BANK OF CANADA
BANQUE DU CANADA

BANK OF CANADA PENSION PLAN ANNUAL REPORT 2019

Canada's Top 100 Employers

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

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Your Plan at a glance

- The Bank of Canada Pension Plan (the Plan) had 3,946 members at the end of 2019 (**Figure 1**).
- Pension payments from the Pension Trust Fund (the Fund) continued to increase, reaching $53.9 million in 2019 (**Figure 2**).
- The value of the Fund's net assets increased to $1,932 million at the end of 2019, from $1,734 million at the end of 2018 (**Figure 3**).
- The Fund's rate of return was 14.0 per cent in 2019, lower than our benchmark return of 14.9 per cent.
- On a going-concern basis (which assesses the Plan over the long term on the assumption that it will operate indefinitely), the Plan had an actuarial surplus of $480 million (**Figure 4**) and a funding ratio of 135 per cent as at December 31, 2019.
- On a solvency basis (which assesses the Plan on the assumption that it would be terminated on the date of the valuation), the Plan had an actuarial surplus of $122 million (**Figure 4**) and a solvency ratio of 107 per cent as at December 31, 2019.
- The Bank did not contribute to the Fund in 2019, given the Plan's strong funding position.

Figure 2: Payments from the Fund, 2017–19

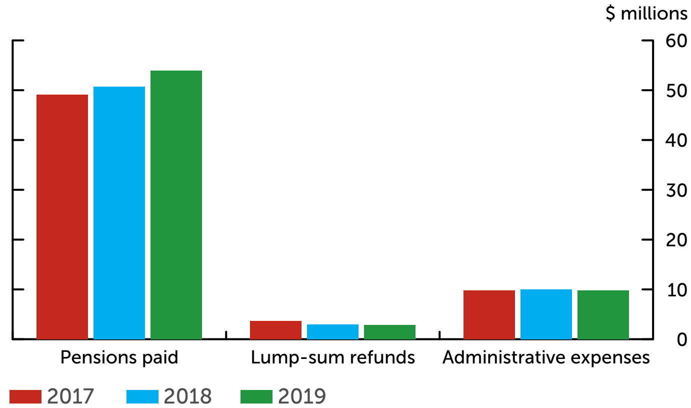


Figure 3: Net assets of the Fund, 2015–19
(as at December 31)

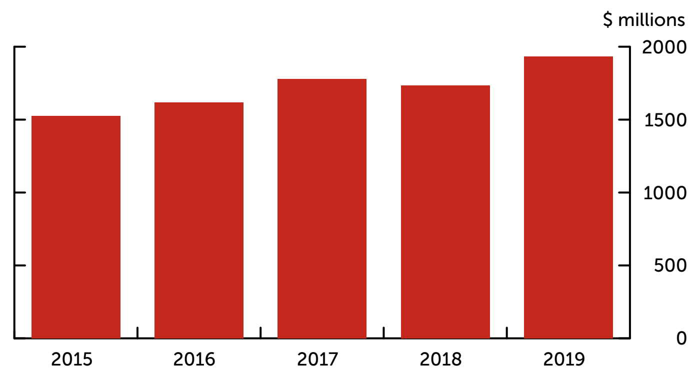


Figure 1: Membership
(as at December 31, 2019)

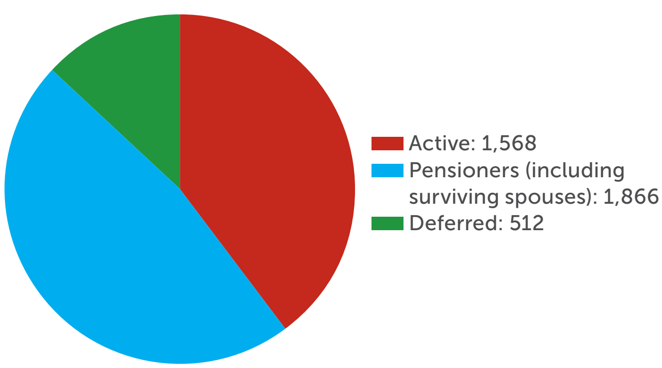
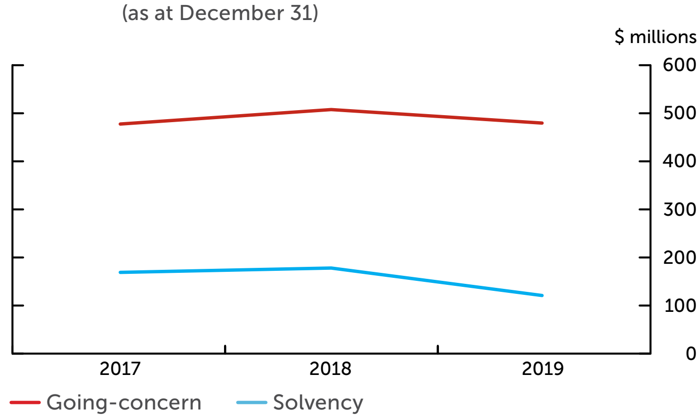


Figure 4: Funding position, 2017–19
(as at December 31)



Message from the Chair

I am pleased to provide this report on the performance of the Bank's Pension Plan in 2019.

Impact of COVID-19

The impact of the COVID-19 pandemic on the economy has, of course, been significant. Many of you may be wondering about the effect this has on the Bank's Pension Plan.

We estimate that the Plan's funding ratio, on both going-concern and solvency bases, remained above 100 per cent as of March 31, 2020, meaning that its assets continued to exceed its liabilities.

While the value of the Plan's assets declined in the first quarter of 2020, with a rate of return of -9%, a higher discount rate for estimating solvency liabilities has offset much of the negative asset movement.

Despite the pandemic, the Bank remains well able to meet its obligation to provide a secure retirement for its employees.

The Plan's position

The Bank's Pension Trust Fund generated an annual investment return of 14.0 per cent in 2019, below the benchmark return of 14.9 per cent. Canadian and foreign equity markets, which both had a strong year following a challenging 2018, were key contributors to the higher rate of return in 2019. More information is provided in the "Pension assets and investment" section of this report.

As of the end of 2019 the Plan showed a $480 million surplus on a going-concern basis, meaning there are more than enough assets to fund all pensions accrued or payable. This surplus brought the Plan's funding ratio to 135 per cent, or 35 per cent above the Plan's liabilities. This compares with a surplus of $508 million at the end of 2018, which equated to a funding ratio of 140 per cent.

On a solvency basis (which assumes that the Plan would be terminated on the date of the valuation), the Plan had a surplus of $122 million at the end of 2019, compared with $179 million at the end of 2018. The Plan had a solvency ratio of 107 per cent, or 7 per cent above the Plan's solvency liabilities, compared with 112 per cent the previous year.

Bank pension contributions

Given the Plan's strong funding position in 2019, regulations under the Income Tax Act prohibit the Bank from making contributions to it in 2020. Depending on the impact of the pandemic on the Plan's position, Bank contributions could resume in 2021.

For more information, see the "Actuarial valuations" section (**page 9**).

Asset-liability modelling study

In 2018 we worked with external pension experts on an 'asset-liability modelling' study)—a comprehensive review of the Fund's portfolio of assets. In September 2019, the Pension Committee endorsed the recommendation to invest up to 15% of the Fund's assets in private infrastructure equity, subject to finding suitable managers. See more in the "Pension assets and investments" section (**page 7**).

Acknowledgements

I wish to express my sincere thanks to committee members who have stepped down for their service, and to welcome those who have replaced them:

Carmen Vierula has retired from the Bank and was a valued member of the Pension Committee for four years. She is replaced by Coralia Bulhoes.

Darryl Tessier replaces Maxime Puech on the Pension Administration Committee, while Ian Christensen takes the place of Alejandro Garcia on the Pension Fund Investment Committee.

Finally, I want to wish you and your families good health and some much-needed serenity as we make our way through these difficult and unusual times.

Carolyn A. Wilkins
Senior Deputy Governor
Chair, Pension Committee

Pension governance

Under the Pension Benefits Standards Act and the terms of the Bank's Pension Plan (By-law 15), the Bank is the Plan administrator. Three committees oversee and make decisions related to the administration of the Plan and the investment of Plan assets. They also monitor investment services and performance. The Pension Committee was established by the Bank's Board of Directors to perform and report on the activities and functions of the Plan administrator. The Pension Committee has created two other committees—the Pension Administration Committee (PAC) and the Pension Fund Investment Committee (PFIC)—to assist it in carrying out its duties.

Members of the three committees[1]

Pension Committee

Carolyn A. Wilkins, *Senior Deputy Governor (Chair)*
Paul G. Haggis, *Bank Director*
Raymond E. Ivany, *Bank Director*
Greg Stewart, *Bank Director*
Anne Whelan, *Bank Director*
Timothy Lane, *Deputy Governor*
Coralia Bulhoes, *Managing Director and Chief Financial Officer*
Jeremy Farr, *General Counsel and Corporate Secretary*
Darcy Bowman, *Senior Legal Counsel (Secretary, non-voting)*

Pension Administration Committee

Steve Thomas, *Executive and Legal Services (Chair)*

Dale Alexander, *Communications*

Darcy Bowman, *Executive and Legal Services*

Alexis Corbett, *Human Resources*

Darryl Tessier, *Financial Services*

Marc Tremblay, *Human Resources*

Jean-Claude Primeau, Director, *Pension Plan (non-voting member)*

Pension Fund Investment Committee

Ron Morrow, *Advisor (Chair)*

Carol Brigham, *Funds Management and Banking*

Ian Christensen, *Financial Markets*

Annick Demers, *Financial Markets*

Kevin Dunn, *Funds Management and Banking*

Étienne Lessard, *Financial Markets*

Jean-Claude Primeau, *Director, Pension Plan (non-voting member)*

1 As at April 30, 2020

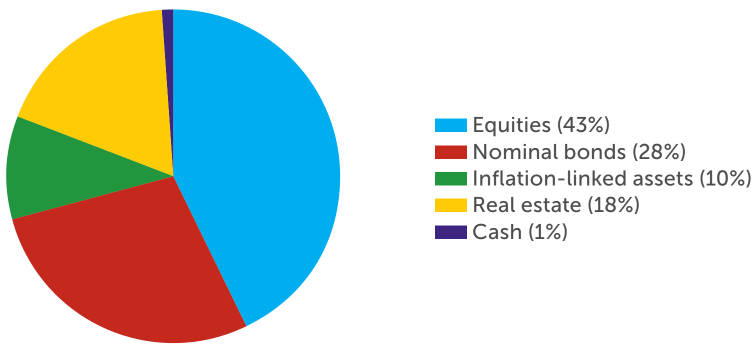
Pension assets and investments

Assets

The Fund continues to be invested in a diversified portfolio of equities, nominal bonds, inflation-linked assets, real estate and cash, consistent with its long-term investment principles (**Figure 5**).

Most of the Fund's assets are invested using external managers chosen for their expertise in specific asset classes and for their investment strategies. Diversification across asset classes and investment styles is a prudent way to achieve the Fund's long-term investment objectives while managing investment risks.

Figure 5: The five main asset categories in the Fund's portfolio, 2019[a]
(as at December 31, 2019)



a. Policy allocation midpoints

Implementing the recommendation of the 2018 Asset-Liability Modelling Study

In September 2018, external pension experts presented to the Pension Committee their recommendations following a comprehensive review — known as an Asset-Liability Modelling (ALM) study — of the Fund's portfolio of assets in light of emerging economic, financial and investment trends. The 2018 ALM study concluded that although the Plan's overall financial position was strong and the asset composition balances expected returns and risks efficiently, adjustments could be considered to reduce risk for a similar level of expected return.

Over the course of 2019, the Pension Fund Investment Committee (PFIC) reviewed the ALM's recommendations and was supportive of the proposal to further diversify the Fund's asset mix by reducing exposure to publicly traded equities and increasing exposure to alternative assets. In September 2019, the Pension Committee endorsed the recommendation to invest up to 15% of the Fund's assets in private infrastructure equity, subject to finding suitable managers. A manager search for private infrastructure equity is being undertaken in 2020.

Investments

The Fund's day-to-day investment activity is overseen by the PFIC, which reports quarterly to the Pension Committee. The PFIC's actions are guided by the Plan's Statement of Investment Policies and Procedures and by the Pension Committee, which establishes the allocation ranges and performance benchmarks for each asset category.

The PFIC also monitors the performance of the Fund's external portfolio managers and leads annual performance reviews on behalf of the Pension Committee.

Equities

The Fund invests in Canadian, global and emerging-market equities. These holdings are managed by external portfolio managers.

Fixed-income securities

Nominal bonds

Nominal bond holdings are invested in a mix of Canadian-issued bonds and debentures, including publicly marketable securities and high-quality private infrastructure loans. Most of these holdings are managed externally. A small part of the portfolio is administered directly by the Bank to manage the duration of the Fund's fixed-income investments.

Inflation-linked assets

These assets include inflation-linked bonds (primarily Government of Canada Real Return Bonds) and inflation-linked mortgages guaranteed by the Canada Mortgage and Housing Corporation.

Real estate

The Fund is currently invested in a range of real estate instruments across different sectors and regions of Canada, the United States and Europe, managed by external managers.

Cash

The Fund maintains sufficient cash deposits and Government of Canada treasury bills to meet anticipated payment obligations and investment commitments.

Supplementary Trust Fund

The Supplementary Pension Arrangement (SPA) supplements the pensions of employees whose salary level results in pension benefits that are above the maximum prescribed by the Income Tax Act. The provisions of the SPA mirror the Plan, and a separate trust fund (the Supplementary Trust Fund (STF)) has been established to support it. STF investments are directed by the Pension Committee and the PFIC.

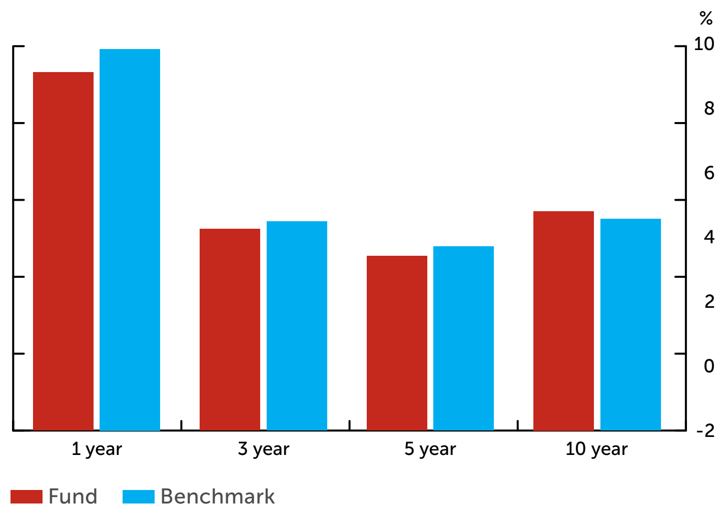
Performance of the Fund

The Fund's one-year return, ending on December 31, 2019, was 14.0 per cent, below the benchmark return of 14.9 per cent.[2] Canadian and foreign equity markets, which both had a strong year following a challenging 2018, were key contributors to the higher rate of return.

The Fund's overall benchmark is based on a mix of indexes, such as the S&P/TSX Composite Index and the MSCI World Index, weighted to reflect the asset-mix target of the Fund.

Plan benefits are indexed each year to keep pace with inflation. The long-term investment objective in place in 2019 was to achieve a rate of return of 5.5 per cent, which is equal to the Bank of Canada's 2.0 per cent inflation target plus a real return of 3.5 per cent, after expenses.

Figure 6: **Total fund rate of return**
(as at December 31, 2019)



Actuarial valuation

Financial status of the Plan in 2019

The Bank has conducted annual actuarial valuations of the Plan since 2008, when a solvency deficit emerged during the financial crisis. The results of the valuation as at December 31, 2019 showed that the going-concern position of the Plan has remained strong, with a funding surplus of $480 million and a funding ratio of 135 per cent. The Plan had a solvency surplus of $122 million, compared with $179 million in 2018, and a solvency ratio of 107 per cent, compared with 112 per cent the previous year (see **Table 1** and **Table 2**).[3]

2 In this report, rates of return are shown net of investment manager fees.

3 The summary financial statements show a different amount of surplus from the actuarial valuation report because the assets in the financial statements are based on the market value rather than on the smoothed value.

The solvency valuation is based on the hypothetical (and very unlikely) event of Plan termination. It assumes, in this case, that the Bank would continue administering the Plan and managing Plan assets while honouring existing pension commitments to Plan members. These assets would be invested in an investment-grade fixed-income portfolio, in accordance with guidance issued by the Canadian Institute of Actuaries and the Office of the Superintendent of Financial Institutions, which supervises federally-regulated pension plans.

Table 1: Going-concern basis
($ millions, as at December 31)

	2015	2016	2017	2018	2019
Smoothed value of assets	1,460	1,568	1,688	1,772	1,849
Going-concern liabilities	1,119	1,158	1,210	1,264	1,369
Surplus	341	410	478	508	480
Funding ratio (assets as a percentage of liabilities)	130%	135%	140%	140%	135%

Table 2: Solvency basis
($ millions, as at December 31)

	2015	2016	2017	2018	2019
Market value of assets	1,521	1,616	1,775	1,729	1,928
Solvency liabilities	1,501	1,550	1,605	1,550	1,806
Surplus (deficit)[a]	20	66	170	179	122
Solvency ratio (assets as a percentage of liabilities)	101%	104%	111%	112%	107%

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

The difference between the solvency ratio and the funding ratio reflects the different methodologies used to calculate each ratio's asset values and liabilities.

For solvency purposes, assets are measured at market value, while a smoothed value of assets is used for the going-concern valuation.

To calculate liabilities, the solvency valuation uses a discount rate based on fixed-income portfolio market rates as at December 31, 2019. In contrast, the going-concern valuation uses a longer-term average interest rate that reflects the investments of the Fund. The market interest rates used in the solvency valuation are currently well below the longer-term average, which largely explains why the solvency liabilities are greater than the going-concern liabilities.

Plan contributions

The Bank was not allowed to make any contribution in 2019. Employees contribute in accordance with the formula set in the Plan's By-laws.

In 2020, the Bank is still not allowed to make any contributions to the Fund. Regulations under the *Income Tax Act* prohibit the Bank from making contributions to the Plan, due to its strong funding position as discussed in the *Message from the Chair*.

Employer contributions are prohibited if a plan's going-concern funding ratio exceeds 125 per cent and the solvency ratio exceeds 105 per cent; at the end of 2019 the Bank's ratios were 135 per cent and 107 per cent respectively.

The strong position of the Plan results mainly from the effects of special contributions of $125 million made from 2009 to 2014 when the Plan had a solvency deficit, and superior investment returns in the past several years.

Bank contributions to the Plan will resume depending on the results of actuarial valuations in subsequent years.

Pension administration

Administrative expenses

The expenses charged to the Fund are reviewed carefully to ensure that they are reasonable and meet the terms of the Plan and the Pension Trust Fund Expense Policy.

Table 3 shows the Fund's administrative expenses. Total expenses decreased by $0.2 million in 2019, primarily driven by a reduction in asset management fees.

Table 3: Administrative expenses
($ thousands)

	2017	2018	2019
Asset-management fees	7,238	7,186	7,013
Pension administration fees	640	611	594
Other administrative expenses	1,170	1,245	1,397
Initiatives	172	346	137
Consumption taxes	589	622	650
Total expenses	9,809	10,011	9,791
Net assets as at December 31	1,779,532	1,733,955	1,932,369
Total expenses (as a percentage of net assets)	0.55%	0.58%	0.51%

Asset management fees decreased in 2019, largely owing to a change of fund managers for the global equity portfolio implemented in the latter part of 2018. Other administrative expenses increased owing mostly to new subscriptions to investment databases with respect to environmental, social and governance aspects, and increased actuarial fees. Expenses related to initiatives were greatly reduced from 2018 as few investment related projects were undertaken in 2019.

Total administrative costs as a percentage of net Fund assets were 0.51 per cent in 2019, which is comparable to the costs for similar plans.

Communications

Continuing the approach introduced last year to help streamline our communications to Plan members, a shorter version of this report is produced, highlighting its key content. The full version of the report remains available through the Bank's website at www.bankofcanada.ca.

In addition, full annual audited financial statements of the Plan are available on the Bank's website.

The Bank also communicates with Plan members through its yearly newsletter, *Pension News*. Active employees can find electronic versions on the Bank's intranet site, Banque Centrale.

Active employees, as well as pensioners and deferred members, are entitled to receive annual pension statements.

Active employees can find additional information about the Plan on Banque Centrale. They can also use a tool on the Selection Centrale website to estimate the pension they will receive when they retire from the Bank. All Plan members can contact the Bank of Canada Benefits and Pension Administration Centre (Morneau Shepell) if they have questions. See **page 14** for contact information.

Pensioner information audit

The Bank continued its information audit in 2019, contacting a sample group of pensioners and asking them to confirm their name and contact information. This exercise is part of the due diligence required for the rigorous management of the Plan's assets.

A different sample group will be contacted for this audit each year. This process is consistent with the practices of other Crown agencies.

Definitions of some common pension plan terms

Actuarial valuation

An actuarial valuation estimates, at a given point in time, the total value of the benefits expected to be paid to members compared with the assets available to meet this obligation. The purpose of the valuation is to measure the funding status of the Plan. This can be done in two different ways:

Going-concern basis—The going-concern, or funding, basis assumes that the Plan will continue to operate indefinitely. Assumptions are based on a long-term perspective that accounts for such factors as salary increases and rates of interest, inflation, retirement and mortality.

Solvency basis—The solvency basis assumes that the Plan was terminated at the date of the valuation. This means that there is no need to project future salary increases or changes in membership. The assumptions used to calculate the solvency position, such as the interest rate employed to estimate liabilities, must meet the requirements of the *Pension Benefits Standards Act* and the standards of the Canadian Institute of Actuaries.

Discount rate

The discount rate is the interest rate used to discount the future liabilities of a defined benefit pension plan to calculate the present value of the liabilities, often for the purpose of comparing them with the value of the plan's assets.

Funding ratio

The funding ratio, which is applied in a going-concern valuation, is defined as the smoothed value of assets divided by the going-concern actuarial liabilities.

Smoothed value of assets

The smoothed value of assets is used for the going-concern valuation, while the market value is used for the solvency valuation and in financial statements. Smoothing spreads the impact of investment losses or gains from any single year over a longer period, which makes contributions to the plan more stable.

Solvency deficiency

Under pension legislation, the solvency deficiency is the amount that is used to calculate the required annual solvency special payments. The deficiency in any specific year is based on the average solvency position of the past three years. The Bank's special payments spread the deficiency amount over five years.

Solvency deficit

The solvency deficit is the amount by which solvency liabilities exceed the market value of the Plan's assets at a point in time.

Solvency ratio

The solvency ratio is the market value of assets divided by the solvency liabilities.

Solvency surplus

The solvency surplus is the amount by which the market value of assets exceeds the solvency liabilities at a point in time.

Additional information

The Bank of Canada Pension Plan is registered with the Office of the Superintendent of Financial Institutions for the purposes of the *Pension Benefits Standards Act*, which regulates the Plan's design, funding, investment policy and operations. The Plan is also registered with the Canada Revenue Agency for the purposes of the *Income Tax Act*, which regulates the maximum contributions payable to, and the maximum permissible defined benefits payable from, a tax-sheltered pension arrangement.

For pension or post-retirement questions and requests, contact the Bank of Canada Benefits and Pension Administration Centre:

The Bank of Canada Benefits and Pension Administration Centre

Morneau Shepell Inc.
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Suite 900
Montréal, Quebec H3B 4V3
bank-banque-canada@morneaushepell.com

08:00 to 18:00 (Eastern Time)
Monday to Friday

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Retirees: **1-888-588-6111**

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HR Centre

Bank of Canada
10th Floor, East Tower
234 Wellington Street
Ottawa, Ontario K1A 0G9
hrcentre@bankofcanada.ca

10:00 to 16:00 (Eastern Time)
Monday to Friday

7766 (internal), 613-782-7766 (Ottawa)
or 1-866-404-7766 (toll-free)