Auditor and the Bank's independent auditors who are appointed by Governor-in-Council. The Audit and Finance Committee has established processes to evaluate the independence of the Bank's independent auditors and oversees all services provided by them. The Audit and Finance Committee has a duty to review the adoption of, and changes in, accounting principles and procedures that have a material effect on the financial statements, and to review and assess key management judgments and estimates material to the reported financial information.

These financial statements have been audited by the Bank's independent auditors, PricewaterhouseCoopers LLP and Ernst & Young LLP, and their report is presented herein. The independent auditors have full and unrestricted access to the Audit and Finance Committee to discuss their audit and related findings.

Stephen S. Poloz,
Governor

Carmen Vierula, CPA, CA,
Chief Financial Officer and Chief Accountant

Ottawa, Canada
16 February 2017

Independent Auditors' Report

To the Minister of Finance, registered shareholder of the Bank of Canada (the "Bank")

We have audited the accompanying financial statements of the Bank, which comprise the statement of financial position as at 31 December 2016 and the statements of net income and comprehensive income, changes in equity, and cash flows for the year then ended, and related notes, which comprise a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform an audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Bank as at 31 December 2016 and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards.

Other Matter

The financial statements of the Bank for the year ended 31 December 2015 were audited by Ernst & Young LLP and Deloitte LLP who expressed an unmodified opinion on those statements dated 11 February 2016.

PricewaterhouseCoopers LLP

Chartered Professional Accountants
Licensed Public Accountants

Ernst & Young LLP

Chartered Professional Accountants
Licensed Public Accountants

Ottawa, Canada
16 February 2017

Statement of Financial Position

(Millions of Canadian dollars)

		As at
	31 December 2016	31 December 2015
Assets		
Cash and foreign deposits (notes 4, 7)	**19.3**	11.2
Loans and receivables (notes 5, 7)		
Securities purchased under resale agreements	**8,277.0**	6,089.4
Other receivables	**5.2**	7.3
	8,282.2	6,096.7
Investments (notes 6, 7, 8)		
Government of Canada treasury bills	**16,791.8**	18,220.3
Government of Canada bonds	**79,845.9**	75,763.5
Other investments	**395.0**	405.2
	97,032.7	94,389.0
Property and equipment (note 9)	**570.7**	431.4
Intangible assets (note 10)	**36.2**	37.9
Other assets (note 11)	**164.9**	180.7
Total assets	**106,106.0**	101,146.9
Liabilities and Equity		
Bank notes in circulation (notes 7, 12)	**80,478.6**	75,496.9
Deposits (notes 7, 13)		
Government of Canada	**20,228.4**	22,617.3
Members of Payments Canada	**499.7**	500.4
Other deposits	**2,103.4**	1,475.2
	22,831.5	24,592.9
Securities sold under repurchase agreements (notes 7, 8, 14)	**1,500.0**	-
Other liabilities (note 14)	**808.9**	558.9
Total liabilities	**105,619.0**	100,648.7
Equity (note 16)	**487.0**	498.2
Total liabilities and equity	**106,106.0**	101,146.9

Commitments, contingencies and guarantees (notes 17, 18)

Stephen S. Poloz,
Governor

Carmen Vierula, CPA, CA,
Chief Financial Officer and Chief Accountant

Derek D. Key,
Lead Director, Board of Directors

Phyllis Clark,
Chair, Audit and Finance Committee

(See accompanying notes to the Financial Statements.)

Statement of Net Income and Comprehensive Income

(Millions of Canadian dollars)

	For the year ended	
	31 December 2016	31 December 2015
Income		
Interest revenue		
Interest earned on investments	**1,605.6**	1,747.4
Dividend revenue	**3.6**	3.8
Interest earned on securities purchased under resale agreements	**37.4**	4.3
Other interest revenue	**0.2**	0.3
	1,646.8	1,755.8
Interest expense		
Interest expense on deposits	**(122.7)**	(128.8)
Net interest income	**1,524.1**	1,627.0
Other revenue	**7.2**	8.5
Total income	**1,531.3**	1,635.5
Expenses		
Staff costs	**228.1**	215.3
Bank note research, production and processing	**52.2**	72.5
Premises costs	**42.1**	32.3
Technology and telecommunications	**38.0**	35.5
Depreciation and amortization	**35.6**	38.2
Other operating expenses	**70.4**	65.9
Total expenses	**466.4**	459.7
Net income	**1,064.9**	1,175.8
Other comprehensive income (loss)		
Items that will not be reclassified to net income		
Remeasurements of the net defined-benefit liability/asset	**4.1**	13.7
Items that may be reclassified subsequently to net income		
Change in fair value of available-for-sale financial assets	**(11.4)**	48.9
Other comprehensive income (loss)	**(7.3)**	62.6
Comprehensive income	**1,057.6**	1,238.4

(See accompanying notes to the Financial Statements.)

Statement of Changes in Equity

(Millions of Canadian dollars)

For the year ended 31 December

	Share capital	Statutory reserve	Special reserve	Available-for-sale reserve	Retained earnings	Total
Balance, 1 January 2016	**5.0**	**25.0**	**100.0**	**368.2**	**-**	**498.2**
Comprehensive income for the period						
Net income	**-**	**-**	**-**	**-**	**1,064.9**	**1,064.9**
Remeasurements of the net defined-benefit liability/asset	**-**	**-**	**-**	**-**	**4.1**	**4.1**
Change in fair value of BIS shares	**-**	**-**	**-**	**(10.2)**	**-**	**(10.2)**
Change in fair value of Government of Canada treasury bills	**-**	**-**	**-**	**(1.0)**	**(0.2)**	**(1.2)**
	-	**-**	**-**	**(11.2)**	**1,068.8**	**1,057.6**
Surplus for the Receiver General for Canada (notes 14, 16)	**-**	**-**	**-**	**-**	**(1,068.8)**	**(1,068.8)**
Balance, 31 December 2016	**5.0**	**25.0**	**100.0**	**357.0**	**-**	**487.0**

	Share capital	Statutory reserve	Special reserve	Available-for-sale reserve	Retained earnings	Total
Balance, 1 January 2015	5.0	25.0	100.0	319.3	-	449.3
Comprehensive income for the period						
Net income	-	-	-	-	1,175.8	1,175.8
Remeasurements of the net defined-benefit liability/asset	-	-	-	-	13.7	13.7
Change in fair value of BIS shares	-	-	-	50.0	-	50.0
Change in fair value of Government of Canada treasury bills	-	-	-	(1.1)	-	(1.1)
	-	-	-	48.9	1,189.5	1,238.4
Surplus for the Receiver General for Canada (notes 14, 16)	-	-	-	-	(1,189.5)	(1,189.5)
Balance, 31 December 2015	5.0	25.0	100.0	368.2	-	498.2

(See accompanying notes to the Financial Statements.)

Statement of Cash Flows

(Millions of Canadian dollars)

	For the year ended	
	31 December 2016	**31 December 2015**
Cash Flows from Operating Activities		
Interest received	**1,746.4**	1,836.2
Dividends received	**3.6**	3.8
Other revenue received	**9.8**	3.7
Interest paid	**(122.7)**	(128.8)
Payments to or on behalf of employees/suppliers and to members of Payments Canada	**(380.3)**	(391.1)
Net increase (decrease) in deposits	**(1,761.4)**	1,397.3
Proceeds from maturity of securities purchased under resale agreements – overnight repo	**57,389.0**	36,387.6
Acquisition of securities purchased under resale agreements – overnight repo	**(56,389.0)**	(37,387.6)
Repayments of securities sold under repurchase agreements	**-**	(115.1)
Proceeds from securities sold under repurchase agreements	**1,500.0**	115.1
Net cash provided by operating activities	**1,995.4**	1,721.1
Cash Flows from Investing Activities		
Net decrease in Government of Canada treasury bills	**1,418.5**	1,136.6
Purchases of Government of Canada bonds	**(18,504.0)**	(16,721.8)
Proceeds from maturity of Government of Canada bonds	**14,330.0**	11,986.8
Proceeds from maturity of securities purchased under resale agreements – term repo	**65,412.5**	5,975.4
Acquisition of securities purchased under resale agreements – term repo	**(68,602.8)**	(8,299.6)
Additions of property and equipment	**(165.3)**	(173.1)
Additions of intangible assets	**(7.9)**	(6.7)
Net cash used in investing activities	**(6,119.0)**	(6,102.4)
Cash Flows from Financing Activities		
Net increase in bank notes in circulation	**4,981.7**	5,473.4
Remittance of surplus to the Receiver General for Canada	**(849.5)**	(1,090.4)
Net cash provided by financing activities	**4,132.2**	4,383.0
Effect of Exchange Rate Changes on Foreign Currency	**(0.5)**	1.1
Increase in Cash and Foreign Deposits	**8.1**	2.8
Cash and Foreign Deposits, Beginning of Year	**11.2**	8.4
Cash and Foreign Deposits, End of Year	**19.3**	11.2

(See accompanying notes to the Financial Statements.)

Notes to the Financial Statements of the Bank of Canada

For the year ended 31 December 2016

1. The business of the Bank of Canada

The Bank of Canada (the Bank) is the nation's central bank. The Bank is a corporation established under the *Bank of Canada Act*, is wholly owned by the Government of Canada and is exempt from income taxes. The Bank does not offer banking services to the public.

The Bank is a Government Business Enterprise as defined by the Canadian Public Sector Accounting Standards and, as such, adheres to the standards applicable to publicly accountable enterprises as outlined by the Chartered Professional Accountants of Canada (CPA Canada). In compliance with this requirement, the Bank has developed accounting policies in accordance with International Financial Reporting Standards (IFRS).

As of 23 January 2017, the address of the Bank registered head office has been updated to 234 Wellington Street, Ottawa, Ontario.

The Bank's mandate under the *Bank of Canada Act* is "to promote the economic and financial welfare of Canada." The Bank's activities and operations are undertaken in support of this mandate and not with the objective of generating revenue or profits. The Bank's four core areas of responsibility are the following:

Monetary policy: The objective of monetary policy is to preserve the value of money by keeping inflation low, stable and predictable.

Financial system: The Bank promotes safe, sound and efficient financial systems, within Canada and internationally, and conducts transactions in financial markets in support of these objectives.

Funds management: The Bank provides funds-management services for the Government of Canada, the Bank itself and other clients. For the government, the Bank provides treasury management services and administers and advises on the public debt and foreign exchange reserves.

Currency: The Bank designs, issues and distributes Canada's bank notes, oversees the note distribution system and ensures a supply of quality bank notes that are readily accepted and secure against counterfeiting.

The Corporate Administration function supports the management of the Bank's human resources, operations and strategic initiatives, as well as the stewardship of financial, physical, information and technology assets.

The Bank has the exclusive right to issue Canadian bank notes, and the face value of these bank notes is the most significant liability on the Bank's balance sheet. The Bank invests the proceeds from the issuance of bank notes into Government of Canada securities, which are acquired on a non-competitive basis. These assets enable the Bank to execute its responsibilities for the monetary policy and financial system functions.

Interest income derived from Government of Canada securities is the Bank's primary source of revenue each year. The income generated from the assets backing the bank notes in circulation (net of bank note production and distribution costs) is referred to as "seigniorage," which provides a stable and constant source of funding for the Bank's operations, enabling it to function independently of government appropriations. A portion of this revenue is used to fund the Bank's operations and reserves; the remaining net income is remitted to the Receiver General in accordance with the requirements of the *Bank of Canada Act*.

2. Basis of preparation

Compliance with International Financial Reporting Standards (IFRS)

These financial statements have been prepared in accordance with IFRS as issued by the International Accounting Standards Board (IASB) and conform to the disclosure and accounting requirements of the *Bank of Canada Act* and the Bank's bylaws.

The Board of Directors approved the financial statements on 16 February 2017.

Measurement base

The financial statements have been prepared on a historical cost basis, except for the available-for-sale (AFS) financial assets, which are measured at fair value, and the net defined-benefit liability/asset of employee benefit plans, which is recognized as the net of the fair value of plan assets and the present value of the defined-benefit obligation.

Significant accounting estimates and judgments in applying accounting policies

The preparation of the financial statements requires management to make judgments, estimates and assumptions based on information available at the statement date that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses, as well as related information. The Bank based its assumptions and estimates on information that was available when these financial statements were prepared. Existing circumstances and assumptions about future developments may change, however, in response to market fluctuations or circumstances that are beyond the control of the Bank. In such cases, the impact will be recognized in the financial statements of a future fiscal period.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected. Significant estimates are primarily in the area of the fair values of the shares in the Bank for International Settlements (BIS) (note 7), collateral (note 8) and employee benefits (note 15).

Functional and presentation currency

The Bank's functional and presentation currency is the Canadian dollar. The amounts in the notes to the Financial Statements of the Bank of Canada are in millions of Canadian dollars, unless otherwise stated.

Fiscal-agent and custodial activities

Responsibility for the operational management of the Government of Canada's financial assets and liabilities is borne jointly by the Bank (as fiscal agent for the Government of Canada) and the Department of Finance. In this fiscal-agent role, the Bank provides transactional and administrative support to the Government of Canada in certain areas, consistent with the requirement of section 24 of the *Bank of Canada Act*. The Bank does not bear the risks and rewards as part of its role as fiscal-agent. The assets, liabilities, expenditures and revenues to which this support relates are those of the Government of Canada and are not included in the financial statements of the Bank.

Securities safekeeping and other custodial activities are provided to foreign central banks, international organizations and other government-related entities. The assets, and income arising therefrom, are excluded from these financial statements since they are not assets or income of the Bank.

3. Significant accounting policies

This section contains the Bank's accounting policies that relate to the financial statements as a whole. Significant accounting policies specific to a note are included within that note. These specific accounting policies refer to loans and receivables (note 5), securities lending (note 6), financial instruments (note 7), property and equipment (note 9), intangible assets (note 10), other assets (note 11), securities sold under repurchase agreements and other liabilities (note 14), employee benefits (note 15) and leases (note 17).

There were no new or amended standards adopted by the Bank during fiscal 2016 that had a material impact on its financial statements.

Translation of foreign currencies

Investment income and expenses denominated in foreign currencies are translated at the exchange rate in effect at the date of the transaction. Fair-value items denominated in foreign currencies are translated at the exchange rate in effect at the date of the fair-value measurement. Monetary assets and liabilities denominated in foreign currencies are translated into Canadian dollars at the exchange rates prevailing at the end of the reporting period. The resulting gains and losses are included in *Other revenue*. Gains or losses on equity investments classified as AFS, along with any gains or losses related to the exchange rate, are recognized in the available-for-sale reserve within *Other Comprehensive Income*.

Impairment of financial assets

For financial assets that are not classified at fair value through net income, the Bank assesses at the end of each reporting period whether there is objective evidence that a financial asset or group of assets is impaired. Once impaired, financial assets carried at amortized cost are remeasured at the net recoverable amount, with the amount of impairment recognized in net income. Unrealized losses on impaired AFS financial assets are recognized in net income at the time of impairment.

Impairment of non-financial assets

Non-financial assets, including property and equipment and intangible assets, are reviewed annually for impairment and whenever events or changes in circumstances indicate that the carrying amount exceeds its recoverable amount.

Intangible assets under development are assessed for impairment on an annual basis.

Revenue recognition

Interest revenue earned on Government of Canada treasury bills and bonds is recognized in net income using the effective interest method. Dividend revenue on shares in the BIS is recognized as dividends are declared.

Realized gains and losses on the sale of Government of Canada treasury bills are recognized in net income at the time of sale as a reclassification from *Other Comprehensive Income* and are calculated as the excess of proceeds over the amortized cost at the transaction date.

Interest earned on securities purchased under resale agreements is recognized using the effective interest method.

Other interest revenue is composed of interest earned on deposits and interest earned on advances to members of Payments Canada and is recognized using the effective interest method.

Future changes in accounting policies

The following new standards issued by the IASB were assessed as having a possible effect on the Bank in the future. The Bank is currently determining the impact of these standards on its financial statements.

IFRS 9 Financial Instruments (IFRS 9)

In July 2014, the IASB issued the final version of IFRS 9 *Financial Instruments* bringing together the classification and measurement, impairment and hedge accounting phases of the IASB's project to replace IAS 39 *Financial Instruments: Recognition and Measurement*.

IFRS 9 eliminates the existing financial asset categories and adopts a principles-based approach to the classification of financial assets driven by cash-flow characteristics and the business model in which an asset is held.

IFRS 9 also introduces an expected loss impairment model for all financial assets not measured at fair value through profit or loss (FVTPL). The model has three stages: (i) on initial recognition, 12-month expected credit losses are recognized in profit or loss and a loss allowance is established; (ii) if credit risk increases significantly and the resulting credit risk is not considered to be low, full lifetime expected credit losses are recognized; and (iii) when a financial asset is considered credit-impaired, interest revenue is calculated based on the carrying amount of the asset, net of the loss allowance, rather than on its gross carrying amount.

IFRS 9 also includes a new hedge accounting model, together with corresponding disclosures about risk management activities for those applying hedge accounting. The new model represents a substantial overhaul of hedge accounting that will enable entities to better reflect their risk management activities in their financial statements. The most significant improvements apply to those entities that hedge non-financial risk, which is not applicable for the Bank.

The IASB has set 1 January 2018 as the mandatory effective date for the adoption of IFRS 9, although early adoption is permitted. The Bank has made a preliminary assessment that IFRS 9 will result in a change to the classification and measurement of Government of Canada treasury bills from fair value through other comprehensive income (FVOCI) to amortized cost, but will not have a significant impact on the Bank’s financial statements. The impact of the changes to accounting for financial instrument impairment are still being assessed, but no significant impact on the Bank’s financial statements is expected.

IFRS 15 Revenue from Contracts with Customers (IFRS 15)

IFRS 15, as issued in May 2014, relates to the recognition of revenue that applies to all contracts with customers (except for contracts that are within the scope of the standards on leases, insurance contracts and financial instruments).

IFRS 15 establishes a five-step model to apply to revenue from contracts and extensive requirements for revenue disclosure. The standard also addresses the recognition and measurement of gains and losses on the sale of some non-financial assets that are not an output of the entity’s ordinary activities.

The IASB has set 1 January 2018 as the mandatory effective date for the adoption of IFRS 15, although early adoption is permitted. The Bank has made a preliminary assessment that IFRS 15 will not have a significant impact on the Bank’s financial statements.

IFRS 16 Leases (IFRS 16)

On 13 January 2016, the IASB issued IFRS 16, which provides a comprehensive model for the identification of lease arrangements and their treatment in the financial statements of both lessees and lessors. It supersedes IAS 17 *Leases* and its associated interpretive guidance. Significant changes were made to lessee accounting with the distinction between operating and finance leases removed and assets and liabilities recognized in respect of all leases (subject to limited exceptions for short-term leases and leases of low-value assets). In contrast, IFRS 16 does not include significant changes to the requirements for lessors.

IFRS 16 is effective 1 January 2019 with earlier application permitted for companies that have also adopted IFRS 15 *Revenue from Contracts with Customers.* The Bank has made a preliminary assessment that IFRS 16 will not have a significant impact on the Bank’s financial statements.

IAS 7 Statement of Cash Flows (IAS 7)

The IASB published final amendments to IAS 7 on 29 January 2016. The amendments are intended to clarify IAS 7 to improve information provided to users of financial statements about an entity’s financing activities. The amendments come with the objective that entities shall provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities. The amendments are effective for annual periods beginning on or after 1 January 2017, with early adoption permitted. The Bank has made a preliminary assessment that changes to IAS 7 will not have a significant impact on the Bank’s financial statements.

4. Cash and foreign deposits

Cash and foreign deposits is composed of cash on hand as well as highly liquid demand deposits in foreign currencies with other central banks or international financial institutions. Included in this balance is Can$18.2 million (Can$10.3 million at 31 December 2015) of foreign deposits. Credit risk related to these foreign deposits is discussed in note 8.

5. Loans and receivables

Loans and receivables is composed primarily of securities purchased under resale agreements and, if any, advances to members of Payments Canada. These transactions are fully collateralized in accordance with publicly disclosed collateral eligibility and margin requirements. Financial risks related to these instruments are discussed in note 8.

Accounting policy

Securities purchased under resale agreements are repo-type transactions in which the Bank purchases securities from designated counterparties with an agreement to sell them back at a predetermined price on an agreed transaction date. For accounting purposes, these agreements are treated as collateralized lending transactions and are recognized on the Statement of Financial Position at the amounts at which the securities were originally acquired, plus accrued interest.

Securities purchased under resale agreements

The securities purchased under resale agreements are composed of overnight repo operations and term repo operations. The overnight repo matures the next business day, and the duration of a term repo generally ranges from 1 to 90 business days.

Balances outstanding at 31 December 2016 consist of agreements with original terms to maturity ranging from 18 to 85 days (from 22 to 85 days at 31 December 2015).

Advances to members of Payments Canada

Advances to members of Payments Canada are typically composed of liquidity loans made under the Bank's Standing Liquidity Facility. These advances mature the next business day. Interest on overnight advances is calculated at the Bank Rate. The Bank Rate is the rate of interest that the Bank charges on one-day loans to major financial institutions.

As at 31 December 2016, there were no advances to members of Payments Canada ($Nil at 31 December 2015).

6. Securities-Lending Program

The Bank operates a Securities-Lending Program to support the liquidity of Government of Canada securities by providing the market with a secondary and temporary source of these securities. These securities-lending transactions are fully collateralized by securities and are generally one business day in duration.

Accounting policy

The securities loaned continue to be accounted for as investment assets. Lending fees charged by the Bank on these transactions are included in *Other revenue* at the maturity date of the transaction.

Securities lending

As at 31 December 2016, there were no loaned securities in the Bank's investments ($Nil at 31 December 2015).

7. Financial instruments

The Bank's financial instruments consist of cash and foreign deposits, securities purchased under resale agreements, advances to members of Payments Canada, other receivables, investments (consisting of Government of Canada treasury bills, Government of Canada bonds and other investments), bank notes in circulation, deposits, securities sold under repurchase agreements and other liabilities (excluding the net defined-benefit asset/liability for pension benefit plans, other employee benefit plans and lease contracts).

In *Other investments*, the Bank holds 9,441 BIS shares (9,441 BIS shares at 31 December 2015) in order to participate in the BIS. Ownership of BIS shares is limited to central banks, and new shares can only be acquired following an invitation to subscribe extended by the BIS Board of Directors. The shares are non-transferable unless prior written consent is obtained from the BIS. The fair value of the BIS shares totalled $395.0 million ($405.2 million at 31 December 2015).

Accounting policy

The Bank accounts for all financial instruments using settlement-date accounting. Financial instruments are measured at fair value on initial recognition, plus transaction costs, if any, for all financial assets not carried at fair value through net income. Subsequent to initial recognition, they are accounted for based on their classification.

Subsequent to initial recognition, financial assets classified as AFS are measured at fair value using quoted market prices, with the exception of the BIS shares, which are measured using significant non-observable inputs. Unrealized changes in the values of AFS financial assets measured at fair value are recognized in *Other Comprehensive Income* and accumulated in the *Available-for-sale reserve* in *Equity* until the financial asset is derecognized or becomes impaired. At that time, the cumulative unrealized gain or loss previously recognized in *Other Comprehensive Income* is reclassified from *Equity* to *Net income*. The Bank's financial assets designated as AFS consist of Government of Canada treasury bills and the Bank's investment in the BIS shares.

Financial assets that the Bank has the intent and ability to hold to maturity are classified as held-to-maturity (HTM). Subsequent to initial recognition, financial assets classified as HTM are measured at amortized cost using the effective interest method less any impairment losses. The effective interest method uses the rate inherent in a financial instrument that discounts the estimated future cash flows over the expected life of the financial instrument in order to recognize interest on a constant-yield basis. Government of Canada bonds are classified as HTM.

The Bank has not classified any of its financial assets as fair value through net income, other than cash and foreign deposits.

All other financial assets are classified as loans and receivables. Subsequent to initial recognition, these are measured at amortized cost less any impairment losses using the effective interest method.

The Bank derecognizes a financial asset when it considers that substantially all of the risks and rewards of the asset have been transferred or when the contractual rights to the cash flows of the financial asset expire. On derecognition of a financial asset measured at amortized cost, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in net income.

The Bank has classified its financial liabilities as other financial liabilities. Financial liabilities are initially recognized at fair value. Subsequent to initial recognition, financial liabilities are measured at amortized cost using the effective interest method, with the exception of bank notes in circulation, which are measured at face value. The Bank has not classified any of its financial liabilities as fair value through net income.

The Bank derecognizes financial liabilities when the Bank's obligations are discharged, cancelled or expire. The difference between the carrying amount of the financial liability derecognized and the sum of the consideration paid and payable, including any non-cash assets transferred or liabilities assumed, is recognized in net income.

Measurement of financial instruments

Cash and foreign deposits, Government of Canada treasury bills and BIS shares are measured at fair value. All other financial instruments are measured at amortized cost using the effective interest method, with the exception of bank notes in circulation, which are measured at face value.

Financial instruments measured at fair value

Financial instruments measured at fair value are classified using a fair-value hierarchy that reflects the significance of the inputs used in making the measurements:

Level 1 – quoted prices (unadjusted) in active markets for identical assets or liabilities;

Level 2 – inputs other than quoted prices included in Level 1 that are observable for the assets or liabilities, either directly (i.e., as prices) or indirectly (i.e., derived from prices); and

Level 3 – inputs for the assets or liabilities that are not based on observable market data (unobservable inputs).

The fair-value hierarchy requires the use of observable market inputs wherever such inputs exist. In measuring fair value, a financial instrument is classified at the lowest level of the hierarchy for which a significant input has been considered.

	Level 1	Level 2	Level 3	Total
Financial assets at fair value as at 31 December 2016				
Government of Canada treasury bills	**16,791.8**	**-**	**-**	**16,791.8**
BIS shares	**-**	**-**	**395.0**	**395.0**
	16,791.8	**-**	**395.0**	**17,186.8**
Financial assets at fair value as at 31 December 2015				
Government of Canada treasury bills	18,220.3	-	-	18,220.3
BIS shares	-	-	405.2	405.2
	18,220.3	-	405.2	18,625.5

There were no transfers of amounts between levels in 2016.

The fair value of the BIS shares is estimated to be 70 per cent of the Bank's interest in the net asset value of the BIS at the reporting date. The 30 per cent discount to net asset value is equivalent to the methodology applied by the BIS for all share repurchases since the 1970s and was further endorsed in a decision by the International Court at the Hague relating to a share repurchase by the BIS in 2001 (the last share repurchase conducted by the BIS). The Bank considers that the 30 per cent discount against the net asset value of the BIS continues to be the appropriate basis for valuation. The Bank expects the value of the BIS shares to fluctuate over time in conjunction with the strength of the BIS balance sheet and exchange rates. Changes in the investment fair value at a reporting date are recorded in *Other investments* and in *Other Comprehensive Income* and are subsequently reflected in the *Available-for-sale reserve*. There were no changes to the valuation technique during the year.

The following table reconciles the estimated fair value of the BIS shares determined using Level 3 fair-value measurements:

	31 December 2016	31 December 2015
Opening balance at beginning of period	**405.2**	355.2
Change in fair value recorded through *Other Comprehensive Income*	**(10.2)**	50.0
Closing balance at period-end	**395.0**	405.2

Financial instruments not measured at fair value

Fair values of Government of Canada bonds are determined based on unadjusted quoted market prices in an active market (Level 1). The fair value of Government of Canada bonds was $83,528.5 million at 31 December 2016 ($81,116.9 million at 31 December 2015). The fair value of all other financial instruments approximates their carrying value.

8. Financial risk management

The Bank maintains a strong risk culture and a comprehensive risk management and control framework to manage its risks. The Executive Council oversees risk management and the implementation of sound management processes to safeguard the Bank. The Board of Directors has an oversight role in the Bank's performance of risk management.

The Bank is exposed to financial risk (credit risk, market risk and liquidity risk) associated with the management of the Bank's financial assets and liabilities. The Financial Risk Office, which is independent of operations, monitors and reports on the financial risks relating to the Bank's Statement of Financial Position. The following is a description of those risks and how the Bank manages its exposure to them.

Credit risk

Credit risk is the risk that a counterparty to a financial contract will fail to discharge its obligations in accordance with agreed-upon terms.

The Bank is exposed to credit risk through its cash and foreign deposits, investment portfolio and advances to members of Payments Canada, and through market transactions conducted in the form of securities purchased under resale agreements and loans of securities. The maximum exposure to credit risk is estimated to be the carrying value of the items listed above. There are no past due or impaired amounts.

Advances to members of Payments Canada, securities purchased under resale agreements and securities loaned are fully collateralized loans. Collateral is taken in accordance with the Bank's publicly disclosed eligibility criteria and margin requirements, which are accessible on its website. Strict eligibility criteria are set for all collateral, and the Bank requires excess collateral relative to the size of the loan provided.

In the unlikely event of a counterparty default, collateral can be liquidated to offset credit exposure. The credit quality of collateral is managed through a set of restrictions based on asset type, term to maturity and the credit attributes, including ratings of the securities pledged.

Concentration of credit risk

The credit risk associated with the Bank's investment portfolio, representing 91 per cent of the carrying value of its total assets (93 per cent in 2015), is low because the securities held are primarily direct obligations of the Government of Canada, which holds a credit rating of AAA.

The Bank's advances to members of Payments Canada and securities purchased under resale agreements, representing 8 per cent of the carrying value of its total assets (6 per cent at 31 December 2015), are collateralized obligations of various Canadian-based financial institutions. The fair value of collateral pledged to the Bank against securities purchased under resale agreements at the end of the reporting period is presented below.

	31 December 2016		31 December 2015	
	$	%	$	%
Securities issued or guaranteed by the Government of Canada	**878.4**	**10.1**	1,918.6	30.4
Securities issued or guaranteed by a provincial government	**7,796.4**	**89.9**	4,401.7	69.6
Total fair value of collateral pledged to the Bank	**8,674.8**	**100.0**	6,320.3	100.0
As a percentage of amortized cost		**105%**		104%

The Bank's securities sold under repurchase agreements, totalling $1,500.0 million, represent 1 per cent of the carrying value of its total liabilities ($Nil at 31 December 2015) and are collateralized obligations of the Bank guaranteed by Government of Canada securities. The fair value of collateral pledged by the Bank against securities sold under resale agreements at the end of the reporting period is $1,500.5 million ($Nil at 31 December 2015) and, as a result, the Bank is not exposed to significant credit risk on these instruments.

The Bank is exposed to credit risk through its guarantee of the Large Value Transfer System (LVTS) and through the execution of foreign currency contracts. The maximum exposure under guarantees and foreign currency contracts is described in note 18.

Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: interest rate risk, currency risk and other price risk.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

The Bank's investment in Government of Canada treasury bills and bonds counteracts the non-interest-bearing bank notes in circulation liability.

The Bank's exposure to interest rate risk arises through fluctuations in the fair value of its investment in Government of Canada treasury bills, which are short-term, and from fluctuations in future cash flows from Government of Canada bonds.

The Bank's revenue will vary over time in response to movements in interest rates. These variations would not affect the ability of the Bank to fulfill its obligations, since its revenues greatly exceed its expenses.

The figures below show the effect at 31 December of an (increase)/decrease of 25 basis points in interest rates on the fair value of the Government of Canada treasury bill portfolio and on *Other Comprehensive Income*.

	31 December 2016	31 December 2015
Government of Canada treasury bills	**(15.2) / 15.0**	(15.2) / 15.1

The Bank's exposure to interest rate risk in the form of fluctuations in cash flows of existing financial instruments is attributable to cash and foreign deposits, Government of Canada deposits, and a portion of other deposits since these instruments are subject to variable interest rates. The remainder of the Bank's financial assets and liabilities have either fixed interest rates or are non-interest-bearing.

The figures below show the effect at 31 December of an increase/(decrease) of 25 basis points in interest rates on the interest expenses paid on Government of Canada deposits.

	31 December 2016	31 December 2015
Interest expense on Government of Canada deposits	**58.0 / (58.0)**	56.7 / (56.7)

For all financial instruments, except bank notes in circulation, the future cash flows of the Bank depend on the prevailing market rate of interest at the time of renewal.

The following table illustrates interest rate risk relative to future cash flows by considering the expected maturity or repricing dates of existing financial assets and liabilities.

					As at 31 December 2016
	Non-interest-sensitive	**Within 12 months**	**1 to 5 years**	**Over 5 years**	**Total**
Financial Assets					
Cash and foreign deposits	-	19.3	-	-	19.3
Loans and receivables[1]	5.2	8,277.0	-	-	8,282.2
Investments					
Government of Canada treasury bills	-	16,791.8	-	-	16,791.8
Government of Canada bonds[2]	-	16,843.2	35,639.9	27,362.8	79,845.9
Shares in the BIS	395.0	-	-	-	395.0
	400.2	41,931.3	35,639.9	27,362.8	105,334.2
Financial Liabilities					
Bank notes in circulation	80,478.6	-	-	-	80,478.6
Deposits					
Government of Canada	-	20,228.4	-	-	20,228.4
Members of Payments Canada	-	499.7	-	-	499.7
Other deposits	1,578.6	524.8	-	-	2,103.4
Securities sold under repurchase agreements	-	1,500.0	-	-	1,500.0
Other financial liabilities	598.7	-	-	-	598.7
	82,655.9	22,752.9	-	-	105,408.8
Interest rate sensitivity gap	(82,255.7)	19,178.4	35,639.9	27,362.8	(74.6)

					As at 31 December 2015
	Non-interest-sensitive	Within 12 months	1 to 5 years	Over 5 years	Total
Financial Assets					
Cash and foreign deposits	-	11.2	-	-	11.2
Loans and receivables[1]	7.3	6,089.4	-	-	6,096.7
Investments					
Government of Canada treasury bills	-	18,220.3	-	-	18,220.3
Government of Canada bonds[2]	-	14,378.0	35,714.9	25,670.5	75,763.4
Shares in the BIS	405.2	-	-	-	405.2
	412.5	38,698.9	35,714.9	25,670.5	100,496.8
Financial Liabilities					
Bank notes in circulation	75,496.9	-	-	-	75,496.9
Deposits					
Government of Canada	-	22,617.3	-	-	22,617.3
Members of Payments Canada	-	500.4	-	-	500.4
Other deposits	1,028.5	446.7	-	-	1,475.2
Securities sold under repurchase agreements	-	-	-	-	-
Other financial liabilities	353.3	-	-	-	353.3
	76,878.7	23,564.4	-	-	100,443.1
Interest rate sensitivity gap	(76,466.2)	15,134.5	35,714.9	25,670.5	53.7

1. Securities purchased under resale agreements are interest-bearing assets. Other receivables are non-interest-sensitive.
2. Interest payments on Government of Canada bonds are classified according to their coupon date.

Currency risk

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. Given the small size of the Bank's net foreign currency exposure relative to its total assets, currency risk is not considered significant.

The Bank is exposed to currency risk primarily by holding shares in the BIS. These shares are denominated in Special Drawing Rights (SDRs). The SDR serves as the unit of account for the International Monetary Fund (IMF), and its value is based on a "basket" of five major currencies: the euro, the US dollar, the British pound, the Japanese yen and the Chinese renminbi. SDRs are translated into Canadian-dollar equivalents at the rates prevailing on the date when the fair value is determined.

Other price risk

Other price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices (other than those arising from changes in interest and exchange rates), whether those changes are caused by factors specific to the individual financial instrument or its issuer or by factors affecting all similar financial instruments traded in the market.

The Bank is exposed to other price risk through its investment in the BIS. For accounting purposes, the Bank treats BIS shares as AFS, and the fair value of these shares is estimated on the basis of the net asset value of the BIS, less a discount of 30 per cent. Accordingly, these shares are revalued to reflect movements in the net asset value of the BIS and in the Canadian dollar. The other price risk associated with BIS shares is incidental to the general reasons for holding them and is immaterial compared with other market risks faced by the Bank.

Liquidity risk

Liquidity risk is the risk that an entity will encounter difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset. Liabilities with no fixed maturity include *Bank notes in circulation* and *Government of Canada deposits*. Historical experience has shown that bank notes in circulation provide a stable source of long-term funding for the Bank. *Government of Canada deposits* are deposits held in the Bank's capacity as the Government of Canada's fiscal agent. As a counterpart to these liabilities with no fixed maturity, the Bank holds a portfolio of highly liquid securities. In the event of an unexpected redemption of bank notes or a significant withdrawal from the Government of Canada's deposit for the prudential liquidity-management plan, the Bank has the ability to settle the obligation by means of several tools.

As the nation's central bank, the Bank is the ultimate source of liquid funds to the Canadian financial system and has the power and operational ability to create Canadian-dollar liquidity in unlimited amounts at any time. This power is exercised within the Bank's commitment to keeping inflation low, stable and predictable.

The Bank is exposed to liquidity risk through its guarantee of the LVTS. The maximum exposure under this guarantee is described in note 18.

The following table presents a maturity analysis of the Bank's financial assets and liabilities. The balances in this table do not correspond to the balances in the Statement of Financial Position since the table presents all cash flows on an undiscounted basis.

In cases where counterparties to securities purchased under resale agreements substitute collateral after the outset of an agreement, portions of the carrying values presented may mature earlier than as presented, where the amount maturing early is dependent on the value of the collateral being substituted. Where collateral has been substituted, agreements are typically re-established under the same terms and conditions. The information presented in the following table is prepared according to agreements in place as at 31 December 2016 and 31 December 2015, respectively.

					As at 31 December 2016
	No fixed maturity	Within 12 months	1 to 5 years	Over 5 years	Total
Financial Assets					
Cash and foreign deposits	19.3	-	-	-	19.3
Loans and receivables	-	8,288.0	-	-	8,288.0
Investments					
Government of Canada treasury bills	-	16,825.0	-	-	16,825.0
Government of Canada bonds	-	18,240.6	39,693.0	35,023.1	92,956.7
Shares in the BIS	395.0	-	-	-	395.0
	414.3	43,353.6	39,693.0	35,023.1	118,484.0
Financial Liabilities					
Bank notes in circulation	80,478.6	-	-	-	80,478.6
Deposits					
Government of Canada	20,228.4	-	-	-	20,228.4
Members of Payments Canada	-	499.7	-	-	499.7
Other deposits	2,103.4	-	-	-	2,103.4
Securities sold under repurchase agreements	-	1,500.0	-	-	1,500.0
Other financial liabilities	-	598.7	-	-	598.7
	102,810.4	2,598.4	-	-	105,408.8
Net maturity difference	(102,396.1)	40,755.2	39,693.0	35,023.1	13,075.2

					As at 31 December 2015[1]
	No fixed maturity	Within 12 months	1 to 5 years	Over 5 years	Total
Financial Assets					
Cash and foreign deposits	11.2	-	-	-	11.2
Loans and receivables	-	6,100.5	-	-	6,100.5
Investments					
Government of Canada treasury bills	-	18,250.0	-	-	18,250.0
Government of Canada bonds	-	15,870.8	39,861.6	33,658.8	89,391.2
Shares in the BIS	405.2	-	-	-	405.2
	416.4	40,221.3	39,861.6	33,658.8	114,158.1
Financial Liabilities					
Bank notes in circulation	75,496.9	-	-	-	75,496.9
Deposits					
Government of Canada	22,617.3	-	-	-	22,617.3
Members of Payments Canada	-	500.4	-	-	500.4
Other deposits	1,475.2	-	-	-	1,475.2
Securities sold under repurchase agreements					
Other financial liabilities	-	353.3	-	-	353.3
	99,589.4	853.7	-	-	100,443.1
Net maturity difference	(99,173.0)	39,367.6	39,861.6	33,658.8	13,715.0

1. Amounts as at 31 December 2015 have been updated to include cash flows from interest and coupon payments where applicable.

9. Property and equipment

Accounting policy

Property and equipment consists of land, buildings, computer equipment, other equipment and related projects in progress. *Property and equipment* is measured at cost less accumulated depreciation, except for land, which is not depreciated, and is net of any related impairment losses. Projects in progress are measured at cost but are not depreciated until the asset is available for use. Cost includes expenditures that are directly attributable to the acquisition or construction of the asset.

When parts of an item of property and equipment have different useful lives, they are accounted for as separate items (major components) of property and equipment. Upon replacing a significant part of an item of property and equipment, the carrying amount of the replaced part is derecognized and any gain or loss recognized in depreciation.

Depreciation is calculated using the straight-line method and is applied over the estimated useful lives of the assets, as shown below. The estimated useful life and the depreciation method are reviewed at the end of each annual reporting period, with the effect of any changes in estimate being accounted for on a prospective basis.

Buildings	15 to 65 years
Computer equipment	3 to 10 years
Other equipment	5 to 20 years

Leasehold improvements (included in *Other equipment*) are depreciated over the lesser of the useful life or the term of the lease.

Carrying value of property and equipment

	Land and buildings	Computer equipment	Other equipment	Total
2016				
Cost				
Balances, 31 December 2015	457.4	41.0	82.9	581.3
Additions	139.8	18.9	6.6	165.3
Disposals	-	(3.2)	-	(3.2)
Transfers to other asset categories	(36.4)	12.1	24.3	-
Balances, 31 December 2016	560.8	68.8	113.8	743.4
Accumulated depreciation				
Balances, 31 December 2015	(84.4)	(20.9)	(44.6)	(149.9)
Depreciation expense	(5.9)	(5.4)	(14.7)	(26.0)
Disposals	-	3.2	-	3.2
Transfers to other asset categories	-	-	-	-
Balances, 31 December 2016	(90.3)	(23.1)	(59.3)	(172.7)
Carrying amounts				
At 31 December 2015	373.0	20.1	38.3	431.4
At 31 December 2016	470.5	45.7	54.5	570.7

The Head Office Renewal Program was completed in November 2016 with capital costs to date of $395.6 million. The commitments at 31 December 2016 primarily consist of finishing work and remaining equipment related to the Head Office Renewal Program and are expected to be completed during the first quarter of 2017.

Other equipment includes bank note inspection equipment that was obtained through a finance lease arrangement (note 17).

	Land and buildings	Computer equipment	Other equipment	Total
Projects in progress 2016				
Included in *Carrying amounts* at 31 December 2016	0.5	11.0	6.5	18.0
Commitments at 31 December 2016	17.1	0.1	16.4	33.6

	Land and buildings	Computer equipment	Other equipment	Total
2015				
Cost				
Balances, 31 December 2014	291.5	39.3	79.1	409.9
Additions	165.9	3.0	4.2	173.1
Disposals	-	(1.3)	(0.4)	(1.7)
Transfers to other asset categories	-	-	-	-
Balances, 31 December 2015	457.4	41.0	82.9	581.3
Accumulated depreciation				
Balances, 31 December 2014	(78.3)	(16.7)	(31.0)	(126.0)
Depreciation expense	(6.1)	(5.5)	(14.0)	(25.6)
Disposals	-	1.3	0.4	1.7
Transfers to other asset categories	-	-	-	-
Balances, 31 December 2015	(84.4)	(20.9)	(44.6)	(149.9)
Carrying amounts				
At 31 December 2014	213.2	22.6	48.1	283.9
At 31 December 2015	373.0	20.1	38.3	431.4

	Land and buildings	Computer equipment	Other equipment	Total
Projects in progress 2015				
Included in *Carrying amounts* at 31 December 2015	255.3	6.4	4.1	265.8
Commitments at 31 December 2015	99.1	0.2	7.3	106.6

10. Intangible assets

Accounting policy

Intangible assets are identifiable non-monetary assets without physical substance. The Bank's intangible assets consist of computer software internally developed or externally acquired.

Costs that are directly associated with the internal development of identifiable software are recognized as intangible assets if, in management's best estimate, the asset can technically be completed and will provide a future economic benefit to the Bank. Subsequent expenditure is capitalized only when it increases the future economic benefits embodied in the specific asset to which it relates.

Computer software assets that are acquired by the Bank and have finite useful lives are measured at cost less accumulated amortization and accumulated impairment losses.

Amortization is calculated using the straight-line method and is applied over the estimated useful lives of the assets, which may vary from 3 to 15 years. The estimated useful life and amortization method are reviewed at the end of each annual reporting period, with the effect of any changes in the estimate being accounted for on a prospective basis.

Carrying value of intangible assets

	Internally generated software	Other software	Total
2016			
Cost			
Balances, 31 December 2015	49.1	64.1	113.2
Additions	4.3	3.6	7.9
Disposals	-	(4.6)	(4.6)
Transfers to other asset categories	-	-	-
Balances, 31 December 2016	53.4	63.1	116.5
Accumulated amortization			
Balances, 31 December 2015	(41.0)	(34.3)	(75.3)
Amortization expense	(1.5)	(8.1)	(9.6)
Disposals	-	4.6	4.6
Transfers to other asset categories	-	-	-
Balances, 31 December 2016	(42.5)	(37.8)	(80.3)
Carrying amounts			
At 31 December 2015	8.1	29.8	37.9
At 31 December 2016	10.9	25.3	36.2

	Internally generated software	Other software	Total
Projects in progress 2016			
Included in *Carrying amounts* at 31 December 2016	4.6	2.5	7.1
Commitments at 31 December 2016	-	-	-

	Internally generated software	Other software	Total
2015			
Cost			
Balances, 31 December 2014	45.9	62.6	108.5
Additions	5.2	1.5	6.7
Disposals	(2.0)	-	(2.0)
Transfers to other asset categories	-	-	-
Balances, 31 December 2015	49.1	64.1	113.2
Accumulated amortization			
Balances, 31 December 2014	(38.5)	(26.2)	(64.7)
Amortization expense	(4.5)	(8.1)	(12.6)
Disposals	2.0	-	2.0
Transfers to other asset categories	-	-	-
Balances, 31 December 2015	(41.0)	(34.3)	(75.3)
Carrying amounts			
At 31 December 2014	7.4	36.4	43.8
At 31 December 2015	8.1	29.8	37.9

	Internally generated software	Other software	Total
Projects in progress 2015			
Included in *Carrying amounts* at 31 December 2015	7.0	1.4	8.4
Commitments at 31 December 2015	-	-	-

11. Other assets

Accounting policy

Bank note inventory consists of production materials, including the polymer substrate and ink, and is measured at the lower of the cost or the net realizable value. The cost to produce finished bank notes is expensed as incurred.

Composition of other assets

	31 December 2016	31 December 2015
Bank note inventory	**3.0**	11.1
Net defined-benefit asset (note 15)	**131.2**	135.1
All other assets	**30.7**	34.5
Total other assets	**164.9**	180.7

Included in *All other assets* is a $15.7 million advance in connection with the Head Office Renewal Program, which is expected to remain in place through to the end of the project ($20.0 million at 31 December 2015). The advance is to facilitate the timely payment of subcontractor agreements.

12. Bank notes in circulation

In accordance with the *Bank of Canada Act*, the Bank has the sole authority to issue bank notes for circulation in Canada. A breakdown by denomination is presented below:

	31 December 2016	31 December 2015
$5	**1,265.0**	1,232.5
$10	**1,358.7**	1,315.4
$20	**19,459.0**	18,729.3
$50	**13,076.1**	12,017.8
$100	**44,178.2**	41,032.2
Other bank notes	**1,141.6**	1,169.7
Bank notes in circulation	**80,478.6**	75,496.9

Other bank notes include denominations that are no longer issued but continue to be legal tender. Bank notes in circulation are non-interest-bearing liabilities and are due on demand.

13. Deposits

The liabilities within *Deposits* consist of $22,831.5 million in Canadian-dollar demand deposits ($24,592.9 million at 31 December 2015). The Bank pays interest on the deposits for the Government of Canada, members of Payments Canada and other financial institutions at short-term market rates, and interest expense on deposits is included in the Statement of Net Income and Comprehensive Income.

Deposits from the Government of Canada consist of $228.4 million for operational balances and $20,000.0 million held for the prudential liquidity-management plan ($2,617.3 million and $20,000.0 million, respectively, at 31 December 2015).

14. Securities sold under repurchase agreements and other liabilities

Accounting policy

Securities sold under repurchase agreements are reverse repo-type transactions in which the Bank sells Government of Canada securities to designated counterparties with an agreement to buy them back at a predetermined price on an agreed transaction date. For accounting purposes, these agreements are treated as collateralized borrowing transactions and are recognized on the Statement of Financial Position at the amounts at which the securities were originally sold, plus accrued interest.

A provision is recognized if, as a result of a past event, the Bank has a present legal or constructive obligation that can be estimated reliably as at the statement of financial position date, and it is probable that an outflow of economic benefits will be required to settle the obligation.

Securities sold under repurchase agreements

Balances outstanding of $1,500.0 million at 31 December 2016 ($Nil at 31 December 2015) consist of agreements with original terms to maturity of one business day.

Composition of other liabilities

	31 December 2016	31 December 2015
Surplus payable to the Receiver General for Canada	**468.8**	249.5
Net defined-benefit liability (note 15)		
Pension benefit plan	**38.2**	37.4
Other benefit plans	**172.0**	168.2
All other liabilities and provisions	**129.9**	103.8
Total other liabilities	**808.9**	558.9

Surplus payable to the Receiver General for Canada

The following table reconciles the surplus payable to the Receiver General for Canada:

	31 December 2016	31 December 2015
Opening balance at beginning of period	**249.5**	150.4
Remittance of surplus to the Receiver General for Canada	**(849.5)**	(1,090.4)
Surplus for the Receiver General for Canada (note 16)	**1,068.8**	1,189.5
Closing balance at period-end	**468.8**	249.5

All other liabilities and provisions

Other liabilities consists of provisions, a finance lease obligation (note 17), accounts payable and accrued liabilities. Included in *Other liabilities* is a $19.9 million provision as a result of the program to overhaul and modernize the head office building for the lease agreement of the temporary office space and for site restoration costs ($15.1 million at 31 December 2015).

15. Employee benefits

Accounting policy

Short-term employee benefits

Short-term employee benefits include cash salary, bonus, annual leave, health benefits, dental care and statutory benefits and are measured on an undiscounted basis.

Long-term employee benefits

The Bank sponsors a long-term disability program.

The liability recognized in respect of this plan amounts to the present value of the defined-benefit obligation. The present value of the defined-benefit obligation is calculated by discounting estimated future cash flows using interest rates on high-quality corporate bonds with terms to maturity approximating the estimated duration of the obligation. The expense recognized for the reporting period consists of current service costs, interest costs, remeasurement gains and losses, and past service costs.

The current service costs and the benefit obligations of the plan are actuarially determined on an event-driven accounting basis. Remeasurement gains and losses, as well as past service costs arising from plan amendments, are recognized immediately on the Statement of Net Income and Comprehensive Income in the period in which they occur.

Post-employment defined-benefit plans

The Bank sponsors a funded defined-benefit pension plan (the Bank of Canada Pension Plan) and a funded defined-benefit supplementary pension arrangement (the Bank of Canada Supplementary Pension Arrangement, or SPA), which are designed to provide retirement income benefits to eligible employees. The Bank of Canada Pension Plan was established under the provisions of the *Bank of Canada Act*, 1934, and has remained in accordance with the *Bank of Canada Act* as subsequently amended. The Bank of Canada Pension Plan is a registered plan as defined in the *Income Tax Act* (Canada) (ITA) and, consequently, is not subject to income taxes. The Supplementary Pension Arrangement was created to pay pension benefits to Bank employees with annual earnings above the amount covered by the Bank of Canada Pension Plan, as provided under the ITA. The Supplementary Pension Arrangement is a Retirement Compensation Arrangement as defined in the ITA.

Benefits provided under these plans are calculated based on years of service and average full-time salary for the best five consecutive years and are indexed to reflect changes in the consumer price index on the date payments begin and each 1 January thereafter. The Bank is the administrator of the pension plans. The Bank's Board of Directors has established a Pension Committee and has delegated to it the responsibility for carrying out the Bank's duties as administrator of the plans, including adherence to the guidelines established in the Statement of Investment Policy and Procedures (SIPP), which is approved annually by the Board. A separate trust fund has been established for each plan to receive and invest contributions and pay benefits due under the plans.

The most recent actuarial valuation for funding purposes of the Pension Plan was done as at 1 January 2016, and the next required valuation will be as at 1 January 2017.

The Bank also sponsors other unfunded post-employment defined-benefit plans, which include life insurance and eligible health and dental benefits, as well as a long-service benefit program for employees hired before 1 January 2003.

The net asset or liability of these plans is recognized on the Statement of Financial Position. The net asset or liability recognized at period-end in respect of these plans is composed of the present value of the defined-benefit obligation less the fair value of plan assets, when applicable. The present value of the defined-benefit obligation is calculated by discounting estimated future cash flows using interest rates on high-quality corporate bonds with terms to maturity approximating the estimated duration of the obligation. The expense recognized for the reporting period consists of current service costs, past service costs, net interest on the net defined-benefit liability/asset, gains or losses arising on settlement (if applicable) and administrative costs. Net interest is calculated by applying the discount rate to the net defined-benefit liability/asset.

The current service costs and the benefit obligations of the plans are actuarially determined using the projected unit credit method. Remeasurements comprise actuarial gains and losses, the return on plan assets and the effect of the asset ceiling (if applicable). They exclude amounts included in net interest on the net defined-benefit liability/asset. Remeasurements are recognized immediately in *Other Comprehensive Income* in the period in which they occur. Past service costs are recognized at the earlier of when the plan amendment or curtailment occurs or when the entity recognizes related restructuring costs or termination benefits. Plan assets of funded benefit plans are determined according to their fair value at the end of the reporting period.

Termination benefits

A liability for termination benefits is recognized at the earlier of when the entity can no longer withdraw the offer of the termination benefit or when the entity recognizes any related restructuring costs.

Net defined benefits

The changes in plan assets and defined-benefit obligations for the year are as follows:

	Pension benefit plans		Other benefit plans	
	31 December 2016	31 December 2015	31 December 2016	31 December 2015
Fair value of plan assets				
Fair value of plan assets at beginning of year	**1,596.8**	1,569.2	**-**	-
Interest income	**65.2**	62.5	**-**	-
Remeasurement gains (losses)				
Return on plan assets[1]	**56.5**	(20.5)	**-**	-
Bank contributions	**27.5**	25.4	**-**	-
Employee contributions	**11.0**	13.5	**-**	-
Benefit payments and transfers	**(53.4)**	(51.2)	**-**	-
Administration costs	**(2.0)**	(2.1)	**-**	-
Fair value of plan assets at end of year	**1,701.6**	1,596.8	**-**	-
Defined-benefit obligation				
Benefit obligation at beginning of year	**1,499.1**	1,466.4	**168.2**	172.8
Current service cost	**37.5**	35.9	**5.3**	5.4
Interest cost	**62.1**	59.2	**6.8**	6.8
Employee contributions	**11.0**	13.5	**-**	-
Remeasurement (gains) losses				
Arising from changes in demographic experience	**-**	1.7	**-**	-
Arising from changes in financial assumptions	**52.2**	(26.4)	**(0.4)**	(9.5)
Benefit payments and transfers	**(53.3)**	(51.2)	**(7.9)**	(7.3)
Defined-benefit obligation at end of year	**1,608.6**	1,499.1	**172.0**	168.2
Net defined-benefit asset (liability)	**93.0**	97.7	**(172.0)**	(168.2)
Net defined-benefit asset	**131.2**	135.1	**-**	-
Net defined-benefit liability	**(38.2)**	(37.4)	**(172.0)**	(168.2)
Net defined-benefit asset (liability)	**93.0**	97.7	**(172.0)**	(168.2)

1. The return on plan assets excludes interest income.

Pension benefit plans asset mix

The Plan's SIPP requires that its investments be held in a diversified mix of asset types and also sets out requirements for investment eligibility. The diversification of assets serves to decrease the variations in the expected return performance of the portfolio. The current practice is to conduct an Asset-Liability Modelling (ALM) study every three years. The ALM assists the Pension Committee in establishing an asset allocation that is consistent with the pension plan's objectives and the Bank's risk tolerance. The latest ALM was approved by the Pension Committee in September 2015.

The Plan's investments are subject to credit, liquidity and market risks. Of these risks, the most significant is asset volatility because plan liabilities are calculated using a discount rate set with reference to the yield on Canadian AA-corporate bonds. If plan assets underperform this yield, a deficit will be created. Requirements for asset diversification and investment eligibility serve as basic risk management tools for the investment portfolio as a whole.

The pension benefit plan assets consist of the following:

	31 December 2016				31 December 2015			
	Quoted	Unquoted	Total	%	Quoted	Unquoted	Total	%
Money market instruments	**8.1**	**-**	**8.1**	**0.5**	1.7	-	1.7	0.1
Equity instruments								
Canadian equity funds	**317.7**	**-**	**317.7**	**18.8**	308.7	-	308.7	19.4
Foreign equity funds	**543.2**	**-**	**543.2**	**31.8**	601.8	-	601.8	37.6
Debt instruments[1]								
Securities issued or guaranteed by the Government of Canada	**232.0**	**-**	**232.0**	**13.6**	220.3	-	220.3	13.8
Other securities	**353.6**	**-**	**353.6**	**20.8**	354.2	-	354.2	22.2
Real estate funds	**-**	**211.8**	**211.8**	**12.4**	-	76.7	76.7	4.8
SPA statutory deposit	**-**	**35.2**	**35.2**	**2.1**	-	33.4	33.4	2.1
	1,454.6	**247.0**	**1,701.6**	**100.0**	1,486.7	110.1	1,596.8	100.0

1. Debt instruments consist of fixed-income securities and inflation-linked assets.

Defined-benefit obligations and expenses

The defined-benefit obligation, presented in terms of membership, is as follows:

	Pension benefit plans		Other benefit plans	
	31 December 2016	31 December 2015	31 December 2016	31 December 2015
Active members	**627.7**	584.1	**87.9**	86.2
Pensioners	**884.7**	821.2	**84.1**	82.0
Deferred members	**96.2**	93.8	**-**	-
Defined-benefit obligation	**1,608.6**	1,499.1	**172.0**	168.2

Benefit plan expenses recognized in the Statement of Net Income and Comprehensive Income are composed of the following components:

	Pension benefit plans		Other benefit plans	
	31 December 2016	**31 December 2015**	**31 December 2016**	**31 December 2015**
Current service cost, net of employee contributions	**37.5**	35.9	**5.3**	5.4
Net interest expense	**(3.1)**	(3.3)	**6.8**	6.8
Actuarial gains arising from changes in financial assumptions	**-**	-	**(0.6)**	-
Administration costs	**2.0**	2.1	**-**	-
Benefit plan expense recognized in *Net Income*	**36.4**	34.7	**11.5**	12.2
Remeasurement on the net defined-benefit liability/asset				
Return on plan assets (excluding net interest)	**(56.5)**	20.5	**-**	-
Actuarial losses arising from changes in demographic experience	**-**	1.7	**-**	-
Actuarial (gains) losses arising from changes in financial assumptions	**52.2**	(26.4)	**0.2**	(9.5)
Remeasurement (gains) losses recognized in *Other Comprehensive Income*	**(4.3)**	(4.2)	**0.2**	(9.5)

Remeasurement gains and losses pertaining to post-employment benefit plans are recognized in *Other Comprehensive Income* and are accumulated in *Equity*.

The cumulative remeasurement losses recognized in *Other Comprehensive Income* are as follows:

	Pension benefit plans		Other benefit plans	
	31 December 2016	**31 December 2015**	**31 December 2016**	**31 December 2015**
Cumulative remeasurement losses recognized, beginning of year	**(216.5)**	(220.7)	**(16.6)**	(26.1)
Remeasurement gains (losses) recognized in current year	**4.3**	4.2	**(0.2)**	9.5
Cumulative remeasurement losses recognized, end of year	**(212.2)**	(216.5)	**(16.8)**	(16.6)

Total cash payments

Regulations governing federally regulated pension plans establish certain solvency requirements that assume that the plans are wound up at the valuation date. Actuarial valuations for funding purposes are required annually under the *Pension Benefits Standards Act*. The actuarial valuation of the Pension Plan completed at 1 January 2016 reported a solvency surplus of $20.0 million and a three-year average solvency surplus of $37.0 million. Contributions in 2017 will be based on the actuarial valuation as at 1 January 2017 and are estimated to be $24.3 million ($22.0 million in 2016), consisting solely of regular contributions to cover current service costs.

Assumptions

The cost of the defined-benefit pension plans and other benefits plans and the present value of the benefit obligations are determined using actuarial valuations. An actuarial valuation involves making various assumptions that may differ from future developments. These assumptions include the determination of the discount rate, future salary increases, mortality rates and future pension increases. Owing to the complexities involved in the valuation and its long-term nature, a defined-benefit obligation is highly sensitive to changes in these assumptions.

The most recent actuarial valuation for funding purposes of the Pension Plan was done as at 1 January 2016, and the next required valuation will be as at 1 January 2017.

The significant assumptions used are as follows (on a weighted-average basis):

	Pension benefit plans		Other benefit plans	
	31 December 2016	**31 December 2015**	**31 December 2016**	**31 December 2015**
Defined-benefit obligation				
Discount rate	**3.90%**	4.10%	**3.84%**	4.02%
Inflation rate[1]	**2.00%**	2.00%	**n.a.**	n.a.
Rate of compensation increase	**3.20% + merit**	3.20% + merit	**3.20% + merit**	3.20% + merit
Benefit plan expense				
Discount rate	**4.10%**	4.00%	**4.02%**	3.99%
Inflation rate[1]	**2.00%**	2.00%	**n.a.**	n.a.
Rate of compensation increase	**3.20% + merit**	3.20% + merit	**3.20% + merit**	3.20% + merit
Assumed medical cost trend				
Medical cost trend rate	**n.a.**	n.a.	**5.80 - 4.50%**	5.95 - 4.50%
Year that the rate reaches the ultimate trend rate	**n.a.**	n.a.	**2029**	2029

1. *Other benefit plans* does not include an inflation rate adjustment since it is a component of *Assumed medical cost trend.*

The parameter most subject to change is the discount rate, which is determined by reference to Canadian AA-corporate bonds with terms to maturity approximating the duration of the obligation.

The weighted-average duration of the defined-benefit obligation is approximately 17 years for the *Pension benefit plans* and 6 to 19 years for the *Other benefit plans*.

The mortality assumptions used in the plan valuations are based on tables issued by the Canadian Institute of Actuaries. Actuarial adjustments to the tables are applied when recommended by the plan's actuaries. In 2016, the assumption for life expectancy for the plan valuations assumes that a male member reaching 60 will live for approximately 27 years (2015: 27 years) and a female member approximately 29 years (2015: 29 years).

Sensitivity analysis

The following table outlines the potential impact of changes in certain key assumptions used in measuring the defined-benefit obligations and benefit costs.

	Increase (decrease) in obligation[1]	
	Pension benefit plans	Other benefit plans
Discount rate	**3.90%**	**3.84%**
Impact of 0.10 percentage point increase	**(26.4)**	**(2.8)**
Impact of 0.10 percentage point decrease	**27.2**	**2.9**
Rate of compensation increase	**3.20%**	**3.20%**
Impact of 0.10 percentage point increase	**4.5**	**0.3**
Impact of 0.10 percentage point decrease	**(4.4)**	**(0.3)**
Mortality rate		
Impact of 0.10 percentage point increase	**(32.9)**	**(2.8)**
Impact of 0.10 percentage point decrease	**36.5**	**3.3**
Inflation rate	**2.00%**	**n.a.**
Impact of 0.10 percentage point increase	**24.2**	**n.a.**
Impact of 0.10 percentage point decrease	**(23.6)**	**n.a.**
Medical cost trend rates	**n.a**	**5.80%**
Impact of 1.00 percentage point increase	**n.a**	**30.4**
Impact of 1.00 percentage point decrease	**n.a**	**(23.4)**

1. The sensitivity analysis presented in this table is hypothetical and should be used w ith caution.
The analysis is based on a change in assumptions w hile holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The method and types of assumptions used in preparing the sensitivity analysis did not change compared w ith the previous year.

16. Equity

The Bank manages its capital to ensure compliance with the *Bank of Canada Act*. There were no other externally imposed capital requirements at the end of the reporting year.

The elements of equity are shown in the table below:

	31 December 2016	31 December 2015
Share capital	**5.0**	5.0
Statutory reserve	**25.0**	25.0
Special reserve	**100.0**	100.0
Available-for-sale reserve	**357.0**	368.2
Retained earnings	**-**	-
Total equity	**487.0**	498.2

Share capital

The authorized capital of the Bank is $5.0 million divided into 100,000 shares with a par value of $50 each. The shares are fully paid and have been issued to the Minister of Finance, who holds them on behalf of the Government of Canada.

Statutory reserve

The statutory reserve was accumulated out of net income until it reached the stipulated maximum amount of $25.0 million in 1955, consistent with the requirement of section 27 of the *Bank of Canada Act*.

Special reserve

The special reserve was created in 2007 further to an amendment to the *Bank of Canada Act* to offset potential unrealized valuation losses due to changes in the fair value of the Bank's available-for-sale portfolio. The amount held in the special reserve is reviewed regularly for appropriateness using value-at-risk analysis and scenario-based stress tests and may be amended, pursuant to a resolution passed by the Board of Directors. This reserve is subject to a ceiling of $400 million; an initial amount of $100 million was established in September 2007, consistent with the requirement of section 27.1 of the *Bank of Canada Act*.

Available-for-sale reserve

The available-for-sale reserve represents cumulative movements in the fair value of the Bank's available-for-sale portfolios, as shown below:

	31 December 2016	31 December 2015
Government of Canada treasury bills	**-**	1.1
BIS shares	**357.0**	367.1
Available-for-sale reserve	**357.0**	368.2

Retained earnings

The net income of the Bank, less any allocation to reserves, is considered to be ascertained surplus (surplus) and is transferred to the Receiver General for Canada, consistent with the requirement of section 27 of the *Bank of Canada Act*.

The Bank's remittance agreement with the Minister of Finance was designed to enable the Bank to manage its equity requirements considering the volatility arising from fair-value changes and remeasurements (which are recorded in *Other Comprehensive Income*). This agreement allows the Bank to withhold from its remittance to the Receiver General any increase in cumulative net unrealized losses on AFS financial assets, unrealized remeasurements of the net defined-benefit liability/asset on defined-benefit plans and other unrealized or non-cash losses arising as a result of changes in accounting standards or legislation. Any decrease in withheld cumulative net unrealized non-cash losses is added to the remittance.

During 2016, the Bank reimbursed $3.9 million from its previously withheld remittances ($13.7 million in 2015). As at 31 December 2016, $109.4 million in withheld remittances was outstanding ($113.3 million as at 31 December 2015).

17. Leases

Accounting policy

Where the Bank is a lessee

Leases of equipment where the Bank has substantially assumed all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalized at the lease's inception at the lower of the fair value of the leased asset or the present value of the minimum lease payments. The corresponding lease obligations, net of finance charges, are included in *Other liabilities*. Each lease payment is allocated between the liability and finance charges to achieve a constant rate of return on the finance lease obligation outstanding. Equipment acquired under finance leases is depreciated over the shorter of the asset's useful life or the lease term.

Other leases are classified as operating leases. Payments made under operating leases are charged to the Statement of Net Income and Comprehensive Income on a straight-line basis over the period of the lease.

Where the Bank is a lessor

Leases granted on the Bank's property were assessed and classified as operating leases because the risks and rewards of ownership are not transferred to the lessees. Operating lease income is recognized on a straight-line basis over the period of the lease.

Operating lease commitments

The Bank occupies leased premises in Ottawa, Halifax, Montréal, Toronto, Calgary and Vancouver. The minimum payments are determined at the beginning of the lease and may vary during the term of the lease. Contingent rent on premises leases is based on building operating costs; for office equipment leases, contingent rent is based on usage. The expiry dates vary for each lease, from November 2017 to October 2025.

At 31 December 2016, the future minimum payments for rent, real estate taxes and building operations are presented below.

	31 December 2016	31 December 2015
Due within one year	**15.9**	16.1
Due within one to five years	**9.3**	24.8
Due later than five years	**1.4**	1.7
Total premises lease commitments	**26.6**	42.6
Lease payments expensed	**20.8**	15.6

Finance lease commitments

As at 31 December 2016, the future minimum lease payments were $4.0 million ($6.6 million as at 31 December 2015) for equipment obtained through a finance lease arrangement (note 9). The net carrying amount of the equipment at 31 December 2016 was $3.8 million ($6.3 million at 31 December 2015). The finance lease obligation amounted to $3.7 million at 31 December 2016 ($6.5 million as at 31 December 2015) and is recorded in *Other liabilities* (note 14).

18. Commitments, contingencies and guarantees

Long-term contracts other than leases

Commitments related to the program to overhaul and modernize the head office building are included in commitments for *Property and equipment* in note 9.

The Bank has a long-term contract with an outside service provider for retail debt services that expires in 2021. At 31 December 2016, fixed payments totalling $91.5 million remained, plus a variable component based on the volume of transactions.

The Bank has a long-term contract with an outside service provider for data centre services that expires in 2025. At 31 December 2016, fixed payments totalling $10.6 million remained.

At 31 December 2016, the total minimum payments for long-term contracts, other than leases, *Property and equipment* and *Intangible assets*, are as follows:

Due within one year	**22.5**
Due within one to three years	**45.0**
Due within three to five years	**34.7**
Thereafter	**1.8**
Total minimum payments	**104.0**

Foreign currency contracts

The Bank is a counterparty to several foreign currency swap facilities as follows:

	Maximum available
Bilateral liquidity swap facilities with central banks	
Bank of Japan (denominated in Japanese yen)	**Unlimited**
Swiss National Bank (denominated in Swiss francs)	**Unlimited**
Bank of England (denominated in British pounds)	**Unlimited**
European Central Bank (denominated in euros)	**Unlimited**
Federal Reserve Bank of New York (denominated in US dollars)	**Unlimited**
People's Bank of China (denominated in renminbi)	**200,000.0**
Other swap facilities	
Exchange Fund Account of Canada (denominated in Canadian dollars)	**Unlimited**
Federal Reserve Bank of New York (denominated in U.S. dollars)	**2,000.0**
Banco de México (denominated in Canadian dollars)	**1,000.0**
Bank for International Settlements (denominated in Canadian dollars)	**100.0**

Bilateral liquidity swap facilities with central banks

The bilateral liquidity swap facilities were established to provide liquidity in each jurisdiction in any of their currencies, should market conditions warrant.

The swap facilities with the Bank of Japan, the Swiss National Bank, the Bank of England, the European Central Bank and the Federal Reserve Bank of New York are standing arrangements with no expiry date. The Bank of Canada and the People's Bank of China signed a reciprocal three-year Canadian-dollar/renminbi bilateral swap arrangement in November 2014.

These facilities can be structured as either a Canadian-dollar liquidity swap or a foreign currency liquidity swap arrangement and can be initiated by either party. The exchange rate applicable to the swap facilities is based on the prevailing market spot exchange rate as mutually agreed upon by the parties.

Other swap facilities

The other swap facilities established with the Federal Reserve Bank of New York and with the Banco de México, which expire on 12 December 2017, have indefinite terms and are subject to annual renewal.

The Bank is party to a standing foreign currency swap facility with the Exchange Fund Account of Canada. There is no stated maximum amount under this agreement.

The Bank is also party to a swap facility with the BIS for operational purposes. Transactions executed under this agreement are generally one business day in duration. The BIS swap was accessed in 2016 and 2015 for operational purposes. None of the other liquidity or other swaps were accessed, by either party, in 2016 or 2015. No related commitments existed as at 31 December 2016 ($Nil as at 31 December 2015).

Contingency

The 9,441 shares in the BIS have a nominal value of 5,000 Special Drawing Rights per share, of which 25 per cent (i.e., SDR1,250) is paid up. The balance of SDR3,750 is callable at three months' notice by a decision of the BIS Board of Directors. The Canadian equivalent of this contingent liability was $63.9 million at 31 December 2016 ($67.9 million at 31 December 2015), based on prevailing exchange rates.

Guarantees

In the normal course of operations, the Bank enters into certain guarantees, which are described below.

LVTS guarantee

The LVTS is a large-value payments system, owned and operated by Payments Canada. Any deposit-taking financial institution that is a member of Payments Canada can participate in the LVTS, provided that it maintains a settlement account at the Bank of Canada, has the facilities to pledge collateral for LVTS purposes and meets certain technical requirements. The system's risk-control features, which include caps on net debit positions and collateral to secure the use of overdraft credit, are sufficient to permit the system to obtain the necessary liquidity to settle in the event of the failure of the single LVTS participant with the largest possible net amount owing. The Bank guarantees to provide this liquidity, and, in the event of a single-participant failure, the liquidity loan will be fully collateralized. In the extremely unlikely event that there were defaults by more than one participant during the LVTS operating day, in an aggregate amount in excess of the largest possible net amount owing by a single participant, there would not likely be enough collateral to secure the amount of liquidity that the Bank would need to provide to settle the system. This might result in the Bank having unsecured claims on the defaulting participants in excess of the amount of collateral pledged to the Bank to cover the liquidity loans. The Bank would have the right, as an unsecured creditor, to recover any amount of its liquidity loan that was unpaid. The amount potentially at risk under this guarantee is not determinable, since the guarantee would be called upon only if a series of extremely low-probability events were to occur. No amount has ever been provided for in the liabilities of the Bank, and no amount has ever been paid under this guarantee.

Other indemnification agreements

In the normal course of operations, the Bank provides indemnification agreements with various counterparties in transactions such as service agreements, software licences, leases and purchases of goods. Under these agreements, the Bank agrees to indemnify the counterparty against loss or liability arising from acts or omissions of the Bank in relation to the agreement. The nature of the indemnification agreements prevents the Bank from making a reasonable estimate of the maximum potential amount that the Bank would be required to pay such counterparties. No amount has ever been paid under such indemnifications.

Insurance

The Bank does not normally insure against direct risks of loss to the Bank, except for potential liabilities to third parties and when there are legal or contractual obligations to carry insurance. However, in connection with the Head Office Renewal Program, the Bank has obtained insurance coverage for the period of construction to cover direct risks to the Bank's property.

Any costs arising from risks not insured are recognized in the accounts if, as a result of a past event, the Bank has a present legal or constructive obligation that can be estimated reliably as at the statement of financial position date, and it is probable that an outflow of economic benefits will be required to settle the obligation.

19. Related parties

The Bank is related in terms of common ownership to all Government of Canada departments, agencies and Crown corporations. To achieve its monetary policy objectives, the Bank maintains a position of structural and functional independence from the Government of Canada through its ability to fund its own operations without external assistance and through its management and governance.

In the normal course of its operations, the Bank enters into transactions with related parties, and material transactions and balances are presented in these financial statements. Not all transactions between the Bank and government-related entities have been disclosed, as permitted by the partial exemption available to wholly-owned government entities in International Accounting Standard 24 *Related Party Disclosures* (IAS 24).

The Bank provides funds-management, fiscal-agent and banking services to the Government of Canada, as mandated by the *Bank of Canada Act*, and does not recover the costs of these services.

Bank of Canada pension plans

The Bank provides management, investment and administrative support to the Bank of Canada Pension Plan. Services in the amount of $0.9 million ($0.9 million in 2015) were fully recovered from the Plan in 2016.

Key management personnel and compensation

The key management personnel responsible for planning, directing and controlling the activities of the Bank are the members of the Executive Council, the Senior Management Council and the Board of Directors. The number of key management personnel as at 31 December 2016 was 27 (29 in 2015).

The compensation of key management personnel is presented in the following table:

	31 December 2016	31 December 2015
Short-term employee benefits	**4.8**	5.0
Post-employment benefits	**2.0**	1.6
Directors' fees	**0.3**	0.2
Total compensation	**7.1**	6.8

Short-term employee benefits and post-employment benefits apply to Bank of Canada employees only.

There were no other long-term employee benefit costs or termination benefits related to key management personnel in 2016 ($Nil in 2015).

20. Comparative figures

Certain comparative figures have been reclassified to conform to the current year's presentation, which distinguishes the nature of overnight repo operations from term repo operations in the Statement of Cash Flows.

For the comparative Statement of Cash Flows, amounts related to the acquisition and proceeds from the maturity of term repo operations were reclassified from operating activities to investing activities. As a result, cash flows from operating activities increased by $2,324.2 million, and cash flows from investing activities decreased by $2,324.2 million.

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