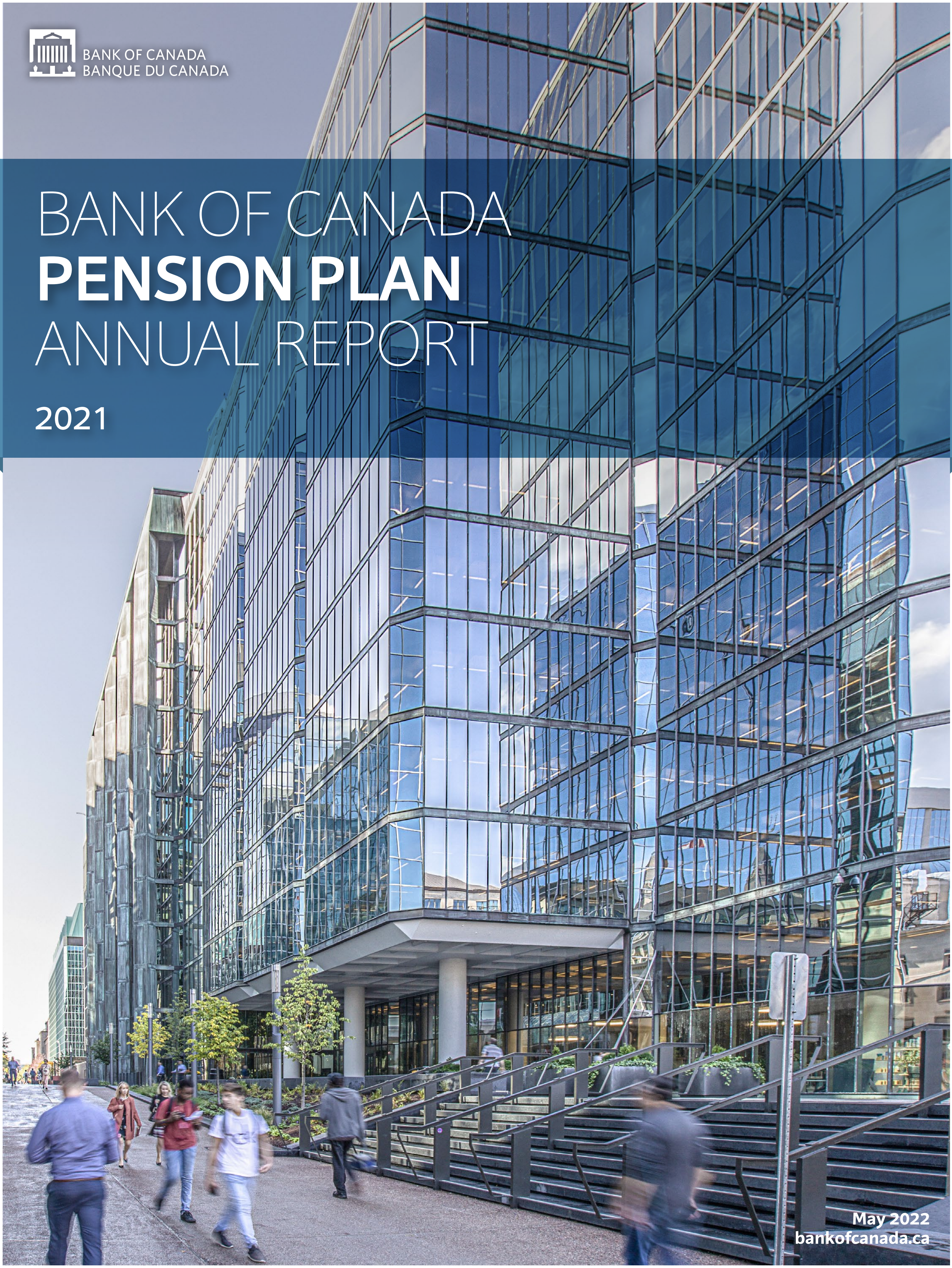
BANK OF CANADA
BANQUE DU CANADA

BANK OF CANADA **PENSION PLAN** ANNUAL REPORT

2021



May 2022
bankofcanada.ca

The *Pension Plan Annual Report* and the Plan's financial statements are available on the Bank of Canada's website at bankofcanada.ca.

For further information, contact:

Public Information
Communications Department
Bank of Canada
234 Wellington Street
Ottawa, Ontario K1A 0G9
Telephone: 613-782-8111; 1-800-303-1282 (toll-free in North America)
Email: info@bankofcanada.ca
Website: bankofcanada.ca

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YOUR PLAN AT A GLANCE*
2021

4,135
members

Pension payments from the Fund:
$57 million

The value of the Fund's assets:
$2,271 million

$564
MILLION
Our surplus on a going-concern basis

10.4%
The Fund's rate of return net of fees

137%
Our funding ratio on a going-concern basis

$14
MILLION
Our deficit on a solvency basis

99%
Our ratio on a solvency basis

* as at December 31, 2021

Message from the Chair

I am pleased to provide this report on the performance of the Bank's Pension Plan in 2021 and its estimated position as at March 31, 2022.

Despite volatility related to COVID's ongoing economic effects, a robust economic recovery continued in the second half of 2021, both domestically and abroad. Strong performance in most asset classes, together with rising interest rates, led to positive results for many pension funds, including the Bank's. The Plan's going-concern and solvency ratios both improved in 2021.

A sound investment strategy

The Bank's Pension Trust Fund generated an annual investment return of 10.4 percent in 2021. Except for nominal bonds, and emerging market equities, which lagged due to poor performance in China, all major asset classes experienced positive returns. Canadian and global equities, as well as real estate, experienced strong gains.

The realized return was above the benchmark of 9.0 percent, owing mainly to the investment strategy of our Canadian and global equity managers. These managers generally had lower exposure than the benchmark to the materials sector and higher exposure to undervalued companies that are expected to grow in value in the future.

A solid financial position

As at the end of 2021, the Plan had a $564-million surplus on a going-concern basis, which assumes that the Plan will continue to operate indefinitely. On a solvency basis—calculated on the hypothetical assumption that the Plan is terminated on the date of the valuation—the Plan had a deficit of $14 million at the end of 2021.

We estimate that the Plan's funding ratio, on a going-concern basis, reduced to 134 percent as at March 31, 2022. The solvency ratio is estimated to have increased to 105 percent.

While the value of the Plan's assets decreased in the first quarter of 2022, with a rate of return of –5.3 percent, an increase in the discount rate used for estimating solvency liabilities has improved the financial position of the Plan.

The Bank remains well-positioned to meet its obligations to members as they plan for a secure retirement.

The impacts of inflation and the invasion of Ukraine

Higher inflation is resulting in higher liabilities for the Plan, owing to the indexation of pension benefits. The war in Ukraine has also increased market volatility. The Bank of Canada Pension Plan and Supplementary Pension Arrangement included small amounts of Russian assets holdings as at February 28, 2022. These assets have now been written down to $0 given that they cannot be traded at this point.

The Bank remains well-positioned to manage these risks.

The Bank's pension contributions

The Bank is required to contribute in 2022 due to the solvency position as at December 31, 2021, despite the Plan's strong funding position on a going-concern basis. For the first time since 2014, the Bank is also required to make special payments of $1.8 million in 2022 to fund the solvency deficit. Employee contributions are not changing.

Assessing climate-related risks and opportunities

Climate change has implications for the mid- and long-term health of the Bank's Plan. To assess climate-related investment risks and opportunities, we are incorporating climate scenarios into our projection tools. This scenario analysis will be part of our 2022 Asset-Liability Modelling (ALM) study.

This innovative analysis will allow us to measure the impact of climate change on our investments and make informed decisions for the future. Protecting the health of our Pension Fund is our highest priority, and we will continue to monitor, evaluate and integrate ESG considerations into the Plan's management.

I would also like to take this opportunity to thank Deputy Governor Tim Lane for his role as interim Pension Committee Chair, following the departure of former Senior Deputy Governor Carolyn Wilkins at the end of 2020.

Carolyn Rogers

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 administration and 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.

Governance review

In 2021, we reviewed our governance structure, policies and practices with an external legal firm, as we do every five years. As communicated in our latest issue of *Pension News*, the review confirmed that our Plan's governance structure is comprehensive, detailed, clear and compliant with legal requirements and best practices. Minor adjustments to the Pension Governance Framework and Pension Governance Policy were recommended and have been implemented.

As part of our pension governance, we review our funding and expense policies every three years to ensure we stay up to date with best practices, as well as applicable regulatory guidance and legislative changes. This review will be conducted again in 2022.

Selection of pension services provider

We successfully negotiated contracts for services to the Bank and the Pension Plan. Mercer will continue to provide actuarial and consulting services (including performing the annual actuarial valuation of the Pension Plan and quarterly monitoring of the Plan's financial status), while LifeWorks (formerly known as Morneau Shepell) will continue to provide pension administration services (such as preparing individual annual pension statements and putting together packages for retirements, terminations, buy-backs and transfers).

MEMBERS OF THE THREE COMMITTEES

Pension Committee

Carolyn Rogers,
Senior Deputy Governor (Chair)

Timothy Lane,
Deputy Governor

Debora Bielecki,
Bank Director

Robert Campbell,
Bank Director

Raymond E. Ivany,
Bank Director

Greg Stewart,
Bank Director

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)

Darcy Bowman,
Executive and Legal Services

Alexis Corbett,
Human Resources

Alexandre Deslongchamps,
Communications

Darryl Tessier,
Financial Services

Marc Tremblay,
Human Resources

Anne-Marie Lainesse,
Director, Pension Plan (non-voting member)

Pension Fund Investment Committee

Grahame Johnson,
Advisor (Chair)

Wendy Chan,
Financial Markets Department

Ian Christensen,
Banking and Payments Department

Annick Demers,
Financial Markets Department

Kevin Dunn,
Banking and Payments Department

Étienne Lessard,
Financial Markets Department

Anne-Marie Lainesse,
Director, Pension Plan (non-voting member)

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 1**).

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.

Asset-Liability Modelling study: Investing in private infrastructure equity and next steps

We continue to diversify the Plan's portfolio, following recommendations set out in the 2018 Asset-Liability Modelling (ALM) study. One of these recommendations is to begin allocating 15 percent of our assets to private infrastructure equity (PIE). To carry out this reallocation by the end of 2022, we completed a tax and legal due-diligence review of the three selected external investment managers in 2021. We negotiated and signed contracts with them to each allocate 5 percent of our assets and are starting to invest in PIE. As of April 1, 2022, we have a total of roughly 10 percent of our assets allocated to PIE. This added diversification is to achieve a better balance of returns and risks, so the Plan's overall financial position can remain strong in the years ahead.

We will conduct a new ALM study in 2022. This is an opportunity to reassess our strategy and reinforce it as needed. We will also assess climate-related investment risks and opportunities using scenario analysis to explore how the transition to lower-carbon activities could impact the global economy and our Plan.

What is an Asset-Liability Modelling study?

Working with external pension experts, we conduct a comprehensive review of the Pension Fund's portfolio of assets in light of emerging economic, financial and investment trends. Any recommendations on the allocation of assets are considered in the context of our broader investment objectives, which are to:

- keep the risk-return profile of the Fund aligned with the Pension Committee's level of risk tolerance;
- improve the efficiency of the Fund by reducing the overall risk of the portfolio;
- maintain the current level of expected returns

Investment activities

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, through external managers.

Cash

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

Performance of the Fund

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 2021 was to achieve a rate of return of 5 percent, which is equal to the Bank of Canada's 2 percent inflation target plus a real return of 3 percent, after expenses.

FIGURES AND TABLE

Figure 1: The five main asset categories in the Fund's portfolio, 2021*

(as at December 31, 2021)

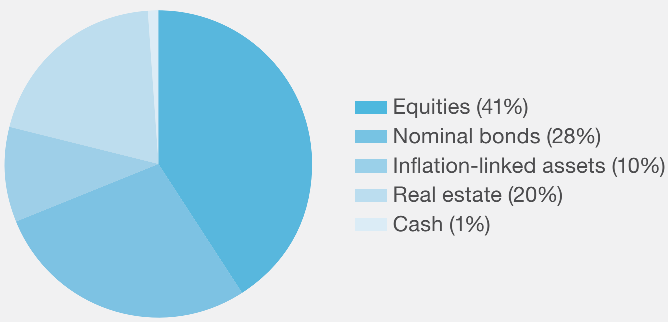

Figure 2: Total fund rate of return

(at December 31, 2021)

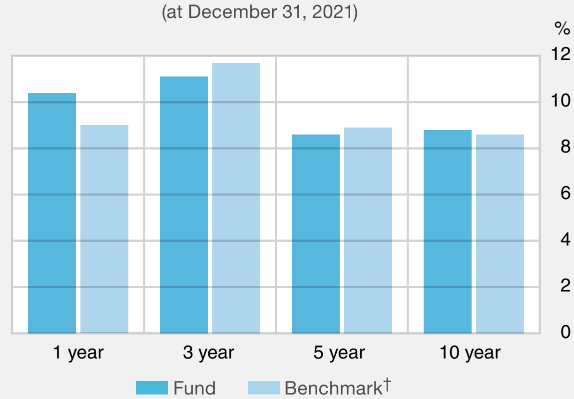

Figure 3: Going-concern basis

($ millions, as at December 31)

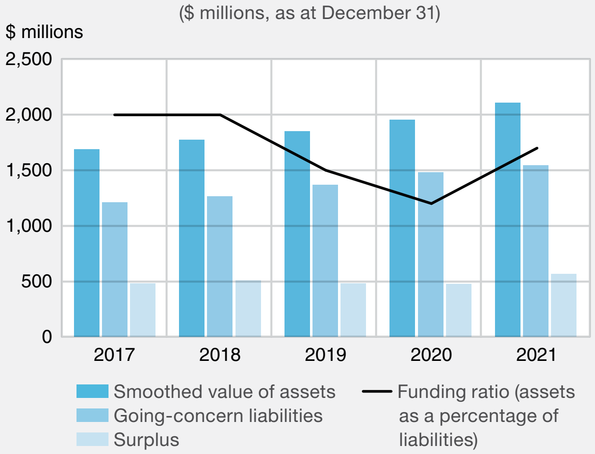

Figure 4: Solvency basis

($ millions, as at December 31)

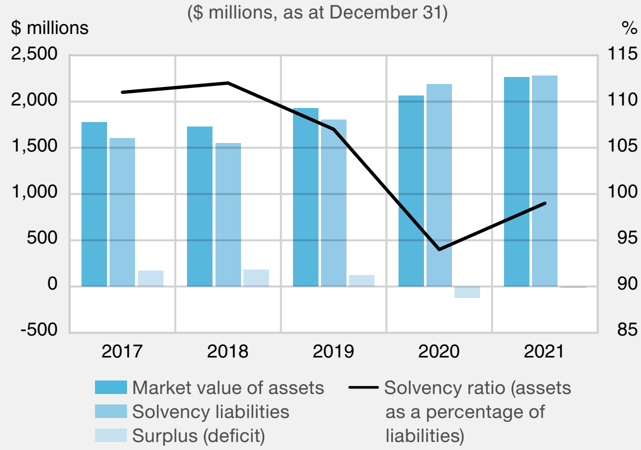

Table 1: Administrative expenses

($ thousands)

	2019	2020	2021
Asset-management fees	7,013	6,880	7,430
Pension administration fees	594	670	666
Other administrative expenses	1,397	1,497	1,570
Initiatives	137	201	289
Consumption taxes	650	640	439
Total expenses	9,791	9,888	10,394
Net assets as at December 31	1,932,369	2,069,713	2,270,888
Total expenses (as a percentage of net assets)	0.51%	0.48%	0.46%

* Policy allocation midpoints

† In 2021, some specific asset class benchmarks were changed to better align with investment mandates and our return expectations. The 1-year benchmark return numbers reflect these changes, while previous years are unaffected.

Actuarial valuation

Financial status of the Plan in 2021

In accordance with pension rules, the Bank conducts annual actuarial valuations. The results of the valuation as at December 31, 2021 showed that the going-concern position of the Plan has remained strong, with a funding surplus of $564 million and a funding ratio of 137 percent. The Plan had a solvency deficit of $14 million, compared with a deficit of $123 million in 2020, and a solvency ratio of 99 percent, compared with 94 percent the previous year (see **Figure 3** and **Figure 4**).

Understanding the solvency valuation

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.

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 valuation 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. 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 made $35 million in regular contributions in 2021 to cover its share of the current service costs of the Plan. These contributions, along with those made by active employees, finance the new benefits that employees accrued for their 2021 work at the Bank. Employer contributions are required whenever a plan's solvency ratio is less than 105 percent, regardless of its going-concern funded ratio. At the end of 2021, the Bank's solvency ratio was 99 percent.

Despite the Fund's strong financial position on a going-concern basis, the Bank made contributions as required by Regulations under the *Pension Benefits Standards Act* due to the solvency position of the Plan. The same is true for 2022: the Bank will be required to contribute despite the strong going-concern financial position.

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

Bank contributions to the Plan in 2022 will further strengthen its going-concern position and improve its solvency position.

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 1 shows the Fund's administrative expenses. Total expenses increased by $506 thousand in 2021, primarily driven by an increase in asset-management fees, initiatives and other administrative expenses and partially offset by a reduction in consumption taxes (HST) paid on services purchased or provided by the Bank to the Pension Plan. Total administrative costs as a percentage of net Fund assets were 0.46 percent in 2021, which is comparable to the costs for similar plans.

Communications

Pension News

In addition to this *Annual Report*, the Bank communicates with Plan members through its annual newsletter, *Pension News*.

- **Active employees** can find electronic versions of this and other Plan information on the Bank's intranet site, Banque Centrale.
- **Pensioners** can receive this, the *Pension News* and other non-confidential Plan information in a subscription-based email newsletter, launched at the end of 2021. A personalized, unique ID is required to subscribe, and a follow-up letter will be sent by mail for those who haven't yet registered. To date, 360 pensioners have signed up for the Bank of Canada Pensioner's E-Newsletter.

Selection Centrale

The Bank offers a secure benefits and pension self-service website, Selection Centrale, where Plan members can review important information:

- **Active employees** can see their annual pension statements and use a projection tool to estimate the pension they will receive when they retire from the Bank.
- **Pensioners** eligible for retiree benefits can review their coverage levels (including life insurance) and update their beneficiary designation. Members with an immediate pension are eligible for health and dental coverage, while those who deferred their pensions are not.

All Plan members can contact the Bank of Canada Benefits and Pension Administration Centre (LifeWorks) if they have questions. See page 12 for contact information.

Personalized Annual Statements

Active employees, as well as pensioners and deferred members, are provided with personalized annual pension statements by early July.

Audited Financial Statements

Full annual audited financial statements of the Plan are available on the Bank's website.

Pensioner information audit

In 2021, we undertook a pilot project with Equifax Canada to streamline and improve the accuracy of our audit process. As explained in our latest issue of *Pension News*, we did not send letters to our retirees to confirm their personal information last year. We are currently assessing whether we will conduct the next validation exercise through a third party or by communicating directly with retirees ourselves. Our actions will be guided by accuracy and process efficiency while ensuring we continue to protect your data privacy.

Are you moving?

It is important to inform us of address changes to ensure that you continue to receive your pay, pension payments and communications (including tax information) without interruption.

For active employees, please update your address directly in PASSePORT.

For retirees, please notify us of your new address by calling the Bank's HR Centre at 613-782-7766 or 1-866-404-7766.

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 (LifeWorks):

The Bank of Canada Benefits and Pension Administration Centre

LifeWorks
1060 Robert-Bourassa Blvd.
Bureau RC-01
Montréal, Quebec H3B 4V3
E-mail: bank-banque-canada@lifeworks.com

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

Active employees: **1-888-903-3308 or selectioncentrale.ca**
Retirees: **1-888-588-6111**

For payroll questions, change of address or customer service concerns, contact the HR Centre:

HR Centre

Bank of Canada
10th Floor, East Tower
234 Wellington Street
Ottawa, Ontario K1A 0G9
E-mail: 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)

Glossary

Actuarial valuation

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

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

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 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 smoothed value of assets divided by the going-concern actuarial liabilities, when applied in a going-concern valuation.

Scenario analysis
A tool for identifying potential climate-related transition risks in an environment of considerable uncertainty. It provides a flexible "what-if" framework to explore how the risks may manifest in the future based on how policy, technology and socio-economic factors could evolve.

Smoothed value of assets
Used for the going-concern valuation to spread the impact of investment losses or gains from any single year over a longer period to stabilize plan contributions. The market value is used for the solvency valuation and in financial statements.

Solvency deficiency
The amount used to calculate whether annual special payments are required under pension legislation and if so, in what amount. The deficiency in any specific year is based on the average solvency position of the past three years. The special payments spread the deficiency amount over five years.

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

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

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