# FINANCIAL STATEMENTS

December 31, 2021

# Contents

# 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, that liabilities are 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. The Board exercises this responsibility through its Audit and Finance Committee (the Committee). The Committee is composed of members who are neither officers nor employees of the Bank and who are financially literate. The Committee is therefore qualified to review the Bank's annual financial statements and to recommend their approval by the Board of Directors. The Committee meets with management, the Chief Internal Auditor and the Bank's independent auditors, who are appointed by the Governor-in-Council. The Committee has established processes to evaluate the independence of the Bank's independent auditors and oversees all services provided by them. The Committee has a duty to review the adoption of, and changes in, accounting principles, policies 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 2021 financial statements have been audited by the Bank's independent auditors, Ernst & Young LLP and KPMG LLP, and their report is presented herein. The independent auditors have full and unrestricted access to the Committee to discuss their audit and related findings.

Tiff Macklem
Governor

Coralia Bulhoes, CPA, CA,
Chief Financial Officer and Chief Accountant

Ottawa, Canada
February 24, 2022

# Independent auditors’ report

To the Minister of Finance, registered shareholder of the Bank of Canada

## Our opinion

We have audited the financial statements of the Bank of Canada (the Bank), which comprise the statement of financial position as at December 31, 2021, and the statement of net income and comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Bank as at December 31, 2021, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS).

## Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the “Auditors’ responsibilities for the audit of the financial statements” section of our report. We are independent of the Bank in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

## Other matter

The financial statements of the Bank for the year ended December 31, 2020 were audited by KPMG LLP and PricewaterhouseCoopers LLP who expressed an unmodified opinion on those financial statements on February 19, 2021.

## Other information

Management is responsible for the other information. The other information comprises the information, other than the financial statements and our auditors’ report thereon, included in the 2021 *Annual Report*. Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon. In connection with our audit of the financial statements, our responsibility is to read the other information, identified above, and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

## Responsibilities of management and those charged with governance for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with IFRS, 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.

In preparing the financial statements, management is responsible for assessing the Bank's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Bank or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Bank's financial reporting process.

## Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error; design and perform audit procedures responsive to those risks; and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit 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 Bank's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Bank's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Bank to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

KPMG LLP

Chartered Professional Accountants
Licensed Public Accountants

Ernst & Young LLP

Chartered Professional Accountants
Licensed Public Accountants

Ottawa, Canada
February 24, 2022

## Statement of financial position

As at December 31 (in millions of Canadian dollars)

| | Note | 2021 | 2020 |
|---|---|---|---|
| **Assets** | | | |
| **Cash and foreign deposits** | 3, 4, 6 | 7 | 6 |
| **Loans and receivables** | 3, 5, 6 | | |
| Securities purchased under resale agreements | | 23,418 | 155,318 |
| Other receivables | | 6 | 6 |
| | | **23,424** | **155,324** |
| **Investments** | 3, 6 | | |
| Government of Canada treasury bills | | 1,331 | 51,750 |
| Government of Canada bonds—carried at amortized cost | | 125,158 | 105,979 |
| Government of Canada bonds—carried at fair value through profit and loss (FVTPL) | | 280,019 | 202,369 |
| Canada Mortgage Bonds | | 9,510 | 9,661 |
| Other bonds | | 14,690 | 14,400 |
| Securities lent or sold under repurchase agreements | | 37,475 | 3,776 |
| Other securities | | - | 3,344 |
| Shares in the Bank for International Settlements (BIS) | | 473 | 486 |
| | | **468,656** | **391,765** |
| **Derivatives—indemnity agreements with the Government of Canada** | 3, 6 | 6,394 | - |
| **Capital assets** | 7 | | |
| Property and equipment | | 529 | 568 |
| Intangible assets | | 112 | 83 |
| Right-of-use leased assets | | 45 | 46 |
| | | **686** | **697** |
| **Other assets** | 8 | 198 | 41 |
| **Total assets** | | **499,365** | **547,833** |
| **Liabilities and equity** | | | |
| **Bank notes in circulation** | 3, 6, 9 | 115,155 | 106,925 |
| **Deposits** | 3, 6, 10 | | |
| Government of Canada | | 70,089 | 80,559 |
| Members of Payments Canada | | 267,394 | 345,664 |
| Other deposits | | 9,551 | 9,877 |
| | | **347,034** | **436,100** |
| **Securities sold under repurchase agreements** | 3, 6 | 35,560 | 3,001 |
| **Derivatives—indemnity agreements with the Government of Canada** | 3, 6 | - | 29 |
| **Other liabilities** | 3, 6, 11, 12 | 1,008 | 1,200 |
| **Total liabilities** | | **498,757** | **547,255** |
| *Commitments, contingencies and guarantees* | 13 | | |
| **Equity** | 14 | 608 | 578 |
| **Total liabilities and equity** | | **499,365** | **547,833** |

Tiff Macklem
Governor

Coralia Bulhoes, CPA, CA
Chief Financial Officer and Chief Accountant

Anne Whelan
Member, Board of Directors, and
Chair, Audit and Finance Committee

(See accompanying notes to the financial statements.)

## Statement of net income and comprehensive income

For the year ended December 31 (in millions of Canadian dollars)

| | Note | 2021 | 2020 |
|---|---|---|---|
| **Income** | | | |
| **Interest revenue** | | | |
| Investments—carried at amortized cost | | 1,830 | 2,147 |
| Investments—carried at FVTPL | | 1,905 | 432 |
| Securities purchased under resale agreements | | 287 | 790 |
| Other sources | | - | 9 |
| | | 4,022 | 3,378 |
| **Interest expense** | | | |
| Deposits | | (889) | (794) |
| Other | | (34) | - |
| **Net interest income** | | 3,099 | 2,584 |
| **Dividend revenue** | | 9 | - |
| **Other revenue** | | 7 | 6 |
| **Net gains and losses on financial instruments carried at FVTPL** | 3 | - | - |
| **Total income** | | 3,115 | 2,590 |
| **Expenses** | | | |
| **Staff costs** | | 363 | 323 |
| **Bank note research, production and processing** | | 83 | 51 |
| **Premises costs** | | 34 | 31 |
| **Technology and telecommunications** | | 95 | 89 |
| **Depreciation and amortization** | | 67 | 61 |
| **Other operating expenses** | | 72 | 71 |
| **Total expenses** | | 714 | 626 |
| **Net income** | | 2,401 | 1,964 |
| **Other comprehensive income (loss)** | | | |
| **Remeasurements of the net defined-benefit liability/asset** | 12 | 422 | (191) |
| **Change in fair value of BIS shares** | 3 | (13) | 48 |
| **Other comprehensive income (loss)** | | 409 | (143) |
| **Comprehensive income** | | 2,810 | 1,821 |

(See accompanying notes to the financial statements.)

## Statement of changes in equity

For the year ended December 31 (in millions of Canadian dollars)

| | Note | Share capital | Statutory reserve | Special reserve | Investment revaluation reserve | Actuarial gains reserve | Retained earnings | Total |
|---|---|---|---|---|---|---|---|---|
| **Balance as at December 31, 2019** | | 5 | 25 | 100 | 400 | - | - | 530 |
| **Comprehensive income for the year** | | | | | | | | |
| Net income | | - | - | - | - | - | 1,964 | **1,964** |
| Remeasurements of the net defined-benefit liability/asset | 12 | - | - | - | - | - | (191) | **(191)** |
| Change in fair value of BIS shares | 3 | - | - | - | 48 | - | - | **48** |
| | | - | - | - | 48 | - | **1,773** | **1,821** |
| **Surplus for the Receiver General for Canada** | 11, 14 | - | - | - | - | - | (1,773) | **(1,773)** |
| **Balance as at December 31, 2020** | | 5 | 25 | 100 | 448 | - | - | 578 |
| **Comprehensive income for the year** | | | | | | | | |
| Net income | | - | - | - | - | - | 2,401 | **2,401** |
| Remeasurements of the net defined-benefit liability/asset | 12 | - | - | - | - | 43 | 379 | **422** |
| Change in fair value of BIS shares | 3 | - | - | - | (13) | - | - | **(13)** |
| | | - | - | - | **(13)** | **43** | **2,780** | **2,810** |
| **Surplus for the Receiver General for Canada** | 11, 14 | - | - | - | - | - | (2,780) | **(2,780)** |
| **Balance as at December 31, 2021** | | **5** | **25** | **100** | **435** | **43** | **-** | **608** |

(See accompanying notes to the financial statements.)

## Statement of cash flows

For the year ended December 31 (in millions of Canadian dollars)

| | 2021 | 2020 |
|---|---|---|
| **Cash flows from operating activities** | | |
| Interest received | 7,571 | 4,386 |
| Dividends received | 9 | - |
| Other revenue received | 7 | 7 |
| Interest paid | (923) | (793) |
| Payments to or on behalf of employees and to suppliers | (604) | (508) |
| Net increase (decrease) in deposits | (89,066) | 410,857 |
| Acquisition of securities purchased under resale agreements | (19,812) | (272,368) |
| Proceeds from maturity of securities purchased under resale agreements | 151,239 | 117,639 |
| Net proceeds from securities sold under repurchase agreements | 32,559 | 3,001 |
| Purchases of Canada Mortgage Bonds | - | (8,741) |
| Purchases of Government of Canada bonds—carried at FVTPL | (140,190) | (213,202) |
| Proceeds from maturity of Government of Canada bonds—carried at FVTPL | 22,009 | 7,247 |
| Purchases of other bonds | (4,491) | (15,295) |
| Proceeds from maturity of other bonds | 2,312 | 28 |
| Proceeds from disposal of other bonds | 10 | 9 |
| Purchase of other securities | - | (62,901) |
| Proceeds from maturity of other securities | 3,337 | 59,564 |
| **Net cash provided by (used in) operating activities** | **(36,033)** | **28,930** |
| **Cash flows from investing activities** | | |
| Acquisition of securities purchased under resale agreements—term repo | - | (33,229) |
| Proceeds from maturity of securities purchased under resale agreements—term repo | - | 48,726 |
| Net maturities (purchases) of Government of Canada treasury bills | 50,843 | (29,107) |
| Purchases of Government of Canada bonds | (34,123) | (42,760) |
| Proceeds from maturity of Government of Canada bonds | 13,889 | 15,740 |
| Purchases of Canada Mortgage Bonds | - | (500) |
| Additions of property and equipment | (14) | (24) |
| Additions of intangible assets | (38) | (34) |
| **Net cash provided by (used in) investing activities** | **30,557** | **(41,188)** |
| **Cash flows from financing activities** | | |
| Net increase in bank notes in circulation | 8,230 | 13,831 |
| Remittance of surplus to the Receiver General for Canada | (2,748) | (1,568) |
| Payments on lease liabilities | (5) | (5) |
| **Net cash provided by financing activities** | **5,477** | **12,258** |
| **Increase in cash and foreign deposits** | **1** | **-** |
| Cash and foreign deposits, beginning of year | 6 | 6 |
| **Cash and foreign deposits, end of year** | **7** | **6** |

(See accompanying notes to the financial statements.)

# Notes to the financial statements of the Bank of Canada

For the year ended December 31, 2021

## 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 Minister of Finance on behalf of the Government of Canada and is exempt from income taxes. The Bank does not offer banking services to the public.

The address of the Bank's registered head office is 234 Wellington Street, Ottawa, Ontario.

The Bank conforms to the financial reporting requirements of the *Bank of Canada Act* as prescribed in the Bank's bylaws, which require that the Bank's financial statements be prepared in accordance with generally accepted accounting principles as set out in the *CPA Canada Handbook*, published by the Chartered Professional Accountants of Canada (CPA Canada). Consistent with CPA Canada guidance, 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. In compliance with this requirement, the Bank has developed accounting policies in accordance with International Financial Reporting Standards (IFRS).

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 five core areas of responsibility are the following:

- **Monetary policy**: The Bank conducts monetary policy 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. The Bank is the fiscal agent for the government, providing treasury-management services and administering and advising 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.
- **Retail payments supervision**: The Bank supervises payment service providers to build confidence in the safety and reliability of their services and protect users from specific risks.

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 a significant liability on the Bank's balance sheet. The Bank invests part of the proceeds from issuing bank notes into Government of Canada securities and Canada Mortgage Bonds acquired on a non-competitive basis in the primary market. The Bank also uses part of these proceeds to execute its responsibilities for its monetary policy and financial system functions.

The interest income generated from the assets backing the bank notes in circulation (net of bank note production and distribution costs) is referred to as seigniorage. It provides a stable and constant source of reserves and funding for the Bank's operations, which enables the Bank to function independently of government appropriations. Net income is remitted to the Receiver General for Canada in accordance with the requirements of the *Bank of Canada Act*.

# 2. Basis of preparation

## Compliance with International Financial Reporting Standards

These financial statements have been prepared in accordance with IFRS as issued by the International Accounting Standards Board.

The Board of Directors approved the financial statements on February 24, 2022.

## 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 Canada. In its role as fiscal agent, the Bank provides transactional and administrative support to the Government of Canada in certain areas, consistent with the requirements of section 24 of the *Bank of Canada Act*. Also in this role, the Bank does not bear the risks and rewards of the related financial assets and liabilities. These assets, liabilities and related revenues and expenses are not included in the financial statements of the Bank, except for the costs incurred by the Bank to fulfill its fiscal-agent role, as discussed in Note 15.

The Bank provides securities safekeeping and other custodial services to foreign central banks, international organizations and other government-related entities. Under the terms governing these services, the Bank is indemnified against losses. Any assets and income that are managed under these services are excluded from the Bank's financial statements because they are not assets or income of the Bank.

## Measurement base

The financial statements have been prepared on a historical cost basis, except for the following items:

- financial instruments classified (or designated) and measured at fair value through profit or loss (FVTPL);
- the Bank's shares in the Bank for International Settlements (BIS), which are designated and measured at fair value through other comprehensive income (FVOCI); 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 obligations.

## 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 are in millions of Canadian dollars, unless otherwise stated.

## Significant accounting policies

This section contains the Bank's accounting policies that relate to the financial statements as a whole. When an accounting policy is applicable to a specific note to the financial statements, the policy and related disclosures are provided within that note.

**Revenue recognition**

- Interest revenue is recognized in net income using the effective interest method.
- Dividend revenue from the Bank's investment in BIS shares is recognized as dividends are declared.
- Other revenue is recognized in net income as it is earned, when it can be reliably measured and when collectibility is probable.

**Foreign currencies**

Investment income and expenses denominated in foreign currencies are translated into Canadian dollars at the exchange rate in effect at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated into Canadian dollars at the exchange rate in effect at the end of the reporting period. The resulting foreign exchange gains and losses are included in *Other revenue*. Gains or losses on equity investments classified as FVOCI, including those related to the exchange rate, are recognized in other comprehensive income.

**Impairment of non-financial assets**

Non-financial assets, including *Property and equipment, Intangible assets* and *Right-of-use leased assets* are reviewed annually for indicators of impairment and whenever events or changes in circumstances indicate that the carrying amount exceeds their recoverable amount.

Intangible assets under development are assessed annually for impairment.

**Key accounting judgments, estimates and assumptions**

The preparation of the financial statements requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses, and other related information.

The Bank based its assumptions and estimates on the information available when these financial statements were prepared. 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 reporting period.

Judgments, estimates and underlying assumptions are regularly reviewed for appropriateness and consistent application. Revisions to accounting estimates are recognized in the reporting period in which the estimates are revised and in any future reporting periods affected. Significant judgment and estimates are used in the measurement of financial instruments (Note 3B) and employee benefits (Note 12).

**Current changes to International Financial Reporting Standards**

No new or amended standards were adopted by the Bank in 2021 that had a significant impact on its financial statements.

**Future changes to International Financial Reporting Standards**

Currently, no new or amended standards issued but not yet effective are expected to have a significant impact on the Bank's financial statements.

## 3. Financial instruments

### A) Accounting policy

**Recognition and derecognition**

The Bank accounts for all financial instruments using settlement-date accounting. Financial assets and liabilities are recorded when the Bank becomes party to the contractual provisions of the instruments. Financial instruments are initially recognized at fair value plus transaction costs, if any. The Bank derecognizes a financial asset when it considers that substantially all the risks and rewards of the asset have been transferred or when the contractual rights to the cash flows of the financial asset expire. The Bank does not derecognize collateral pledged by the Bank under standard repurchase agreements and securities-lending transactions since the Bank retains substantially all risks and rewards on the basis of the predetermined repurchase price. The Bank derecognizes financial liabilities when the Bank's obligations are discharged, are cancelled or expire.

**Classification and measurement**

The Bank's financial instruments are classified and subsequently measured as follows:

| Financial instrument | Classification and subsequent measurement | Carrying value | Fair value |
|---|---|---|---|
| Financial assets | | | |
| **Cash and foreign deposits** | Amortized cost | **7** | * |
| **Loans and receivables** | | | |
| Securities purchased under resale agreements | Amortized cost | 23,418 | * |
| Other receivables | Amortized cost | 6 | * |
| | | **23,424** | * |
| **Investments** | | | |
| Government of Canada treasury bills | Amortized cost | 1,331 | 1,331 |
| Government of Canada bonds—primary market | Amortized cost | 125,158 | 128,229 |
| Government of Canada bonds—secondary market | | | |
| Government of Canada bonds | FVTPL | 274,994 | 274,994 |
| Real return bonds | FVTPL | 5,025 | 5,025 |
| | | 280,019 | 280,019 |
| Canada Mortgage Bonds | Amortized cost | 9,510 | 9,299 |
| Other bonds | | | |
| Provincial bonds | FVTPL | 14,523 | 14,523 |
| Corporate bonds | FVTPL | 167 | 167 |
| | | 14,690 | 14,690 |
| Securities lent or sold under repurchase agreements | | | |
| Provincial bonds lent | FVTPL | 1,855 | 1,855 |
| Government of Canada treasury bills | Amortized cost | 163 | 163 |
| Government of Canada bonds—primary market | Amortized cost | 939 | 932 |
| Government of Canada bonds—secondary market | FVTPL | 34,518 | 34,518 |
| | | 37,475 | 37,468 |
| Shares in the Bank for International Settlements | FVOCI | 473 | 473 |
| | | **468,656** | **471,509** |
| **Derivatives—indemnity agreements with the Government of Canada** | FVTPL | **6,394** | **6,394** |
| Financial liabilities | | | |
| **Bank notes in circulation** | Face value | **115,155** | * |
| **Deposits** | Amortized cost | **347,034** | * |
| **Securities sold under repurchase agreements** | Amortized cost | **35,560** | * |
| **Other financial liabilities** | Amortized cost | **697** | * |

* Approximates carrying value due to their nature or term to maturity

### *Financial assets at amortized cost*

The Bank's financial assets at amortized cost are primarily debt instruments with cash flows consisting solely of payments of principal and interest. The Bank's objective is to hold the financial assets in order to collect contractual cash flows. Interest income is calculated by applying the effective interest rate to the gross carrying amount of financial assets, unless a financial asset has become credit-impaired, in which case interest revenue is calculated by applying the effective interest rate to its amortized cost net of the expected credit loss (ECL) provision.

*Cash and foreign deposits* is composed of cash on hand and highly liquid demand deposits in foreign currencies held at other central banks or international financial institutions. They are principally held for cash flow management purposes and are managed by collecting contractual cash flows.

*Securities purchased under resale agreements (SPRAs)*, *advances to members of Payments Canada*, *other receivables*, *Government of Canada treasury bills*, *Government of Canada bonds—primary market, Canada Mortgage Bonds* and *other securities* are debt instruments that are managed by collecting contractual cash flows. They are measured at amortized cost using the effective interest method[1] less any ECLs. Additional disclosure for SPRAs can be found in Note 5.

### *Financial assets designated at FVTPL*

*Government of Canada bonds—secondary market*, *real return bonds*, *provincial bonds* and *corporate bonds* are debt instruments whose business objective is achieved by both collecting contractual cashflows and selling financial assets. The Bank has elected to irrevocably designate these at FVTPL to reduce the accounting mismatch arising from the derivative-related indemnity agreement on each of these instruments. Changes in fair value as well as any gains or losses realized on disposal are recognized in income (loss). Amounts relating to fair value changes and realized gains and losses can be found in Note 3C. The Bank has also elected to present interest income and expense resulting from these instruments separate from net gains and losses. Interest is calculated using the effective interest method.

The Bank operates a securities-lending program for provincial bonds purchased under the Provincial Bond Purchase Program (PBPP). The Bank enters into arrangements to lend securities against non-cash collateral, with the agreement to receive the securities back at a future date, thereby retaining substantially all the risks and rewards of ownership. As a result, the securities do not qualify for derecognition and remain on the statement of financial position.

### *Derivatives*

*Indemnity agreements with the Government of Canada* consists of agreements that were entered into to address market fluctuations as a result of the Bank's operations under the Government of Canada Bond Purchase program (GBPP), the PBPP and the Corporate Bond Purchase Program (CBPP). Realized losses resulting from the sale of assets within these programs are indemnified by the Government of Canada, whereas realized gains on disposal are remitted. Given that the value of the agreements responds to changes in the underlying prices of the instruments in the programs, the indemnity agreements are considered derivatives. These agreements are initially recognized and carried at their fair value on the statement of financial position with changes in fair value recognized in income (loss). The fair value of these derivatives is calculated as the difference between the fair value of the related instruments and their amortized cost.

### *Financial assets designated at FVOCI*

The Bank holds 9,441 BIS shares (9,441 BIS shares as at December 31, 2020) as part of its functions as a central bank. These shares are long-standing in nature. Ownership of BIS shares is limited to central banks, and new shares can be

1 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.

acquired only by invitation from the BIS Board of Directors to subscribe. The shares are non-transferable without prior written consent from the BIS. The Bank's business model is to hold these shares to enable its participation as a member of the BIS.

The shares in the BIS are not held for trading. They are managed by collecting dividend payments. Unrealized changes in the fair value are recognized in other comprehensive income and accumulated in the investment revaluation reserve in *Equity*. Dividends are recognized in net income as they represent a return on equity and not a return of invested capital to shareholders.

#### *Financial liabilities at face value*

*Bank notes in circulation* represents those bank notes that have been produced and issued for use in the economy. Bank notes in circulation are non-interest-bearing liabilities and are due on demand. They are recorded at face value. The fair value of bank notes in circulation approximates their carrying value.

#### *Financial liabilities at amortized cost*

*Deposits* is composed of deposits by the Government of Canada, members of Payments Canada and other financial institutions. It also includes unclaimed balances remitted to the Bank in accordance with governing legislation. The Bank pays interest on the deposits of the Government of Canada, members of Payments Canada and some other financial institutions at short-term market rates. The Bank pays interest on unclaimed balances in accordance with governing legislation. Interest expense on deposits is included in net income. Deposits are managed by paying contractual cash flows and are measured at amortized cost using the effective interest method.

*Securities sold under repurchase agreements* stems from the Bank's Securities Repo Operations program, which was introduced in July 2020 to support liquidity in the securities financing market. Under this program, the Bank enters into sale and repurchase agreements for Government of Canada securities, whereby the securities are sold and repurchased the following day. Under such transactions, the Bank retains substantially all the risks and rewards associated with the assets. Where financial assets are not eligible for derecognition, the transfers are viewed as secured financing transactions, with any consideration received resulting in a corresponding liability measured at amortized cost. The Bank is not entitled to use these financial assets for any other purpose.

*Other financial liabilities* consists of surplus payable to the Receiver General for Canada, accounts payable and accrued liabilities.

#### *Financial guarantee contracts—indemnity agreements with the Government of Canada*

The Bank entered into separate agreements with the Government of Canada that indemnify the Bank in the event that credit losses are incurred on securities purchased under the Provincial Money Market Purchase Program or the Commercial Paper Purchase Program. These agreements are recognized as stand-alone financial guarantee contracts and are accounted for under International Accounting Standard 37. An asset is recognized only when an issuer defaults and the Bank files a reimbursement claim with the government. Securities eligible for these guarantees are classified as other securities. The Bank held no securities eligible for the guarantees as at December 31, 2021.

### Impairment and writeoff

The Bank calculates ECLs on investments in debt instruments that are measured at amortized cost and on foreign currency swap facility commitments. The amount of ECLs is updated at each reporting date to reflect changes in credit risk since initial recognition. The ECL is estimated as the difference between all contractual cash flows that are due to the Bank in accordance with the contract and all the cash flows that the Bank expects to receive, discounted at the original effective interest rate. The ECL model is a function of the probability of default, loss given default, and exposure at default of an issuer, discounted to the reporting date using the effective interest rate. Instruments are grouped on a collective basis by counterparty and instrument type for evaluation of the ECL.

*Key concepts*

*Probability of default*
The likelihood that a borrower would not be able to meet its scheduled repayments.

*Loss given default*
The amount of the loss the Bank would likely incur if a borrower defaulted on a loan, expressed as a percentage of exposure at default.

*Low credit risk*
The Bank has applied the practical expedient available under IFRS 9 to applicable low credit risk financial assets. The Bank considers a financial asset to have a low credit risk when the asset's creditworthiness is judged to be "investment grade," which the Bank broadly defines as equivalent to BBB or higher.

*Significant increase in credit risk*
In assessing whether the credit risk on a financial asset has increased significantly since initial recognition, the Bank compares the risk of a default occurring on the financial asset as at the reporting date with the risk as at the date of initial recognition. The Bank considers many factors when assessing a financial asset for a significant increase in credit risk, including but not limited to (1) an actual or expected significant deterioration in the financial asset's credit rating; (2) significant deterioration in external market indicators of credit risk for a financial asset; and (3) existing or forecast adverse changes in the business, financial, regulatory, technological or economic environment of the counterparty that result in a significant decrease in the counterparty's ability to meet its debt obligations.

The Bank regularly monitors the effectiveness of the criteria used to identify whether there has been a significant increase in credit risk and revises them as appropriate. The Bank assumes that the credit risk on a financial asset has not increased significantly since initial recognition if the financial asset is determined to have a low credit risk at the reporting date and monitoring activities do not indicate the presence of a trigger event. The Bank corroborates external credit ratings with an internal analysis performed annually, with quarterly updates. The Bank also performs continuous monitoring of relevant economic and financial developments.

*Credit-impaired*
A financial asset is deemed credit-impaired when one or more events with a detrimental impact on its estimated future cash flows have occurred. Such events could include but are not limited to (1) significant financial difficulty of the counterparty; (2) a breach of contract, such as a default or past-due event; and (3) the likelihood that the counterparty will enter bankruptcy or other financial reorganization.

*Default*
The Bank considers a financial asset to be in default when the borrower is unlikely to pay its credit obligations to the Bank in full, without recourse by the Bank, such as realizing collateral (if held).

The ECL model applies a three-stage approach to measure the allowance for credit losses. Expected credit losses are measured based on the stage assignment of the financial instrument:

**Stage 1**

Financial assets are categorized as Stage 1 when first recognized. The Bank records an allowance for 12-month ECLs in profit or loss, and interest revenue is calculated on the gross carrying amount of the asset.

**Stage 2**

Financial assets are categorized as Stage 2 when they have experienced a significant increase in credit risk since initial recognition. The Bank records an allowance for lifetime ECLs, and interest revenue is calculated on the gross carrying amount of the asset.

**Stage 3**

Financial assets are categorized as Stage 3 when they are considered credit-impaired. The Bank records an allowance for lifetime ECLs, and interest revenue is calculated based on the net carrying amount of the asset (gross carrying amount less the loss allowance), rather than on its gross carrying amount.

**Fair value of financial instruments**

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

**Level 1**
Unadjusted quoted prices in active markets for identical assets or liabilities, which represent actual and regularly occurring arm's-length market transactions

**Level 2**
Inputs other than quoted prices included in Level 1, which are observable for the assets or liabilities either directly (e.g., prices for similar instruments, prices from inactive markets) or indirectly (e.g., interest rates, credit spreads)

**Level 3**
Unobservable inputs for the assets or liabilities that are not based on observable market data as a result of inactive markets (e.g., market participant assumptions)

Estimated fair values for financial instruments are designed to approximate amounts for which the instruments could be exchanged in a current arm's-length transaction between knowledgeable, willing parties. 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. Transfers may occur between levels of the fair value hierarchy as a result of changes in market activity or the availability of quoted market prices or observable inputs. The Bank's policy is to record transfers of assets and liabilities between the different levels of the fair value hierarchy using the fair values as at the end of each reporting period.

## B) Accounting estimates and judgments

**Expected credit losses**

Judgment is required when determining the appropriate amount of ECLs to recognize. The measurement of ECLs reflects an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes, the time value of money, and reasonable and supportable information that is available without undue cost or effort at the reporting date regarding past events, current conditions and forecasts of future economic conditions.

In certain cases, the Bank may consider that events result in a significant increase in credit risk as opposed to a true default. In making this assessment, the Bank considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort. Forward-looking information considered includes the future prospects of the industries in which the Bank's counterparties operate and consideration of various external sources of actual and forecast economic information.

Significant judgments required for measuring ECLs include the following:

- determining criteria for assessing whether a financial asset is considered to have a low credit risk
- determining criteria for assessing what constitutes a significant increase in credit risk
- determining appropriate data inputs for probability of default, loss given default and exposure at default

All of the Bank's financial assets subject to impairment assessments are Stage 1 and considered to have a low credit risk. There were no transfers of financial instruments between stages during the reporting period. The Bank did not record any ECLs on these financial instruments as at December 31, 2021 ($nil as at December 31, 2020) because the amount was deemed not to be material. By its nature, the ECL estimates are subject to measurement uncertainty. The Bank will continue to review its judgments and assumptions to assess whether the ECL estimate has changed. There are no significant past due or impaired amounts as at December 31, 2021 ($nil as at December 31, 2020).

*Loan commitments*

This category includes the Bank's commitments to the Bank's foreign currency swap facility. For commitments made by the Bank that are not currently in use but where there is a clear indication that use can reasonably be expected within the next 12 months, the Bank would assess the commitment for any impairment on a case-by-case basis based on expected drawings.

For undrawn loan commitments, the ECL is the present value of the difference between the contractual cash flows that are paid out by the Bank if the holder of the loan commitment draws down the loan and the cash flows that the Bank expects to recover.

As at December 31, 2021, no ECL had been recorded as none of the Bank's commitments had been drawn upon, nor does the Bank expect that any will be drawn upon within the next 12 months ($nil as at December 31, 2020).

**Fair value of financial instruments**

Where observable prices or inputs are not available, judgment is required to determine fair values by assessing other relevant sources of information. The fair value of the BIS shares is determined using significant unobservable inputs (Level 3). It is estimated as 70% of the Bank's interest in the net asset value of the BIS at the reporting date. This is consistent with 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 expects the value of the BIS shares to fluctuate over time in conjunction with the strength of the BIS balance sheet and exchange rates.

## C) Supporting information

**Fair value of financial instruments**

Below are the valuation methods used to determine the fair value of each financial instrument and its associated level in the fair value hierarchy. There were no changes to valuation methods during the year.

*Derivatives—indemnity agreements with the Government of Canada*

Calculated using market prices derived from observable inputs (Level 2)

The fair value of the derivatives amounts to $6,394 million asset (a $29 million liability as of December 31, 2020) and is calculated as the difference between the underlying prices of the instruments in the programs and their underlying amortized cost. The Bank expects the value of the derivatives to fluctuate over time, moving in the opposite direction of the fair value movements of the underlying instruments.

*Cash and foreign deposits, other receivables, deposits, securities sold under repurchase agreements and other financial liabilities*

Carrying amount (approximation to fair value assumed due to their nature or term to maturity)

*SPRAs, Government of Canada treasury bills, Government of Canada bonds, real return bonds, Canada Mortgage Bonds, provincial bonds, corporate bonds, securities lent or sold under repurchase agreements and other securities*

Prices observed in active markets (Level 1), or market prices derived from observable inputs (Level 2)

The following table shows the fair value of the Bank's financial assets classified in accordance with the fair value hierarchy described above. Some of the balances in this table do not correspond to the balances in the statement of financial position because certain financial assets are measured at amortized cost.

| | Level 1 | Level 2 | Level 3 | Fair value |
|---|---|---|---|---|
| **As at December 31, 2021** | | | | |
| Securities purchased under resale agreements | - | 23,418 | - | 23,418 |
| Government of Canada treasury bills | 1,331 | - | - | 1,331 |
| Government of Canada bonds—primary market | 128,201 | 28 | - | 128,229 |
| Government of Canada bonds—secondary market | 274,455 | 539 | - | 274,994 |
| Real return bonds | 4,225 | 800 | - | 5,025 |
| Canada Mortgage Bonds | 9,299 | - | - | 9,299 |
| Provincial bonds | 12,348 | 2,175 | - | 14,523 |
| Corporate bonds | 21 | 146 | - | 167 |
| Securities lent or sold under repurchase agreements | | | | |
| Government of Canada treasury bills | 163 | - | - | 163 |
| Government of Canada bonds—primary market | 932 | - | - | 932 |
| Government of Canada bonds—secondary market | 34,518 | - | - | 34,518 |
| Provincial bonds lent | 1,586 | 269 | - | 1,855 |
| Shares in the Bank for International Settlements | - | - | 473 | 473 |
| **Total** | **467,079** | **27,375** | **473** | **494,927** |

The table below presents the comparative fair value as at December 31, 2020.

| | Level 1 | Level 2 | Level 3 | Fair value |
|---|---|---|---|---|
| As at December 31, 2020 | | | | |
| Securities purchased under resale agreements | - | 155,459 | - | **155,459** |
| Government of Canada treasury bills | 47,725 | 4,056 | - | **51,781** |
| Government of Canada bonds—primary market | 113,189 | 135 | - | **113,324** |
| Government of Canada bonds—secondary market | 198,138 | 699 | - | **198,837** |
| Real return bonds | 3,183 | 349 | - | **3,532** |
| Canada Mortgage Bonds | 9,776 | - | - | **9,776** |
| Provincial bonds | 11,549 | 2,671 | - | **14,220** |
| Corporate bonds | 14 | 166 | - | **180** |
| Securities lent or sold under repurchase agreements | | | | |
| Government of Canada treasury bills | 694 | - | - | **694** |
| Government of Canada bonds—secondary market | 2,310 | - | - | **2,310** |
| Provincial bonds lent | 679 | 93 | - | **772** |
| Other securities | - | 3,347 | - | **3,347** |
| Shares in the Bank for International Settlements | - | - | 486 | **486** |
| Total | **387,257** | **166,975** | **486** | **554,718** |

Transfers of securities measured at fair value may occur between levels of the fair value hierarchy as a result of changes in market activity or the availability of quoted market prices or observable inputs. The Bank's policy is to record transfers of assets between the different levels of the fair value hierarchy using the fair values as at the end of each quarterly reporting period. The following transfers were done during the year:

| | Level 2 to Level 1 | Level 1 to Level 2 |
|---|---|---|
| Government of Canada bonds—secondary market | 4,952 | 4,852 |
| Real return bonds | 1,260 | 1,838 |
| Provincial bonds | 1,481 | 1,428 |
| Corporate bonds | 31 | 33 |
| Total | 7,724 | 8,151 |

Transfers during 2020 were as follows:

| | Level 2 to Level 1 | Level 1 to Level 2 |
|---|---|---|
| Government of Canada bonds—secondary market | 477 | - |
| Real return bonds | - | 348 |
| Provincial bonds | 4,224 | 356 |
| Corporate bonds | 17 | 4 |
| Total* | **4,718** | **708** |

* The level transfer totals in the December 2020 financial statements included transfers for securities held at amortized cost, which have been excluded in the comparative table above.

### BIS shares

The following table reconciles the opening and closing balances of the BIS shares.

| | 2021 | 2020 |
|---|---|---|
| Opening balance at beginning of year | 486 | 438 |
| Change in fair value recorded through other comprehensive income | 4 | 40 |
| Change due to special drawing rights exchange differences recorded through other comprehensive income | (17) | 8 |
| **Closing balance at end of year** | **473** | **486** |

### Derivatives—indemnity agreements with the Government of Canada

| | Related asset | | Derivatives—indemnity agreements with the Government of Canada | Derivative asset position | Derivative liability position |
|---|---|---|---|---|---|
| | Amortized cost | Fair value | Fair value | Fair value | Fair value |
| Government of Canada bonds—secondary market | 320,615 | 314,537 | 6,078 | 6,248 | (170) |
| Provincial bonds | 16,694 | 16,378 | 316 | 316 | - |
| Corporate bonds | 167 | 167 | - | 1 | (1) |
| **Balance as at December 31, 2021** | **337,476** | **331,082** | **6,394** | **6,565** | **(171)** |

The table below presents the comparative values as at December 31, 2020.

| | Related asset | | Derivatives—indemnity agreements with the Government of Canada | Derivative asset position | Derivative liability position |
|---|---|---|---|---|---|
| | Amortized cost | Fair value | Fair value | Fair value | Fair value |
| Government of Canada bonds—secondary market | 204,728 | 204,679 | 49 | 367 | (318) |
| Provincial bonds | 14,916 | 14,991 | (75) | - | (75) |
| Corporate bonds | 177 | 180 | (3) | - | (3) |
| **Balance as at December 31, 2020** | **219,821** | **219,850** | **(29)** | **367** | **(396)** |

### Net unrealized losses (gains) on financial instruments carried at FVTPL

| For the year ended December 31 | 2021 | 2020 |
|---|---|---|
| Government of Canada bonds—secondary market | 6,029 | 49 |
| Provincial bonds | 391 | (75) |
| Corporate bonds | 3 | (3) |
| Derivatives—indemnity agreements | (6,423) | 29 |
| **Total** | - | - |

Net gains and losses arising from financial instruments carried at FVTPL during the year are equal to the change in fair value of the derivatives shown in the tables above. The $6,423 million net losses on the financial assets

($29 million gains in 2020) were offset by net gains of $6,423 million on the derivatives ($29 million losses in 2020). Realized gains and losses in the year were negligible ($nil in 2020).

# 4. Cash and foreign deposits

**Composition of cash and foreign deposits**

| As at December 31 | 2021 | 2020 |
|---|---|---|
| Cash on hand | 3 | 2 |
| Foreign deposits | 4 | 4 |
| **Total cash and foreign deposits** | **7** | **6** |

The Bank's policies on classifying and measuring financial instruments are discussed in Note 3A, and related financial risks are discussed in Note 6.

# 5. Loans and receivables

*Loans and receivables* is composed primarily of SPRAs and, if any, advances to members of Payments Canada. These transactions are obligations of Payments Canada members and are fully collateralized in accordance with publicly disclosed collateral eligibility and margin requirements. The remaining amount is composed primarily of trade receivables.

*Securities purchased under resale agreements* is composed of overnight repurchase (repo) operations and term repo operations, 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. The overnight repo matures the next business day and is used to support the effective implementation of monetary policy by withdrawing intraday liquidity, thereby reinforcing the Bank's target for the overnight rate. The term repo matures up to 24 months after issuance and is used to manage the balance sheet and promote the orderly functioning of Canadian financial markets. Balances outstanding as at December 31, 2021, consist of agreements with original terms to maturity ranging from 364 to 724 days (from 168 to 724 days as at December 31, 2020).

The Bank's policies on classifying and measuring financial instruments are discussed in Note 3A, and related financial risks are discussed in Note 6.

# 6. Financial risk management

The Bank maintains a comprehensive risk management and control framework to manage its risks. The Executive Council oversees enterprise 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 risks associated with its financial instruments, including credit, market and liquidity risks. The Financial Risk Office monitors and reports on the financial risks related 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 possibility of loss due to the failure of a counterparty or guarantor to meet payment obligations in accordance with agreed-upon terms.

The Bank is exposed to credit risk through its cash and foreign deposits, investments and advances to members of Payments Canada (if any), and through market transactions in the form of SPRAs and loans of securities. The maximum exposure to credit risk is estimated to be the carrying value of those items. The Bank is also exposed to credit risk through the execution of foreign currency contracts. The maximum exposure under guarantees and foreign currency contracts is discussed in Note 13. There are no past due or impaired amounts.

### Concentration of credit risk

The Bank's investment portfolio represents 94% of the carrying value of its total assets (72% as at December 31, 2020). The credit risk associated with the Bank's investment portfolio is low because the securities held are primarily direct obligations of the Government of Canada or are fully guaranteed by the Government of Canada, which holds a credit rating of AAA with most credit agencies and has no history of default.

SPRAs represent 5% of the carrying value of the Bank's total assets (28% as at December 31, 2020). In the unlikely event of a counterparty default, collateral can be liquidated to offset credit exposure. 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 credit quality of collateral is managed through a set of restrictions based on asset type, term to maturity and credit attributes, including ratings of the securities pledged. The Bank monitors collateral positions regularly and requires counterparties to pledge additional collateral as risk increases.

The fair value of collateral pledged to the Bank against these financial instruments at the end of the reporting period is presented below.

| As at December 31 | | 2021 | | 2020 |
|---|---|---|---|---|
| | $ | % | $ | % |
| Securities issued or guaranteed by the Government of Canada | 816 | 3 | 4,154 | 3 |
| Securities issued or guaranteed by a provincial government | 2,543 | 10 | 27,856 | 17 |
| Securities issued by a municipality | - | - | 219 | - |
| Other public sector securities | - | - | 1,282 | 1 |
| Corporate debt securities | 17,154 | 70 | 113,969 | 70 |
| Asset-backed securities | 4,211 | 17 | 15,473 | 9 |
| **Total fair value of collateral pledged to the Bank** | **24,724** | **100** | **162,953** | **100** |
| **Carrying value of collateralized securities** | **23,418** | | **155,318** | |
| **Collateral as a percentage of carrying value** | | **106** | | **105** |

As at December 31, 2021, the Bank's investments included loaned provincial bonds with a fair market value of $1,855 million ($772 million as at December 31, 2020). The fair value of collateral held totalled $1,947 million, representing 105% of fair value of the securities loaned ($811 million in 2020, representing 105%).

## Market risk

Market risk is the potential for adverse changes in the fair value or future cash flows of a financial instrument due to changes in market variables, such as interest rates, foreign exchange rates and market prices. It is composed of 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 interest rates.

The Bank's exposure to interest rate risk arises from fluctuations in the future flows of cash and foreign deposits held by the Bank and deposits held at the Bank by other institutions because these instruments are subject to variable interest rates. The Bank also carries interest rate risk associated with fluctuations in future cash flows from real return bonds, which are linked to inflation. The remainder of the Bank's financial assets and liabilities have either fixed interest rates or are non-interest-bearing.

The table below shows the effect of an increase (decrease) in interest rates of 25 basis points on the interest expense or revenue on deposits of the Government of Canada, those of members of Payments Canada, other deposits and real return bonds. This represents substantially all the Bank's interest rate risk exposure.

| For the year ended December 31 | 2021 | 2020 |
| --- | --- | --- |
| Interest expense on Government of Canada deposits | 162 / (162) | 227 / (227) |
| Interest expense on members of Payments Canada deposits | 749 / (749) | 513 / (513) |
| Interest expense on other deposits | 24 / (24) | 20 / (20) |
| Interest revenue on real return bonds | 9 / (9) | 3 / (3) |

### 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. The currency risk is not considered to be significant because the Bank's net foreign currency exposure relative to its total assets is small.

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, 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).

The Bank is exposed to other price risk through its investment in the BIS. As discussed in Note 3B, the fair value of these shares is estimated based on the net asset value of the BIS, less a discount of 30%. Accordingly, the fair value fluctuations of these shares reflect movements in the net asset value of the BIS and exchange rates.

The securities held at FVTPL expose the Bank to fluctuations in market prices. However, all these securities are fully indemnified for gains and losses beyond amortized cost. Fluctuations in market prices for the FVTPL instruments are offset by equivalent fair value fluctuations of the derivatives. Therefore, the Bank bears no net price risk related to the securities.

## Liquidity risk

Liquidity risk is the potential for loss if the Bank is unable to meet its financial obligations as they become due. Liabilities due on demand include bank notes in circulation and Government of Canada deposits, with the remaining liabilities (deposits of members of Payments Canada, securities sold under repurchase agreements [if any] and other financial liabilities) due within 90 days.

Historical experience has shown that bank notes in circulation provide a stable source of long-term funding for the Bank. In the event of an unexpected redemption of bank notes or a significant withdrawal from deposits of the Government of Canada or members of Payments Canada, the Bank can settle the obligation by means of several tools, including the sale of highly liquid investments backing those liabilities.

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 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 because the table presents all cash flows on an undiscounted basis. When the amount payable is not fixed, the amount disclosed is determined by reference to the conditions existing at the end of the reporting period.

| As at December 31, 2021 | Due on demand | Within 90 days | Within 4 to 12 months | Within 1 to 5 years | In more than 5 years | Total |
|---|---|---|---|---|---|---|
| **Financial assets** | | | | | | |
| **Cash and foreign deposits** | 7 | - | - | - | - | **7** |
| **Loans and receivables** | - | 7,843 | 15,604 | - | - | **23,447** |
| **Investments** | | | | | | |
| Government of Canada treasury bills | - | 1,144 | 350 | - | - | **1,494** |
| Government of Canada bonds at amortized cost | - | 4,516 | 18,583 | 63,792 | 54,859 | **141,750** |
| Government of Canada bonds at FVTPL | - | 10,076 | 43,248 | 168,723 | 115,112 | **337,159** |
| Real return bonds | - | - | 100 | 1,120 | 3,631 | **4,851** |
| Canada Mortgage Bonds | - | 32 | 1,463 | 4,130 | 4,275 | **9,900** |
| Provincial bonds | - | 1,601 | 3,102 | 6,730 | 5,951 | **17,384** |
| Corporate bonds | - | 7 | 33 | 132 | - | **172** |
| Shares in BIS* | 473 | - | - | - | - | **473** |
| | **480** | **25,219** | **82,483** | **244,627** | **183,828** | **536,637** |
| **Financial liabilities** | | | | | | |
| **Bank notes in circulation** | 115,155 | - | - | - | - | **115,155** |
| **Deposits** | | | | | | |
| Government of Canada | 70,089 | - | - | - | - | **70,089** |
| Members of Payments Canada | - | 267,394 | - | - | - | **267,394** |
| Other deposits | 9,551 | - | - | - | - | **9,551** |
| **Securities sold under repurchase agreements** | - | 35,560 | - | - | - | **35,560** |
| **Other financial liabilities** | - | 697 | - | - | - | **697** |
| | **194,795** | **303,651** | **-** | **-** | **-** | **498,446** |
| **Net maturity difference** | **(194,315)** | **(278,432)** | **82,483** | **244,627** | **183,828** | **38,191** |

* The Bank's investment in BIS shares has no fixed maturity.

Cash flows associated with the indemnity agreements are settled monthly after disposition of related securities. Where securities are held to maturity, no cash flows are associated with the indemnity agreements. As at December 31, 2021, the Bank had not disposed of any securities related to the indemnity agreements that had not been settled, and, therefore, no indemnity agreement cash flows are presented above ($nil as at December 31, 2020).

The table below presents the comparative maturity analysis as at December 31, 2020.

| As at December 31, 2020 | Due on demand | Within 90 days | Within 4 to 12 months | Within 1 to 5 years | In more than 5 years | Total |
|---|---|---|---|---|---|---|
| Financial assets | | | | | | |
| **Cash and foreign deposits** | 6 | - | - | - | - | **6** |
| **Loans and receivables** | - | 42,139 | 91,526 | 21,965 | - | **155,630** |
| **Investments** | | | | | | |
| Government of Canada treasury bills | - | 15,260 | 37,235 | - | - | **52,495** |
| Government of Canada bonds at amortized cost | - | 5,474 | 10,075 | 60,495 | 43,066 | **119,110** |
| Government of Canada bonds at FVTPL | - | 6,175 | 18,390 | 121,043 | 64,649 | **210,257** |
| Real return bonds | - | - | 406 | 245 | 2,687 | **3,338** |
| Canada Mortgage Bonds | - | 32 | 208 | 5,183 | 4,717 | **10,140** |
| Provincial bonds | - | 91 | 2,362 | 7,723 | 5,398 | **15,574** |
| Corporate bonds | - | 28 | 35 | 121 | - | **184** |
| Other securities | - | 1,208 | 2,140 | - | - | **3,348** |
| BIS shares* | 486 | - | - | - | - | **486** |
| | **492** | **70,407** | **162,377** | **216,775** | **120,517** | **570,568** |
| Financial liabilities | | | | | | |
| **Bank notes in circulation** | 106,925 | - | - | - | - | **106,925** |
| **Deposits** | | | | | | |
| Government of Canada | 80,559 | - | - | - | - | **80,559** |
| Members of Payments Canada | - | 345,664 | - | - | - | **345,664** |
| Other deposits | 9,877 | - | - | - | - | **9,877** |
| **Securities sold under repurchase agreements** | - | 3,001 | - | - | - | **3,001** |
| **Other financial liabilities** | - | 705 | - | - | - | **705** |
| | 197,361 | 349,370 | - | - | - | **546,731** |
| Net maturity difference | **(196,869)** | **(278,963)** | **162,377** | **216,775** | **120,517** | **23,837** |

* The Bank's investment in BIS shares has no fixed maturity.

# 7. Capital assets

*Capital assets* consists of property and equipment, intangible assets and right-of-use leased assets.

## Accounting policy

*Property and equipment* consists of land, buildings, computer equipment and other equipment. It 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 major components of an item of property and equipment have different useful lives, they are accounted for as separate items. 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 is recognized in depreciation. Depreciation is calculated using the straight-line method and is applied over the estimated useful life of the assets. 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.

The estimated useful life for major asset classes is as follows:

| | |
|---|---|
| **Buildings** | from 15 to 65 years |
| **Computer equipment** | from 3 to 10 years |
| **Other equipment** | from 5 to 20 years |

Leasehold improvements are depreciated over the lesser of their useful life or the term of the lease.

*Intangible assets* are identifiable non-monetary assets without physical substance that represent future economic benefits and are controlled by the Bank. They consist of computer software that has been developed internally or acquired externally. 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 in the specific asset. Computer software assets that are acquired by the Bank and have a finite useful life are measured at cost less accumulated amortization and impairment losses. Amortization is calculated using the straight-line method and is applied over the estimated useful life 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.

*Right-of-use leased assets* is composed of leases for data centre facilities in support of the Bank's business resilience posture and rental of office space for regional offices (Halifax, Montréal, Toronto, Calgary and Vancouver). At the inception of a contract, the Bank assesses whether a contract is, or contains, a lease based on whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Right-of-use leased assets are depreciated over the lesser of the end of the useful life of the right-of-use leased asset or the lease term on a straight-line basis. The lease term includes periods covered by an option to extend if the Bank is reasonably certain to exercise that option. The right-of-use leased asset may be reassessed from time to time to reflect certain remeasurements in the related lease liability and impairment losses, if any. Management has elected to apply the practical expedient not to recognize right-of-use leased assets and lease liabilities for short-term leases that have a term of 12 months or less and leases of low-value assets. The payments associated with these leases are recognized as an expense on a straight-line basis over the lease term.

## Supporting information

| | Property and equipment | | | | Intangible assets | Right-of-use leased assets | Total |
|---|---|---|---|---|---|---|---|
| | Land and buildings | Computer equipment | Other equipment | Total | | | |
| **Cost** | | | | | | | |
| **Balances as at December 31, 2019** | **576** | **164** | **85** | **825** | **170** | **56** | **1,051** |
| Additions | 3 | 16 | 5 | 24 | 34 | - | **58** |
| Disposals | (2) | (8) | - | (10) | (55) | (1) | **(66)** |
| **Balances as at December 31, 2020** | **577** | **172** | **90** | **839** | **149** | **55** | **1,043** |
| Additions | 4 | 5 | 5 | 14 | 38 | 4 | **56** |
| Disposals | (19) | (13) | (1) | (33) | (3) | - | **(36)** |
| Transfers to other asset categories | - | (6) | - | (6) | 6 | - | - |
| Balances as at December 31, 2021 | 562 | 158 | 94 | 814 | 190 | 59 | 1,063 |
| **Accumulated depreciation / amortization** | | | | | | | |
| **Balances as at December 31, 2019** | **(140)** | **(62)** | **(32)** | **(234)** | **(111)** | **(4)** | **(349)** |
| Depreciation expense | (18) | (23) | (6) | (47) | (10) | (5) | **(62)** |
| Disposals | 2 | 8 | - | 10 | 55 | - | **65** |
| **Balances as at December 31, 2020** | **(156)** | **(77)** | **(38)** | **(271)** | **(66)** | **(9)** | **(346)** |
| Depreciation expense | (18) | (25) | (6) | (49) | (13) | (5) | **(67)** |
| Disposals | 19 | 13 | 1 | 33 | 3 | - | **36** |
| Transfers to other asset categories | - | 2 | - | 2 | (2) | - | - |
| Balances as at December 31, 2021 | (155) | (87) | (43) | (285) | (78) | (14) | (377) |
| **Carrying amounts** | | | | | | | |
| **Balances as at December 31, 2020** | **421** | **95** | **52** | **568** | **83** | **46** | **697** |
| Balances as at December 31, 2021 | 407 | 71 | 51 | 529 | 112 | 45 | 686 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Projects in progress** | | | | | | | |
| Included in *Carrying amounts* at December 31, 2020 | - | 12 | 6 | 18 | 35 | - | **53** |
| Commitments at December 31, 2020 | 3 | 5 | 3 | 11 | 9 | - | **20** |
| Included in *Carrying amounts* at December 31, 2021 | - | 1 | 11 | 12 | 34 | - | 46 |
| Commitments at December 31, 2021 | 22 | 10 | 3 | 35 | 11 | - | 46 |

# 8. Other assets

*Other assets* is composed of bank note inventory (production materials, including the polymer substrate and ink); any net defined-benefit asset related to the Bank of Canada Pension Plan (Pension Plan); and all other non-financial assets, which are primarily prepaid expenses.

## Accounting policy

Bank note inventory is measured at the lesser of the cost or the net realizable value. The cost to produce finished bank notes is expensed as incurred. Prepaid expenses are recorded at cost and expensed in the period which the services are received.

The accounting policy for the net defined-benefit asset related to the Bank of Canada Pension Plan is discussed in Note 12.

### Supporting information

**Composition of other assets**

| As at December 31 | Note | 2021 | 2020 |
|---|---|---|---|
| Bank note inventory | | 13 | 15 |
| Net defined-benefit asset | 12 | 153 | - |
| All other assets | | 32 | 26 |
| **Total other assets** | | **198** | **41** |

## 9. Bank notes in circulation

*Bank notes in circulation* represents those bank notes that have been produced and issued for use in the economy. They are non-interest-bearing liabilities and are due on demand.

### Accounting policy

Bank notes in circulation are recorded at face value. The fair value of bank notes in circulation approximates their carrying value. The Bank's assessment of related financial risks is discussed in Note 6.

### Supporting information

In accordance with the *Bank of Canada Act*, the Bank has the sole authority to issue bank notes for circulation in Canada. Currently, bank notes are issued in denominations of $5, $10, $20, $50 and $100. Other bank notes, as described in the table below, are denominations that are still in circulation but no longer issued.

The face value of notes in circulation, presented by denomination, is as follows:

| As at December 31 | 2021 | 2020 |
|---|---|---|
| $5 | 1,686 | 1,513 |
| $10 | 1,693 | 1,727 |
| $20 | 21,098 | 20,917 |
| $50 | 20,858 | 20,784 |
| $100 | 68,932 | 61,014 |
| Other bank notes | 888 | 970 |
| **Total** | **115,155** | **106,925** |

## 10. Deposits

*Deposits* is composed of deposits by the Government of Canada, members of Payments Canada and others.

Deposits from the Government of Canada consist of $50,089 million for operational balances and $20,000 million held for the prudential liquidity-management plan ($60,559 million and $20,000 million, respectively, as at December 31, 2020). *Other deposits* is composed of deposits from financial market infrastructure institutions, other central banks, government institutions and foreign official institutions as well as unclaimed balances. Some of the deposits are interest-bearing, depending on the agreement between the Bank and the depositor. All balances are due on demand.

The Bank's policies on classifying and measuring financial instruments are discussed in Note 3A, and related financial risks are discussed in Note 6.

## 11. Other liabilities

*Other liabilities* consists of surplus payable to the Receiver General for Canada, the net defined-benefit liability for both the pension benefit plans and other employee benefit plans, lease liabilities, accounts payable, accrued liabilities and provisions.

### Accounting policy

The Bank's policies on classifying and measuring financial instruments (accounts payable and accrued liabilities, within the context of *Other liabilities*) are discussed in Note 3A, and related financial risks are discussed in Note 6. The Bank's accounting policy for the net defined-benefit liability of the Bank of Canada Pension Supplementary Arrangement and other employee benefit plans is discussed in Note 12. The Bank's accounting policy for the lease liabilities is discussed in Note 7.

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 date of the statement of financial position and it is probable that an outflow of economic benefits will be required to settle the obligation.

### Supporting information

**Composition of other liabilities**

| As at December 31 | Note | 2021 | 2020 |
|---|---|---|---|
| Surplus payable to the Receiver General for Canada | | 605 | 573 |
| Net defined-benefit liability | 12 | | |
| Pension benefit plans | | 62 | 284 |
| Other benefit plans | | 203 | 211 |
| Lease liabilities | | 46 | 46 |
| All other liabilities | | 92 | 86 |
| **Total other liabilities** | | **1,008** | **1,200** |

**Surplus payable to the Receiver General for Canada**

The following table reconciles the opening and closing balances of the *Surplus payable to the Receiver General for Canada*, which is based on the requirements of section 27 of the *Bank of Canada Act* and the Bank's remittance agreement with the Minister of Finance, as discussed in Note 14.

| As at December 31 | 2021 | 2020 |
|---|---|---|
| Opening balance at beginning of year | 573 | 368 |
| Surplus for the Receiver General for Canada | 2,780 | 1,773 |
| Remittance of surplus to the Receiver General for Canada | (2,748) | (1,568) |
| **Closing balance at end of year** | **605** | **573** |

**Carrying amount of lease liabilities**

| | Data centres | Offices | Other | Total |
|---|---|---|---|---|
| **Balances as at December 31, 2019** | **34** | **16** | **1** | **51** |
| Finance charges | 1 | - | - | **1** |
| New lease liabilities | - | - | - | **-** |
| Lease payments | (4) | (1) | - | **(5)** |
| Other adjustments | - | (1) | - | **(1)** |
| **Balance as at December 31, 2020** | **31** | **14** | **1** | **46** |
| Finance charges | 1 | - | - | 1 |
| New lease liabilities | - | - | - | - |
| Lease payments | (4) | (1) | - | (5) |
| Other adjustments | - | 4 | - | 4 |
| Balance as at December 31, 2021 | 28 | 17 | 1 | 46 |

During the year, the Bank recognized a negligible amount in expenses related to leases of low-value assets for which the recognition exemption has been applied. The Bank does not have any short-term leases for which the recognition exemption has been applied.

**Maturity analysis for lease liabilities (undiscounted)**

| As at December 31, 2021 | Data centres | Offices | Other | Total |
|---|---|---|---|---|
| Less than 5 years | 17 | 5 | 1 | **23** |
| Between 5 and 10 years | 12 | 7 | - | **19** |
| Between 10 and 15 years | 2 | 6 | - | **8** |
| More than 15 years | - | 2 | - | **2** |
| Total | 31 | 20 | 1 | 52 |

# 12. Employee benefits

The Bank provides employees with several employee benefit plans, consisting of short-term and long-term employee benefits, post-employment benefits and termination benefits. The Bank of Canada Pension Plan (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 Pension Plan is a registered pension plan as defined in the *Income Tax Act* and, consequently, is not subject to income taxes. The Bank of Canada Supplementary Pension Arrangement (SPA) was created to pay pension benefits to Bank employees with annual earnings above the amount covered by the Pension Plan, as provided under the *Income Tax Act*. The Supplementary Trust Fund, which holds and invests the funds of the SPA, is a retirement compensation arrangement as defined in the *Income Tax Act*.

The Bank is the administrator of the pension plans. The Bank's Board of Directors has established a Pension Committee and delegated to it the responsibility for carrying out the Bank's duties as administrator of the plans. These duties include adherence to the guidelines established in the Statement of Investment Policy and Procedures (SIPP) for each plan, which are 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 assets cannot be used for any purpose other than payment of pension benefits and related administration fees.

The Bank also sponsors other benefit plans provided to employees, specifically the unfunded post-employment defined-benefit plans for life insurance and eligible health and dental benefits, the unfunded long-service benefit program for employees hired before January 1, 2003, and the long-term disability program.

## Accounting policy

Employee benefits refer to all forms of consideration given by an entity in exchange for services rendered by employees or for the termination of employment. These benefits are described in the following table.

| Category | Description | Measurement and recognition |
|---|---|---|
| Short-term employee benefits | Benefits expected to settle wholly within 12 months of when the service was rendered.<br><br>Refers to salary, bonus, annual leave, health benefits, dental care and statutory benefits. | The liability and related expense are recognized in the reporting period in which they occur and are measured on an undiscounted basis. |
| Post-employment benefits | Benefits payable after the completion of employment (pension plans and other benefits).<br><br>Refers to the Pension Plan, the SPA, life insurance and eligible health and dental benefits, and the long-service benefit program. | The net asset or liability recognized is composed of the present value of the defined-benefit obligation less the fair value of plan assets, when applicable.<br><br>The defined-benefit obligation is calculated by discounting estimated future cash flows using an appropriate interest rate.* The plan assets of funded benefit plans are measured at their fair value at the end of the reporting period.<br><br>The expense recognized in net income 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.<br><br>Remeasurements† are recognized immediately in other comprehensive income in the reporting period in which they occur and are accumulated in *Equity*. 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. Past service costs are recognized at the earlier of when the plan amendment or curtailment occurs or when the Bank recognizes related restructuring costs or termination benefits. |
| Long-term employee benefits | Refers to the long-term disability program. | The liability recognized is the present value of the defined-benefit obligation, calculated by discounting estimated future cash flows using an appropriate interest rate.*<br><br>The expense recognized in net income 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. |
| Termination benefits | Benefits provided in exchange for termination. | The liability and related expense is recognized in net income at the earlier of when the Bank can no longer withdraw the offer of the termination benefit or when the Bank recognizes any related restructuring costs. |

* The interest rate used is based on those of AA-rated Canadian corporate bonds with terms to maturity approximating the estimated duration of the obligation.

† The current service costs and the benefit obligations of the plans are actuarially determined using the projected unit credit method.

## Accounting estimates and judgments

The cost of the defined-benefit pension plans, the cost of other benefit plans and the present value of the benefit obligations are determined using actuarial valuations. An actuarial valuation involves using various assumptions determined by management and reviewed annually by the actuary. These assumptions may differ from future developments. The significant assumptions used are as follows (on a weighted-average basis):

| | Pension benefit plans | | Other benefit plans | |
|---|---|---|---|---|
| As at December 31 | 2021 | 2020 | 2021 | 2020 |
| **Defined-benefit obligation** | | | | |
| Discount rate* | 3.10% | 2.60% | 3.04% | 2.53% |
| Inflation rate† | 2.00% | 2.00% | n.a. | n.a. |
| Rate of compensation increase | 2.75% + merit | 2.75% + merit | 2.75% + merit | 2.75% + merit |
| Mortality table‡ | CPM2014Publ (scale CPM-B) | CPM2014Publ (scale CPM-B) | CPM2014Publ (scale CPM-B) | CPM2014Publ (scale CPM-B) |
| **Benefit plan expense** | | | | |
| Discount rate* | 2.60% | 3.20% | 2.53% | 3.15% |
| Inflation rate† | 2.00% | 2.00% | n.a. | n.a. |
| Rate of compensation increase | 2.75% + merit | 2.75% + merit | 2.75% + merit | 2.75% + merit |
| **Assumed medical cost trend** | | | | |
| Initial medical cost trend rate | n.a. | n.a. | 4.90% | 4.94% |
| Ultimate medical cost trend rate | n.a. | n.a. | 4.00% | 4.00% |
| Year that the rate reaches the ultimate trend rate | n.a. | n.a. | 2040 | 2040 |

* The parameter most subject to change is the discount rate, which is determined by reference to Canadian AA-rated corporate bonds with terms to maturity approximating the duration of the obligation. The weighted-average duration of the defined-benefit obligation is approximately from 19 to 20 years for the pension benefit plans (from 20 to 21 years in 2020) and from 5 to 25 years for the other benefit plans (from 5 to 25 years in 2020).

† *Other benefit plans* does not include an inflation rate adjustment since the adjustment is a component of the assumed medical cost trend.

‡ In 2021, the assumption for life expectancy for the plan valuations assumes that a male member reaching 60 will live for approximately 28 years (28 years in 2020) and a female member approximately 30 years (30 years in 2020).

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.

The most recent actuarial valuation for the purposes of funding the Pension Plan was done as at January 1, 2021, and the next valuation will be as at January 1, 2022. Benefits are based on years of service and the average full-time salary for the best five consecutive years. They are indexed to reflect changes in the consumer price index on the date payments begin and each January 1 thereafter.

### Sensitivity analysis

Due 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 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* | |
|---|---|---|
| | Pension benefit plans | Other benefit plans |
| **Discount rate** | | |
| Impact of 0.10% increase | (42) | (4) |
| Impact of 0.10% decrease | 43 | 4 |
| **Rate of compensation increase** | | |
| Impact of 0.10% increase | 10 | - |
| Impact of 0.10% decrease | (10) | - |
| **Mortality rate** | | |
| Impact of 10.00% increase | (53) | (3) |
| Impact of 10.00% decrease | 60 | 4 |
| **Inflation rate** | | |
| Impact of 0.10% increase | 38 | n.a. |
| Impact of 0.10% decrease | (37) | n.a. |
| **Medical cost trend rates** | | |
| Impact of 1.00% increase | n.a. | 35 |
| Impact of 1.00% decrease | n.a. | (27) |

* The sensitivity analysis presented in this table is hypothetical and should be used with caution. The analysis is based on a change in assumptions while 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 with the previous year.

## Supporting information

The changes to the net defined-benefit asset (liability) for the year are as follows:

| | Pension benefit plans | | Other benefit plans | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| **Fair value of plan assets** | | | | |
| Fair value of plan assets as at January 1 | 2,201 | 2,039 | - | - |
| Interest income | 57 | 65 | - | - |
| Remeasurement gains (losses) | | | | |
| Return on plan assets* | 171 | 115 | - | - |
| Bank contributions | 61 | 25 | - | - |
| Employee contributions | 23 | 22 | - | - |
| Benefit payments and transfers | (71) | (62) | - | - |
| Administration costs | (3) | (3) | - | - |
| **Fair value of plan assets as at December 31** | **2,439** | **2,201** | **-** | **-** |
| **Defined-benefit obligation** | | | | |
| Benefit obligation as at January 1 | 2,485 | 2,102 | 211 | 191 |
| Current service cost | 86 | 65 | 6 | 6 |
| Interest cost | 66 | 70 | 5 | 6 |
| Past service cost | - | - | - | - |
| Employee contributions | 23 | 22 | - | - |
| Remeasurement (gains) losses | | | | |
| Arising from changes in demographic and economic assumptions | 12 | 19 | - | - |
| Arising from changes in experience | (21) | 5 | - | - |
| Arising from changes in financial assumptions | (232) | 264 | (11) | 18 |
| Benefit payments and transfers | (71) | (62) | (8) | (10) |
| **Defined-benefit obligation as at December 31** | **2,348** | **2,485** | **203** | **211** |
| **Net defined-benefit asset (liability)** | **91** | **(284)** | **(203)** | **(211)** |
| Net defined-benefit asset | 153 | - | - | - |
| Net defined-benefit liability | (62) | (284) | (203) | (211) |
| **Net defined-benefit asset (liability)** | **91** | **(284)** | **(203)** | **(211)** |
| Benefit plan expenses recognized in net income | 98 | 72 | 11 | 12 |
| Remeasurement losses (gains) recognized in other comprehensive income | (412) | 173 | (10) | 18 |

* The return on plan assets excludes interest income and includes a $10 million unrealized loss ($3 million unrealized gain in 2020) due to changes in foreign exchange rates.

The defined-benefit obligation, presented by membership category, is as follows:

| | Pension benefit plans | | Other benefit plans | |
|---|---|---|---|---|
| **As at December 31** | 2021 | 2020 | 2021 | 2020 |
| **Membership category** | | | | |
| Active members | 1,053 | 1,130 | 100 | 106 |
| Pensioners | 1,170 | 1,217 | 103 | 105 |
| Deferred members | 125 | 138 | - | - |
| **Total defined-benefit obligation** | **2,348** | **2,485** | **203** | **211** |

The cumulative remeasurement losses recognized in other comprehensive income are as follows:

| As at December 31 | Pension benefit plans 2021 | 2020 | Other benefit plans 2021 | 2020 |
|---|---|---|---|---|
| **Cumulative remeasurement losses, beginning of year** | (460) | (287) | (39) | (21) |
| Remeasurement gains (losses) recognized in current year | 412 | (173) | 10 | (18) |
| **Cumulative remeasurement losses, end of year** | (48) | (460) | (29) | (39) |

### Pension benefit plans asset mix

The pension plans' SIPPs require that investments be held in a diversified mix of asset types and set out requirements for investment eligibility. The diversification of assets serves to decrease the variations in the expected return performance of the portfolio. For the Pension Plan, the current practice is to conduct an asset-liability modelling (ALM) study every four 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 report was prepared and presented to the Pension Committee in September 2018.

The pension plans' investments are subject to credit, liquidity and market risks, the latter being the most significant risk due to the volatility of the assets. The pension plans' liabilities are calculated using a discount rate determined by reference to Canadian AA-rated corporate bonds; a rate of return on plan assets inferior to the discount rate would result in a deficit. Requirements for asset diversification and investment eligibility serve as basic risk management tools for the investment portfolio.

The assets of the pension plans consist of the following:

| As at December 31 | Quoted | Unquoted | Total | 2021 % | Quoted | Unquoted | Total | 2020 % |
|---|---|---|---|---|---|---|---|---|
| **Money market instruments** | 26 | - | 26 | 1 | 17 | - | 17 | 1 |
| **Equity instruments** | | | | | | | | |
| Canadian equity funds | 453 | - | 453 | 19 | 410 | - | 410 | 19 |
| Foreign equity funds | 637 | - | 637 | 26 | 592 | - | 592 | 27 |
| **Debt instruments*** | | | | | | | | |
| Securities issued or guaranteed by the Government of Canada | 178 | - | 178 | 7 | 154 | - | 154 | 7 |
| Securities issued or guaranteed by a provincial government | 85 | - | 85 | 4 | 145 | - | 145 | 7 |
| Fixed-income funds | 599 | - | 599 | 25 | 468 | - | 468 | 21 |
| Other securities | 3 | - | 3 | - | 5 | - | 5 | - |
| **Real estate funds** | - | 399 | 399 | 16 | - | 358 | 358 | 16 |
| **SPA statutory deposit** | - | 59 | 59 | 2 | - | 52 | 52 | 2 |
| **Total** | 1,981 | 458 | 2,439 | 100 | 1,791 | 410 | 2,201 | 100 |

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

**Total cash payments**

Regulations governing registered pension plans establish certain solvency requirements calculated under the assumption that the plans are terminated at the valuation date. In addition, actuarial valuations for funding purposes are required annually under the *Pension Benefits Standards Act*. The actuarial valuations of the Pension Plan completed as at January 1, 2021, reflect the Pension Plan's performance in 2020.

On a solvency basis (which assesses the Pension Plan on the assumption that it would be terminated on the date of the valuation), the funding status of the Pension Plan had a solvency ratio of 94% (107% as at January 1, 2020). The valuation reported a solvency deficit of $123 million and a three-year average solvency surplus of $57 million ($122 million surplus and $152 million surplus, respectively, for the valuation completed at January 1, 2020). On a going-concern basis (which assesses the Pension Plan over the long term on the assumption that it will operate indefinitely), the Pension Plan had a funding ratio of 132% (135% as at January 1, 2020). The valuation reported a going-concern surplus of $475 million ($480 million for the valuation completed at January 1, 2020).

The funding requirements of the Pension Plan are determined by the going-concern and solvency valuation results. Bank contributions to the Pension Plan resumed in 2021. The next actuarial valuation is scheduled for January 1, 2022. Contributions in 2022 will be based on the actuarial valuation as at January 1, 2022, and are expected to be at $36 million. The SPA is funded through both employer and employee contributions. Employer contributions are based on the actuarial determination of the Bank's accounting expense for the Plan. Since January 1, 2020, the SPA's employer contribution is determined according to a going-concern valuation, which is the sum of the employer's share of the going-concern current service cost and the special payments necessary to amortize any deficit on the going-concern basis. Employer contributions to the SPA in 2022 are expected to be $26 million.

# 13. Commitments, contingencies and guarantees

## Commitments

A commitment is an enforceable, legally binding agreement to make a payment in the future for the purchase of goods or services. These amounts are not recorded in the statement of financial position because the Bank has not yet received the goods or services from the supplier. The amounts below are what the Bank has committed to pay based on current expected contract prices.

Commitments related to *Property and equipment* and *Intangible assets* are discussed in Note 7. Those related to *Lease liabilities* are discussed in Note 11.

The Bank has a long-term contract with an outside service provider for retail debt services. The Bank signed an amended agreement effective November 1, 2019, until December 31, 2023. As at December 31, 2021, payments totalling $33 million remained. The contract is modular, with a flexible pricing framework.

The Bank has long-term contracts with outside service providers for business recovery and data centre services. These contracts expire between 2022 and 2026. As at December 31, 2021, fixed payments totalling $11 million remained.

As at December 31, 2021, the total minimum payments for long-term contracts, other than right-of-use leased assets, property and equipment, and intangible assets, were as follows:

| | |
|---|---|
| Due within one year | 74 |
| Due between one to three years | 50 |
| Due between three to five years | 10 |
| Thereafter | 17 |
| **Total minimum payments** | **151** |

### Foreign currency swap facilities

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

| As at December 31, 2021 | Denominated in | Expiry date | Maximum available |
|---|---|---|---|
| **Bilateral liquidity swap facilities with other central banks** | | | |
| Bank of England | British pounds | No expiry | Unlimited |
| Bank of Japan | Japanese yen | No expiry | Unlimited |
| Bank of Korea | South Korean won | No expiry | Unlimited |
| European Central Bank | euros | No expiry | Unlimited |
| Federal Reserve Bank of New York | US dollars | No expiry | Unlimited |
| Swiss National Bank | Swiss francs | No expiry | Unlimited |
| People's Bank of China | Chinese renminbi | January 7, 2026 | 200,000.0 |
| **Other swap facilities** | | | |
| Exchange Fund Account of Canada | Canadian dollars | No expiry | Unlimited |
| Federal Reserve Bank of New York | US dollars | December 12, 2022 | 2,000 |
| Bank of Mexico | Canadian dollars | December 12, 2022 | 1,000 |
| Bank for International Settlements | Canadian dollars | No expiry | 100 |

*Bilateral liquidity swap facilities with other central banks*

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

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 Bank of Mexico expire on December 12, 2022, 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 generally have a duration of one business day. The BIS swap facility, other liquidity and other swaps were not accessed, by either party, in 2021 (the BIS swap was accessed in 2020). No related commitments existed as at December 31, 2021 ($nil as at December 31, 2020).

## Contingencies

Contingent liabilities are possible obligations that could result from uncertain future events outside the Bank's control, or present obligations not recognized because the amount cannot be adequately measured or payment is not probable. Contingent liabilities are not recognized in the financial statements but are disclosed if significant.

#### BIS shares

The 9,441 shares in the BIS have a nominal value of SDR5,000 per share, of which 25% (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 million as at December 31, 2021 ($65 million as at December 31, 2020), based on prevailing exchange rates.

## Guarantees

#### Indemnification agreements

In the normal course of operations, the Bank includes indemnification clauses within 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. No indemnification amount has ever been paid under such agreements.

#### 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 is a legal or contractual obligation to carry insurance.

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

# 14. 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 Bank's equity is composed of the following elements:

| As at December 31 | 2021 | 2020 |
|---|---|---|
| Share capital | 5 | 5 |
| Statutory reserve | 25 | 25 |
| Special reserve | 100 | 100 |
| Investment revaluation reserve | 435 | 448 |
| Actuarial gains reserve | 43 | - |
| Retained earnings | - | - |
| **Total equity** | **608** | **578** |

## Share capital

The authorized capital of the Bank is $5 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 million in 1955, consistent with the requirement of section 27 of the *Bank of Canada Act*.

## Special reserve

Following an amendment to section 27.1 of the *Bank of Canada Act*, the special reserve was created in 2007 to offset potential unrealized valuation losses due to changes in the fair value of the Bank's investment portfolio. An initial amount of $100 million was established at that time, and the reserve is subject to a ceiling of $400 million.

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.

## Investment revaluation reserve

The investment revaluation reserve represents the net unrealized fair value gains of the Bank's financial assets classified and measured at FVOCI, which consist solely of the Bank's investment in the BIS.

## Actuarial gains reserve

The actuarial gains reserve was established in 2010 upon the Bank's transition to IFRS and accumulates the net actuarial gains and losses recognized on the Bank's post-employment defined benefit plans subsequent to transition. As at December 31, 2021, the actuarial gain reserve had a balance of $43 million ($nil as at December 31, 2020).

## Retained earnings

The net income of the Bank, less any allocation to reserves, is considered ascertained surplus and is transferred to the Receiver General for Canada, consistent with the requirement of section 27 of the *Bank of Canada Act*. Changes to the ascertained surplus payable to the Receiver General for Canada are presented in Note 11.

The Bank's remittance agreement with the Minister of Finance was designed to enable the Bank to manage its equity requirements with consideration given to 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 for Canada any increase in cumulative net unrealized losses on financial assets that are classified and measured at FVOCI, unrealized remeasurements of the net defined-benefit liability/asset on defined-benefit plans, and other unrealized or non-cash losses arising from changes in accounting standards or legislation. Any decrease in previously withheld cumulative net unrealized non-cash losses is added to the remittance.

During 2021, the Bank released $379 million from its previously withheld remittances to the Receiver General for Canada (in 2020, it withheld $191 million). As at December 31, 2021, $nil in withheld remittances was outstanding ($379 million as at December 31, 2020).

# 15. Related parties

Persons or entities are considered related parties to the Bank if they are:

- under common ownership to the Government of Canada;
- a post-employment benefit plan for the benefit of Bank employees; or
- a member of key management personnel, which includes members of the Executive Council, the Senior Management Council or the Board of Directors, and their families.

### Government of Canada

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 Plan

The Bank provides management, investment and administrative support to the Pension Plan. Services in the amount of $1 million were fully recovered from the Pension Plan in 2021 ($1 million in 2020). Disclosures related to the Bank's post-employment benefit plans are included in Note 12.

### 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 December 31, 2021, was 30 (28 in 2020).

The compensation of key management personnel is presented in the following table. Short-term employee benefits and post-employment benefits apply to Bank employees only.

| As at December 31 | 2021 | 2020 |
|---|---|---|
| Salary and short-term employee benefits | 7 | 6 |
| Post-employment benefits | 3 | 3 |
| Directors' fees* | - | - |
| **Total compensation** | **10** | **9** |

* Total compensation relating to directors' fees was $247,000 in 2021 ($287,000 in 2020).

There were no other long-term employee benefit costs or termination benefits related to key management personnel in 2021 ($nil in 2020).