

FINANCIAL  
STATEMENTS OF  
**THE BANK OF CANADA**  
**PENSION PLAN**

December 31, 2018

## Financial reporting responsibility

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The Bank of Canada (the Bank) is the sponsor and administrator of the Bank of Canada Pension Plan (the Plan) and has established and maintains a trust fund for the Plan. The Bank's Board of Directors has established a Pension Committee and has delegated to it the responsibility for carrying out the Bank's duties as administrator of the Plan.

The accompanying financial statements of the Plan have been prepared by the Bank's management in accordance with Canadian accounting standards for pension plans and contain certain items that reflect estimates and the judgment of management. The integrity and reliability of the data in these financial statements are management's responsibility. Management is also responsible for ensuring that all information in the Plan's *Annual Report* is consistent with the financial statements.

In support of its responsibility for the integrity and reliability of these financial statements and for the accounting system from which they are derived, management has developed and maintains a system of internal controls to provide reasonable assurance that transactions are properly authorized and recorded, that financial information is reliable, that the assets are safeguarded and liabilities recognized, and that the operations are carried out effectively.

The Pension Committee is responsible for overseeing management of the Plan, and the Bank's Board of Directors has overall responsibility for approving the financial statements. The Pension Committee meets with management and with the external auditor to review the scope of the audit, to review their findings, and to confirm that their responsibilities have been properly discharged. In addition, Mercer (Canada) Limited, a firm of consulting actuaries, conducts a formal actuarial valuation of the Plan annually, as required under the *Pension Benefits Standards Act*.

Deloitte LLP, the Plan's external auditor appointed by the Pension Committee, has conducted an independent audit of the financial statements in accordance with Canadian generally accepted auditing standards, performing such tests and procedures as it considers necessary to express an opinion in its report to the Bank's Board of Directors. The external auditor has full, unrestricted access to the Pension Committee to discuss its audit and related findings as to the integrity of the Plan's financial reporting and the adequacy of internal control systems.



Carolyn A. Wilkins,  
Senior Deputy Governor, and  
Chair, Pension Committee

Ottawa, Canada  
June 13, 2019



Carmen Vierula, CPA, CA,  
Chief Financial Officer and Chief Accountant,  
and Member, Pension Committee

## Actuary's opinion

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Mercer (Canada) Limited was retained by the Bank of Canada to perform an actuarial valuation of the going-concern assets and pension obligations of the Bank of Canada Pension Plan (the Plan) as of December 31, 2018, for inclusion in the Plan's financial statements.

The objective of the financial statements is to fairly present the financial position of the Plan as of December 31, 2018 on a going-concern basis, in accordance with Section 4600 *Pension Plans* (Section 4600) of the *Chartered Professional Accountants of Canada (CPA Canada) Handbook*. The assumptions used to estimate the pension obligations of the Plan are the same as those used for the Plan's funding valuation. While the actuarial assumptions used to estimate the pension obligations for the Plan's financial statements represent the Bank of Canada's best estimate of future events, and while in our opinion these assumptions are reasonable for the purposes of these statements, the Plan's future experience will inevitably differ, perhaps significantly, from the actuarial assumptions. Any differences between the actuarial assumptions and future experience will emerge as gains or losses in future valuations, and will affect the financial position of the Plan at that time, as well as the contributions required to fund it.

As part of our valuation, we examined the Plan's recent experience relative to the economic and non-economic assumptions and presented our findings to management. In addition, we provided the Bank of Canada with other relevant information used to develop its long-term assumptions.

Our assessment of the Plan's going-concern assets and pension obligations was based on:

- the results of our January 1, 2019 actuarial valuation of the Plan's going-concern liabilities for funding purposes,
- pension fund data provided by the Bank of Canada as of December 31, 2018,
- methods prescribed under Section 4600 of the CPA Canada Handbook for pension plan financial statements, and
- assumptions about future events that have been developed by the Bank of Canada and Mercer (Canada) Limited.

We have tested the membership and pension fund data for reasonableness and consistency, and we believe it to be sufficient and reliable for the purposes of the valuation. Our valuation has also been performed in accordance with the requirements of the Canadian Institute of Actuaries. Our opinions have been given and our valuation performed in accordance with accepted actuarial practice.



J. Legault  
Fellow of the Canadian Institute of Actuaries  
Fellow of the Society of Actuaries



S. J. Ramonat  
Fellow of the Canadian Institute of Actuaries  
Fellow of the Society of Actuaries

Mercer (Canada) Limited

Ottawa, Canada  
May 8, 2019

# Independent auditor's report

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To the Members of the Bank of Canada Board of Directors

## Opinion

We have audited the financial statements of the Bank of Canada Pension Plan, which comprise the statement of financial position as at December 31, 2018, and the statements of changes in net assets available for benefits and changes in pension obligations for the year then ended, and notes to the financial statements, including a summary of significant accounting policies (collectively referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Bank of Canada Pension Plan as at December 31, 2018, and the changes in its net assets available for benefits and changes in its pension obligations for the year then ended in accordance with Canadian accounting standards for pension plans.

## Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards ("Canadian GAAS"). Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report. We are independent of the Bank of Canada Pension Plan 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 information

Management is responsible for the other information. The other information comprises the information, other than the financial statements and our auditor's report thereon, in the 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.

We obtained the Annual Report prior to the date of this auditor's report. If, based on the work we have performed on this other information, we conclude that there is a material misstatement of this other information, we are required to report that fact in this auditor's report. 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 the financial statements in accordance with Canadian accounting standards for pension plans, 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 of Canada Pension Plan'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 of Canada Pension Plan or to cease operations, or has no realistic alternative but to do so.

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

## Auditor's 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 auditor's 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 GAAS 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 GAAS, 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 of Canada Pension Plan'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 of Canada Pension Plan's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's 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 auditor's report. However, future events or conditions may cause the Bank of Canada Pension Plan 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.

A handwritten signature in blue ink that reads "Deloitte LLP".

Chartered Professional Accountants  
Licensed Public Accountants

Ottawa, Ontario  
June 13, 2019

## Statement of financial position

(in Canadian dollars)

As at December 31	Note	2018	2017
<b>Assets</b>			
Investments	4	1,734,616,300	1,780,565,207
Accrued investment income		899,939	694,051
		<b>1,735,516,239</b>	<b>1,781,259,258</b>
<b>Liabilities</b>			
Accounts payable and accrued liabilities		1,561,396	1,726,789
<b>Net assets available for benefits</b>			
Commitments	10	<b>1,733,954,843</b>	<b>1,779,532,469</b>
Pension obligations	6	1,263,904,000	1,210,049,000
<b>Pension plan surplus</b>	9	<b>470,050,843</b>	<b>569,483,469</b>

On behalf of the Pension Committee and the Board of Directors of the Bank of Canada



Carolyn A. Wilkins,  
Senior Deputy Governor, and  
Chair, Pension Committee



Carmen Vierula, CPA, CA,  
Chief Financial Officer and Chief Accountant, and  
Member, Pension Committee



Greg Stewart,  
Member, Board of Directors, and  
Member, Pension Committee

(See accompanying notes to the financial statements.)

## Statement of changes in net assets available for benefits

(in Canadian dollars)

For the year ended December 31	Note	2018	2017
<b>Investment activities</b>			
Investment income	4	81,143,675	74,253,507
Current-year change in fair value of investments	4	(91,695,705)	112,299,448
<b>Net investment activities</b>		<b>(10,552,030)</b>	<b>186,552,955</b>
<b>Member service activities</b>			
<b>Employer contributions</b>			
Current service	9	14,005,243	24,895,059
<b>Employee contributions</b>			
Current service	9	10,916,546	8,146,058
Past service		1,089,699	1,149,707
Transfers from other plans		2,674,871	2,131,983
		<b>28,686,359</b>	<b>36,322,807</b>
<b>Benefit payments</b>			
Retirement benefit payments		(46,731,996)	(44,882,317)
Termination benefit payments		(2,929,411)	(3,691,472)
Disability benefit payments		(109,346)	(107,356)
Death benefit payments		(3,930,294)	(4,147,738)
		<b>(53,701,047)</b>	<b>(52,828,883)</b>
<b>Net member service activities</b>		<b>(25,014,688)</b>	<b>(16,506,076)</b>
Administrative expenses	7	(10,010,908)	(9,808,949)
<b>Net increase (decrease) in net assets available for benefits</b>		<b>(45,577,626)</b>	<b>160,237,930</b>
Net assets available for benefits, beginning of year		1,779,532,469	1,619,294,539
<b>Net assets available for benefits, end of year</b>		<b>1,733,954,843</b>	<b>1,779,532,469</b>

(See accompanying notes to the financial statements.)

## Statement of changes in pension obligations

(in Canadian dollars)

For the year ended December 31	2018	2017
<b>Increase in pension obligations</b>		
Benefits earned	39,581,757	36,322,807
Interest cost	66,164,415	63,224,148
Experience loss	1,809,875	5,547,928
	<b>107,556,047</b>	<b>105,094,883</b>
<b>Decrease in pension obligations</b>		
Retirement benefit payments	46,731,996	44,882,317
Termination benefit payments	2,929,411	3,691,472
Disability benefit payments	109,346	107,356
Death benefit payments	3,930,294	4,147,738
	<b>53,701,047</b>	<b>52,828,883</b>
<b>Net increase in pension obligations</b>	<b>53,855,000</b>	<b>52,266,000</b>
Pension obligations, beginning of year	1,210,049,000	1,157,783,000
<b>Pension obligations, end of year</b>	<b>1,263,904,000</b>	<b>1,210,049,000</b>

(See accompanying notes to the financial statements.)

# Notes to the financial statements

## 1. Description of the Bank of Canada Pension Plan

The following description of the Bank of Canada Pension Plan (the Plan) is a summary only. For more complete information, refer to the text of the Plan ([Bank By-law 15](#)), available on the website of the Bank of Canada (the Bank).

### General

The Plan was established under the provisions of the *Bank of Canada Act* (the Act) and has remained in accordance with the Act as subsequently amended. Responsibility for administration and investment of the Plan resides with the Pension Committee, and includes adherence to the guidelines established in the *Statement of Investment Policies and Procedures* (SIPP) that is approved annually by the Bank's Board of Directors (the Board).

The Plan is a contributory defined-benefit pension plan covering substantially all employees of the Bank. The Plan provides for retirement pensions, survivors' pensions, and refunds occasioned by termination of employment or death. The Plan's registration number with the Office of the Superintendent of Financial Institutions (OSFI) is 55116.

The Plan is a registered plan as defined in the *Income Tax Act* (the ITA) and, consequently, is not subject to income taxes. The Plan's registration number for income tax purposes is 0349233.

The Plan is the sole shareholder of 9439897 Canada Inc. (the Corporation), a corporation registered under the *Canada Business Corporations Act*, whose purpose is to facilitate foreign investment.

In 1992, the Bank of Canada Supplementary Pension Arrangement (the SPA) was introduced to supplement the pensions of those employees who contribute toward pension benefits that are above the maximum prescribed for registered pension plans under the ITA. A separate trust fund has been established to support the SPA and, therefore, the net assets available for benefits and the pension obligations pertaining to the SPA are not included in these financial statements.

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

### Benefits

A lifetime retirement pension is available to Plan members based on the number of years of credited service, the average salary of the five highest-paid continuous years of service and the member's age at retirement.

Death benefits are available on the death of an active member or of a retired member. The benefits may take the form of a transfer to the survivor's locked-in retirement vehicle, a survivor pension or a refund of the contributions plus interest.

Upon termination of employment, a Plan member has the option of taking a deferred pension for service rendered or of transferring the commuted value of the pension benefit to a locked-in retirement vehicle.

Pension benefits are indexed annually on January 1 to reflect the changes in the consumer price index.

## Funding

Required contributions to the Plan are determined annually by actuarial valuations that are performed in accordance with legislative requirements and with the recommendations of the Canadian Institute of Actuaries (CIA) for the valuation of pension plans.

Plan members are required to contribute a percentage of their pensionable salary to the Plan each year, to a maximum of 35 years of credited service. On June 15, 2017, the Board approved an amendment to Bank By-law 15 that resulted in an increase in member contributions to the Plan. The increase is to be implemented in two increments, the first on April 1, 2018 and the second on April 1, 2019.

Contributions are based on plan membership, as follows:

2018 contribution rates by members	Before April 1, 2018		As of April 1, 2018	
	Salary below the YMPE *	Salary above the YMPE *	Salary below the YMPE *	Salary above the YMPE *
Per the pre-January 1, 2012 plan design	5.7%	7.5%	7.2%	9.5%
Per the post-January 1, 2012 plan design	5.0%	6.5%	6.5%	8.5%

\* The year's maximum pensionable earnings (YMPE) were \$55,900 in 2018 and \$55,300 in 2017.

In accordance with maximums prescribed by the ITA, a member accrues benefits from the plan on a salary up to \$161,197 in 2018 (\$159,547 in 2017). Contributions on earnings above this maximum are made to the SPA.

The updated contribution rates based on plan membership after the second incremental increase on April 1, 2019 will be as follows:

2019 contribution rates by members	Before April 1, 2019		As of April 1, 2019	
	Salary below the YMPE	Salary above the YMPE	Salary below the YMPE	Salary above the YMPE
Per the pre-January 1, 2012 plan design	7.2%	9.5%	8.7%	11.5%
Per the post-January 1, 2012 plan design	6.5%	8.5%	8.0%	10.5%

## 2. Basis of preparation

The financial statements of the Plan are prepared in accordance with Canadian accounting standards for pension plans and present the financial position of the Plan, on a going-concern basis, as a separate financial reporting entity, independent of the sponsor and of Plan members. The financial statements are prepared in order to assist Plan members and others in reviewing the activities of the Plan for the fiscal period, but they do not portray the funding requirements of the Plan or the benefit security of individual Plan members.

These financial statements are prepared in accordance with Section 4600 *Pension Plans* (Section 4600) of the *Chartered Professional Accountants of Canada (CPA Canada) Handbook*. International Financial Reporting Standards (IFRS), as set out in Part I of the CPA Canada Handbook, have been chosen for accounting policies that do not relate to the Plan's investment portfolio or pension obligations, to the extent that those standards do not conflict with the requirements of Section 4600.

The presentation of the financial statements, specifically with regards to the statement of changes in net assets available for benefits, was updated in the current year to better portray the Plan activities. As a result, comparative figures have been reclassified to conform to the financial statement presentation adopted for the current year.

The Bank's Board of Directors approved the financial statements on June 13, 2019.

### Significant accounting judgments, estimates and assumptions

The preparation of 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.

Management based its assumptions and estimates on the information available when these financial statements were prepared. Existing circumstances and assumptions about future developments may change, however, in response to market fluctuations or circumstances that are beyond the control of management. In such cases, the impact will be recognized in the financial statements of a future reporting period.

Judgments, estimates and underlying assumptions are reviewed for appropriateness and consistent application on an ongoing basis. 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, estimates and assumptions are used primarily in the valuation of real estate funds (Note 4), and in the calculation of the pension obligations (Note 6).

### Functional and presentation currency

The Plan's functional and presentation currency is the Canadian dollar. The amounts in the notes to the financial statements of the Plan are in Canadian dollars, unless otherwise stated.

## 3. Significant accounting policies

### Investments

Investments are recorded at fair value on the settlement date and are stated at fair value at the reporting date. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Transaction costs are expensed as incurred.

### Accrual of income

Interest income, dividends, and other income are recognized on an accrual basis.

### Current-year change in the fair value of investments

The current-year change in the fair value of investments is the difference between the fair value and the cost of investments at the beginning and end of each year, adjusted for any realized gains and losses during the year.

### Foreign currency translation and foreign exchange forward contracts

Monetary assets and liabilities denominated in foreign currencies are translated into Canadian dollars at the exchange rates prevailing at the reporting date. Foreign exchange forward contracts are measured at fair value as at the reporting date. Gains and losses from translation and foreign exchange forward contracts are included in the current-year change in the fair value of investments. Income and expenses are translated at the rate of exchange prevailing at the time of the transactions.

## Pension obligations

Pension obligations are based on an actuarial valuation for funding purposes, which represents the best estimate assumptions, that is prepared on an annual basis by a firm of independent actuaries, as discussed in Note 6.

## Contributions

Employer contributions for current service and special payments to fund any Plan deficits must meet the minimum contributions required based on the most recent actuarial funding valuation report (Note 9).

Employee contributions for current service are recorded in the year in which the related payroll costs are incurred. Contributions for past service are recorded in the year received.

## Changes in accounting policies

In the current year, the Plan has applied IFRS 9 *Financial Instruments* (IFRS 9) and the related amendments to other IFRS standards that are effective for an annual period that begins on or after January 1, 2018. The adoption of IFRS 9 has had no material impact on the financial statements.

There was no other new or amended standard adopted by the Plan during 2018 that had a material impact on its financial statements.

## Future changes in accounting policies

There are no anticipated new or amended standards that are expected to have a significant impact on the Plan's financial statements.

## 4. Financial instruments

### Investments

The SIPP complies with the regulations of the *Pension Benefits Standards Act* (PBSA). The SIPP is updated by the Pension Committee and approved annually by the Board. Compliance with the SIPP is evaluated through ongoing review of investment valuations by management.

The Plan invests in money market instruments, fixed-income securities, equity funds, inflation-linked assets and real estate funds in accordance with its SIPP. To comply with the SIPP, the asset mix must be maintained by asset type within the following ranges:

Asset type	% of total portfolio market value	
	Minimum	Maximum
Total return-seeking assets, of which:	50	70
Canadian equities	5	25
Foreign equities	20	40
Real estate	10	30
Total liability-matching assets, of which:	30	50
Nominal bonds and mortgages	20	40
Price-index-linked assets	-	20
Cash and cash equivalents	-	10

The following table shows the fair value and the cost of investments at the reporting date, as well as the current-year change in the fair value of investments and related income. Investment income includes interest and dividends earned during the year, as well as income from real estate.

As at December 31, 2018	Fair value	Cost	Investment income	Current-year change in fair value of investments *	Total return
<b>Money market instruments</b>					
Cash	1,205,112	1,205,112	-	-	-
Short-term investments	6,579,487	6,579,563	137,369	(934)	136,435
	<b>7,784,599</b>	<b>7,784,675</b>	<b>137,369</b>	<b>(934)</b>	<b>136,435</b>
<b>Fixed-income securities</b>					
Bonds	101,559,878	77,702,850	3,503,273	(3,956,331)	(453,058)
Fixed-income funds	399,073,520	421,891,748	14,966,537	(15,827,160)	(860,623)
	<b>500,633,398</b>	<b>499,594,598</b>	<b>18,469,810</b>	<b>(19,783,491)</b>	<b>(1,313,681)</b>
<b>Equity funds</b>					
Canadian equity	251,289,152	274,069,399	21,847,192	(44,902,752)	(23,055,560)
Foreign equity †	485,111,837	499,332,144	22,095,300	(30,955,949)	(8,660,649)
	<b>736,400,989</b>	<b>773,401,543</b>	<b>43,942,492</b>	<b>(75,858,701)</b>	<b>(31,916,209)</b>
<b>Inflation-linked assets</b>					
Canadian marketable bonds	163,192,650	133,337,003	2,573,341	(2,758,865)	(185,524)
Corporate bonds	3,052,718	1,962,259	119,108	(89,873)	29,235
Mortgages	3,460,078	3,277,119	259,037	(56,726)	202,311
	<b>169,705,446</b>	<b>138,576,381</b>	<b>2,951,486</b>	<b>(2,905,464)</b>	<b>46,022</b>
<b>Real estate funds</b>					
Canadian real estate	88,230,414	81,560,319	4,849,150	2,651,005	7,500,155
Foreign real estate ‡	231,861,454	219,975,546	10,793,368	4,201,880	14,995,248
	<b>320,091,868</b>	<b>301,535,865</b>	<b>15,642,518</b>	<b>6,852,885</b>	<b>22,495,403</b>
<b>Total</b>	<b>1,734,616,300</b>	<b>1,720,893,062</b>	<b>81,143,675</b>	<b>(91,695,705)</b>	<b>(10,552,030)</b>

\* The 2018 change in the fair value of investments includes \$54,206,433 of realized gains.

† Foreign equity funds include the fair value of foreign exchange forward contracts of -\$516,122 as at December 31, 2018, as described in the "Foreign exchange forward contracts" section.

‡ Foreign real estate funds include the fair value of foreign exchange forward contracts of -\$11,021,909 as at December 31, 2018, as described in the "Foreign exchange forward contracts" section.

As at December 31, 2017	Fair value	Cost	Investment income	Current-year change in fair value of investments *	Total return
<b>Money market instruments</b>					
Cash	2,374,625	2,374,625	-	-	-
Short-term investments	5,696,014	5,697,437	71,738	(1,684)	70,054
	<b>8,070,639</b>	<b>8,072,062</b>	<b>71,738</b>	<b>(1,684)</b>	<b>70,054</b>
<b>Fixed-income securities</b>					
Bonds	97,091,633	69,278,274	3,221,340	6,273,924	9,495,264
Fixed-income funds	392,902,262	398,521,324	17,055,947	11,881,341	28,937,288
	<b>489,993,895</b>	<b>467,799,598</b>	<b>20,277,287</b>	<b>18,155,265</b>	<b>38,432,552</b>
<b>Equity funds</b>					
Canadian equity	285,484,713	262,020,349	18,213,329	3,508,259	21,721,588
Foreign equity †	576,211,531	504,875,256	22,200,131	87,551,099	109,751,230
	<b>861,696,244</b>	<b>766,895,605</b>	<b>40,413,460</b>	<b>91,059,358</b>	<b>131,472,818</b>
<b>Inflation-linked assets</b>					
Canadian marketable bonds	157,838,920	125,224,408	2,408,396	(634,281)	1,774,115
Corporate bonds	3,203,002	2,014,680	121,549	(6,423)	115,126
Mortgages	4,678,603	4,438,918	298,963	(53,674)	245,289
	<b>165,720,525</b>	<b>131,678,006</b>	<b>2,828,908</b>	<b>(694,378)</b>	<b>2,134,530</b>
<b>Real estate funds</b>					
Canadian real estate	82,653,084	77,216,820	3,488,012	1,668,079	5,156,091
Foreign real estate ‡	172,430,820	169,277,740	7,174,102	2,112,808	9,286,910
	<b>255,083,904</b>	<b>246,494,560</b>	<b>10,662,114</b>	<b>3,780,887</b>	<b>14,443,001</b>
<b>Total</b>	<b>1,780,565,207</b>	<b>1,620,939,831</b>	<b>74,253,507</b>	<b>112,299,448</b>	<b>186,552,955</b>

\* The 2017 change in the fair value of investments includes \$84,504,828 of realized gains.

† Foreign equity funds include the fair value of foreign exchange forward contracts of \$3,021,698 as at December 31, 2017, as described in the "Foreign exchange forward contracts" section.

‡ Foreign real estate funds include the fair value of foreign exchange forward contracts of -\$898,969 as at December 31, 2017, as described in the "Foreign exchange forward contracts" section.

## Financial instrument measurement

The carrying values of accrued investment income, and accounts payable and accrued liabilities approximate their fair values due to their short-term nature, and include no past due or impaired amounts.

Following are descriptions of the methodologies used by management to determine the fair-value measurements of investments held by the Plan.

*Money market instruments* consist of cash and treasury bills, which are valued using published market quotations.

*Fixed-income securities* consist of directly owned bonds and investments in bond funds. Directly owned bonds are valued using pricing information compiled by a third-party supplier. Valuations of the bond funds are received on a per unit basis from the asset manager. Valuations are derived from the sum of the fair value of bond fund assets less bond fund liabilities divided by the total number of units outstanding.

*Equity funds* consist of Canadian and foreign holdings. Foreign equity funds also include the fair value of foreign exchange forward contracts. Investment valuations for the funds are received from the various issuers and are calculated in accordance with their published valuation methodologies. Valuations are derived from the sum of the fair value of equity fund assets determined using published market quotations less equity fund liabilities divided by the total number of units outstanding. The fair value of foreign exchange forward contracts is determined by reference to the forward exchange rate available on a similar contract at the reporting date.

*Inflation-linked assets* consist mainly of Government of Canada bonds, corporate bonds and mortgages guaranteed by the Canada Mortgage and Housing Corporation. Bonds are valued using pricing information compiled by a third-party supplier. Mortgages are valued on an annual basis with reference to market yields on similar assets at the reporting date.

*Real estate funds* consist mainly of diversified pooled funds of commercial, industrial and office real estate in several major centres across Canada, the United States and Europe. They are valued at an estimated fair value and are subject to real estate appraisals by independent and accredited appraisers on at least an annual basis. Valuations use one or more of three commonly used methodologies to arrive at an indication of value: the replacement-cost approach, the income approach and the direct-comparison approach.

#### **Fair value hierarchy**

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

- Level 1** 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 due to inactive markets (e.g., market participant assumptions)

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

## Bank of Canada Pension Plan

December 31, 2018

The following table shows the fair value of the Plan's financial assets, classified in accordance with the fair value hierarchy described above.

As at December 31, 2018	Level 1	Level 2	Level 3	Total
Money market instruments	7,784,599	-	-	7,784,599
<b>Fixed-income securities</b>				
Bonds	-	101,559,878	-	101,559,878
Fixed-income funds	-	399,073,520	-	399,073,520
<b>Equity funds</b>				
Canadian equity	-	251,289,152	-	251,289,152
Foreign equity	-	485,111,837	-	485,111,837
<b>Inflation-linked assets</b>				
Canadian marketable bonds	-	163,192,650	-	163,192,650
Corporate bonds	-	3,052,718	-	3,052,718
Mortgages	-	3,460,078	-	3,460,078
<b>Real estate funds</b>				
Canadian real estate	-	-	88,230,414	88,230,414
Foreign real estate	-	-	231,861,454	231,861,454
	<b>7,784,599</b>	<b>1,406,739,833</b>	<b>320,091,868</b>	<b>1,734,616,300</b>

As at December 31, 2017	Level 1	Level 2	Level 3	Total
Money market instruments	8,070,639	-	-	8,070,639
<b>Fixed-income securities</b>				
Bonds	-	97,091,633	-	97,091,633
Fixed-income funds	-	392,902,262	-	392,902,262
<b>Equity funds</b>				
Canadian equity	-	285,484,713	-	285,484,713
Foreign equity	-	576,211,531	-	576,211,531
<b>Inflation-linked assets</b>				
Canadian marketable bonds	-	157,838,920	-	157,838,920
Corporate bonds	-	3,203,002	-	3,203,002
Mortgages	-	4,678,603	-	4,678,603
<b>Real estate funds</b>				
Canadian real estate	-	-	82,653,084	82,653,084
Foreign real estate	-	-	172,430,820	172,430,820
	<b>8,070,639</b>	<b>1,517,410,664</b>	<b>255,083,904</b>	<b>1,780,565,207</b>

There were no transfers of amounts between levels in 2018 (no transfers in 2017).

The following table reconciles the fair value of the real estate funds determined using Level 3 fair-value measurements:

As at December 31	2018	2017
<b>Fair value at beginning of year</b>	255,083,904	212,241,687
Total unrealized gains included in net assets *	9,966,655	3,325,504
Purchases	49,303,846	33,177,399
Capitalized dividends	8,356,764	7,808,634
Sales †	(2,619,301)	(1,469,320)
Return of capital	-	-
Transfers in/out of Level 3	-	-
<b>Fair value at end of year</b>	<b>320,091,868</b>	<b>255,083,904</b>

\* The fair value gains (losses) are presented in *Current-year change in fair value of investments* in the statement of changes in net assets available for benefits.

† Sales are presented net of realized gains of \$1,454,193 (\$13,173 at December 31, 2017).

## Securities lending

The Plan lends securities as a means of generating incremental income or of supporting the normal practice with regard to investment strategies. Securities are loaned only against collateral representing at least 102% of the value of the securities. At December 31, 2018, the Plan's investments included loaned securities with a fair value of \$23,261,055 (\$25,033,577 as at December 31, 2017). The fair value of collateral received in respect of these loans was \$24,424,108 (\$26,514,279 as at December 31, 2017).

## Foreign exchange forward contracts

The notional and fair values of foreign exchange forward contracts included in *Foreign equity funds* and *Foreign real estate funds* are summarized in the following table:

As at December 31	2018		2017	
	Notional value	Fair value	Notional value	Fair value
<b>Contracts related to Foreign equity funds</b>				
Euros	20,064,087	(516,122)	19,734,889	50,999
US dollars	-	-	123,652,750	2,454,031
Japanese yen	-	-	15,884,456	155,068
Pounds sterling	-	-	13,920,500	348,875
Swiss francs	-	-	7,055,868	82,725
Australian dollars	-	-	3,448,550	(70,000)
	<b>20,064,087</b>	<b>(516,122)</b>	<b>183,697,013</b>	<b>3,021,698</b>
<b>Contracts related to Foreign real estate funds</b>				
US dollars	141,614,425	(7,598,517)	48,328,350	(62,308)
Euros	97,936,063	(3,423,392)	40,196,923	(836,661)
	<b>239,550,488</b>	<b>(11,021,909)</b>	<b>88,525,273</b>	<b>(898,969)</b>
<b>Total</b>	<b>259,614,575</b>	<b>(11,538,031)</b>	<b>272,222,286</b>	<b>2,122,729</b>

Notional values refer to the face amount of the forward contract to which an exchange rate is applied. The notional value does not represent the total gain or loss to which the Plan will be a party but is the basis upon which the fair value is determined. Accordingly, the notional values are not recorded as assets or liabilities in the financial statements.

The foreign exchange forward contracts are all set to mature within 17 days of December 31, 2018 (within 32 days of December 31, 2017).

The Plan's investments, securities-lending activities and foreign exchange forward contracts are subject to various risks that can affect their fair value, recoverable amount or future cash flows. These risks are discussed in Note 5.

## 5. Financial risk management

The Plan's financial instruments consist of its investments, accrued investment income, and accounts payable and accrued liabilities. The Plan's investments are subject to credit, liquidity and market risks.

Requirements for asset diversification and investment eligibility serve as basic risk-management tools for the investment portfolio as a whole. The Plan's SIPP requires that its investments be held in a diversified mix of asset types and also sets out investment eligibility requirements. The diversification of assets serves to decrease the variations in the expected return performance of the portfolio. Eligibility requirements serve to ensure that Plan assets, to the extent possible, are not placed at undue levels of risk and can meet the obligations of the Plan as necessary.

While the above policies aid in risk management, the Plan's investments and performance remain subject to risks, the extent of which is discussed below.

### Credit risk

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

The Plan is exposed to credit risk through its investments in money market instruments (excluding cash), fixed-income securities and inflation-linked assets, as well as its foreign currency hedging activities (presented in *Foreign equity funds* and *Foreign real estate funds*) and securities-lending transactions.

The Plan's credit risk on money market instruments, fixed-income securities and inflation-linked assets is managed by setting concentration limits on the exposure to any single issuer, as well as by setting minimum credit-rating criteria for investment. The maximum exposure to any one issuer cannot exceed 10% of the total fair value of bond holdings, other than securities issued by the federal or provincial governments. The minimum credit rating for any single security is based on a composite rating from three rating agencies. The minimum rating at the time of purchase must be the equivalent of BBB (low) as determined by the Dominion Bond Rating Service.

Credit risk arising from foreign currency hedging activities and securities-lending transactions is managed by entering into contracts with creditworthy counterparties subject to minimum credit-rating requirements and by setting limits on the allowable amount of exposure to each of these counterparties.

In addition to being fully collateralized with high-quality securities, securities-lending transactions take place under strict adherence to OSFI guidelines and are indemnified through a custodial agreement in the event of default. Securities are loaned only against collateral representing at least 102% of the value of the securities. As a result of the collateral on hand, the net credit exposure is considered insignificant.

The maximum exposure to credit risk in money market instruments, fixed-income securities and inflation-linked assets is estimated to be the fair value of those instruments.

#### Concentrations of credit risk

Concentrations of credit risk occur when a significant proportion of the portfolio is invested in securities subject to credit risk with similar characteristics or subject to similar economic, political or other conditions. The investment portfolio as a whole is subject to maximum exposure limits and asset-allocation targets that are designed to manage exposure to concentrated credit risk.

The investment portfolio contains concentrated credit risk in money market instruments, fixed-income securities and inflation-linked assets, as follows:

As at December 31, 2018	Money market instruments		Fixed-income securities		Inflation-linked assets	
	\$	%	\$	%	\$	%
<b>Securities issued or guaranteed by:</b>						
Government of Canada	6,579,487	100.0	14,651,503	2.9	137,982,849	81.3
Canadian provinces or municipalities	-	-	298,686,343	59.7	28,669,878	16.9
Corporations	-	-	190,094,927	38.0	3,052,719	1.8
<b>Cash and others *</b>	-	-	(2,799,375)	(0.6)	-	-
	<b>6,579,487</b>	<b>100.0</b>	<b>500,633,398</b>	<b>100.0</b>	<b>169,705,446</b>	<b>100.0</b>
<b>Credit rating</b>						
AAA to AA	6,579,487	100.0	51,496,133	10.3	134,522,772	79.3
A	-	-	286,305,955	57.2	31,722,596	18.7
BBB	-	-	30,225,719	6.0	3,460,078	2.0
Not rated †, ‡	-	-	132,605,591	26.5	-	-
	<b>6,579,487</b>	<b>100.0</b>	<b>500,633,398</b>	<b>100.0</b>	<b>169,705,446</b>	<b>100.0</b>

As at December 31, 2017	Money market instruments		Fixed-income securities		Inflation-linked assets	
	\$	%	\$	%	\$	%
<b>Securities issued or guaranteed by:</b>						
Government of Canada	5,696,014	100.0	13,980,331	2.9	142,327,545	85.9
Canadian provinces or municipalities	-	-	316,665,312	64.6	20,189,978	12.2
Corporations	-	-	158,430,220	32.3	3,203,002	1.9
<b>Cash and others *</b>	-	-	918,032	0.2	-	-
	<b>5,696,014</b>	<b>100.0</b>	<b>489,993,895</b>	<b>100.0</b>	<b>165,720,525</b>	<b>100.0</b>
<b>Credit rating</b>						
AAA to AA	5,696,014	100.0	57,305,571	11.7	137,648,943	83.1
A	-	-	307,165,937	62.7	23,392,979	14.1
BBB	-	-	29,907,753	6.1	-	-
Not rated †, ‡	-	-	95,614,634	19.5	4,678,603	2.8
	<b>5,696,014</b>	<b>100.0</b>	<b>489,993,895</b>	<b>100.0</b>	<b>165,720,525</b>	<b>100.0</b>

\* *Cash and others* includes cash, derivatives and other money market instruments held within fixed-income security funds. These amounts are netted against amounts payable by the funds.

† *Fixed-income securities* includes private placements that are considered equivalent to investment grade as per the asset manager's credit assessment, but are not directly rated by a credit-rating agency.

‡ *Inflation-linked assets* includes mortgages that are guaranteed by the Canada Mortgage and Housing Corporation, but are not directly rated by a credit-rating agency. These assets are considered equivalent to investment grade.

## Liquidity risk

Liquidity risk is the risk that the Plan will encounter difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset.

The Plan's financial liabilities consist of accounts payable and accrued liabilities. These amounts are short term in duration and are set to mature within one year.

Liquidity risk is managed by ensuring that sufficient liquid assets are maintained to meet anticipated payments and investment commitments in general. With respect to the Plan's financial liabilities and the actuarial value of pension obligations, management believes that the Plan is not subject to any significant liquidity risk.

The actuarial value of pension obligations is not considered a financial liability; however, it is the most significant liability of the Plan in the statement of financial position. The Bank, as Plan sponsor, is required to contribute all funds necessary to meet any funding shortfalls of the Plan as they may arise from time to time.

## Market risk

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

**Interest rate risk**

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Plan is exposed to interest rate risk through its investment holdings in interest-bearing or fixed-income assets. These principally include money market instruments and fixed-income securities.

The Plan manages its exposure to interest rate risk by holding a diversified mix of assets, both interest-bearing and non-interest-bearing. This approach decreases the impact of variations in overall portfolio performance owing to factors arising from interest rate risk.

Investments subject to interest rate risk bear fixed rates of interest. Therefore, short-term fluctuations in prevailing interest rates would not normally subject the Plan to fluctuating cash flows. In the event of a sale or redemption prior to maturity, proceeds would be affected by the impact of prevailing interest rates on the fair value of the investment.

The fair value of the Plan's assets, specifically the fair value of fixed-income securities (excluding inflation-linked assets), is affected by changes in the nominal interest rate. A 25-basis-point increase/decrease in the nominal interest rate would have had the following impact on the fair value of implicated investments and the related change in fair value:

As at December 31	2018		2017	
	Increase	Decrease	Increase	Decrease
Money market instruments	(3,267)	3,133	(2,274)	2,237
Fixed-income securities	(18,765,549)	18,765,549	(19,305,201)	19,305,201
<b>Total</b>	<b>(18,768,816)</b>	<b>18,768,682</b>	<b>(19,307,475)</b>	<b>19,307,438</b>

The actuarial value of pension obligations is not considered to be a financial instrument; however, these obligations are sensitive to changes in long-term interest rates. The Plan is exposed to interest rate risk because of mismatches between the impact of interest rates on the actuarial value of pension obligations and their corresponding impact on the investment portfolio as a whole. Given the nature of pension benefits, such risks cannot be eliminated but are addressed through the funding of the Plan and through regular review of the characteristics of the Plan's investment portfolio relative to the pension obligations liability.

A 10-basis-point increase/decrease in the interest rate assumption would have had the following impact on the value of pension obligations:

As at December 31	2018		2017	
	Increase	Decrease	Increase	Decrease
Pension obligations	(17,929,000)	18,363,000	(17,118,000)	17,533,000

**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 Plan is exposed to currency risk arising from its holdings of investments denominated in foreign currencies, as well as investments that, although not denominated in foreign currencies, have underlying foreign currency exposure. This exposure lies principally within foreign equity and foreign real estate funds.

The Plan manages these risks through its SIPP, which limits the proportion of foreign assets within the portfolio, and through off-balance-sheet commitments in the form of foreign exchange forward contracts for the sale of various currencies (Note 4). The purpose of these contracts is to partially preserve the fair value of Plan assets by offsetting the impact of increases in the Canadian dollar relative to the underlying foreign currency exposure. In the case of a decrease in the Canadian dollar relative to the underlying foreign currency exposure, the foreign exchange forward contracts in place decrease in value, while the relative value of the foreign currency funds increases.

The Plan's net foreign currency exposure in Canadian dollars, after giving effect to the notional value of foreign exchange forward contracts described in Note 4, is presented in the following table:

As at December 31	2018	2017
<b>Net foreign currency exposure</b>		
US dollars	233,409,010	179,779,009
Japanese yen	30,923,324	14,413,393
Hong Kong dollars	30,327,845	20,869,121
Pounds sterling	27,875,696	19,308,636
Korean won	17,738,324	24,754,633
Indian rupees	17,322,599	23,209,492
Australian dollars *	11,014,152	3,787,327
Brazilian reais	10,115,716	15,487,869
Swiss francs	9,138,989	8,074,005
Taiwanese dollars	8,917,873	11,523,640
Euros	8,340,034	61,643,058
Other currencies †	63,773,185	91,447,153
<b>Total exposure</b>	<b>468,896,747</b>	<b>474,297,336</b>

\* Australian dollars were included in the *Other currencies* category in 2017.

† Chinese renminbi and South African Rand have been included in the *Other Currencies* category after being separately disclosed in the 2017 statements. Their values are \$3,445,143 and \$5,910,487 respectively (\$15,928,579 and \$16,453,311 at December 31, 2017).

The fair value of Plan assets, specifically those denominated in foreign currencies, is affected by changes in foreign exchange rates.

The most significant concentrations of net foreign currency exposures are in US dollars, Japanese yen, Hong Kong dollars, Pounds sterling and Korean won. A 1% increase (decrease) in the foreign exchange rate of a significant foreign currency in which investments are denominated relative to the Canadian dollar would have the following impact on the fair value of investments net of foreign currency hedges:

As at December 31	2018		2017	
	Increase	Decrease	Increase	Decrease
US dollars	2,334,090	(2,334,090)	1,797,790	(1,797,790)
Japanese yen	309,233	(309,233)	144,134	(144,134)
Hong Kong dollars	303,278	(303,278)	208,691	(208,691)
Pounds sterling	278,757	(278,757)	193,086	(193,086)
Korean won	177,383	(177,383)	247,546	(247,546)
<b>Total</b>	<b>3,402,741</b>	<b>(3,402,741)</b>	<b>2,591,247</b>	<b>(2,591,247)</b>

This calculation is based on the Plan's direct foreign currency holdings and does not contemplate the effect of any secondary impacts from changes in exchange rates.

Future cash flows relating to the sale or maturity of a financial instrument will vary, depending on the prevailing exchange rate at the time of the transaction.

#### 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 interest rate or currency risk), whether those changes are caused by factors specific to the individual financial instrument or its issuer or by factors affecting all similar financial instruments traded in the market.

The Plan is exposed to other price risk through its equity holdings.

The Plan manages these risks through fair diversification, setting maximum allowable proportions of equities in its investment portfolio, and through concentration limits on investments in any one issuer, as outlined in its SIPP. The maximum exposure to any single security cannot exceed 10% of the total fair value of equity holdings, unless such a security is an investment in a pooled or index fund. The maximum exposure to a pooled or index fund can exceed 10% so long as no single security within it exceeds 10% of the market value of that fund.

A 1% increase (decrease) in the underlying market prices in the equities portfolio would have the following impact on the fair value of investments and the net increase in assets:

As at December 31	2018		2017	
	Increase	Decrease	Increase	Decrease
Canadian equity funds	2,512,892	(2,512,892)	2,854,847	(2,854,847)
Foreign equity funds	4,851,118	(4,851,118)	5,762,115	(5,762,115)
<b>Total</b>	<b>7,364,010</b>	<b>(7,364,010)</b>	<b>8,616,962</b>	<b>(8,616,962)</b>

Future cash flows relating to the sale of an investment exposed to other price risk will vary, depending on market prices at the time of sale.

#### *Concentration of other price risk*

Concentration of other price risk occurs when a significant portion of the portfolio is invested in equities with similar characteristics or is subject to similar economic, market, political or other conditions.

The following table provides information on the industries in which the equity funds are invested, expressed as a percentage of total holdings:

As at December 31, 2018	Canadian equity funds		Foreign equity funds *	
	\$	%	\$	%
Consumer discretionary	16,672,614	6.6	56,921,972	11.7
Consumer staples	13,444,222	5.4	46,777,910	9.6
Energy	40,272,252	16.0	19,400,403	4.0
Financials	69,950,342	27.8	99,159,287	20.4
Health care	3,532,739	1.4	47,518,916	9.8
Industrials	33,696,262	13.4	40,198,332	8.3
Information technology	14,772,203	5.9	68,993,413	14.2
Materials	22,609,333	9.0	30,160,578	6.2
Real estate	12,264,538	4.9	16,035,463	3.3
Telecommunication services	7,149,145	2.8	41,071,634	8.5
Utilities	9,734,075	3.9	16,618,222	3.4
Other	7,191,427	2.9	2,771,829	0.6
<b>Total</b>	<b>251,289,152</b>	<b>100.0</b>	<b>485,627,959</b>	<b>100.0</b>

\* The *Foreign equity funds* category excludes foreign exchange forward contracts of -\$516,122 at December 31, 2018.

As at December 31, 2017	Canadian equity funds		Foreign equity funds *	
	\$	%	\$	%
Consumer discretionary	21,750,238	7.6	69,759,578	12.2
Consumer staples	18,379,602	6.4	60,133,469	10.5
Energy	47,316,711	16.6	29,058,849	5.1
Financials	87,964,700	30.8	110,395,409	19.1
Health care	2,651,831	0.9	49,946,789	8.7
Industrials	35,871,793	12.6	55,064,711	9.6
Information technology	17,121,312	6.0	102,174,029	17.8
Materials	28,843,403	10.1	37,149,768	6.5
Real estate	8,492,945	3.0	15,976,050	2.8
Telecommunication services	2,863,929	1.0	16,942,204	3.0
Utilities	8,137,502	2.9	19,418,330	3.4
Other	6,090,747	2.1	7,170,647	1.3
<b>Total</b>	<b>285,484,713</b>	<b>100.0</b>	<b>573,189,833</b>	<b>100.0</b>

\* The *Foreign equity funds* category excludes foreign exchange forward contracts of \$3,021,698 at December 31, 2017.

## 6. Pension obligations

Actuarial valuations for funding purposes are required annually under the PBSA. The most recent valuation was performed as at January 1, 2019 by Mercer (Canada) Limited, a firm of consulting actuaries. The economic assumptions used to determine the actuarial value of pension obligations were developed by referencing expected long-term market conditions.

The significant long-term economic actuarial assumptions used in the valuation are as follows:

As at December 31	2018	2017
Discount rate	5.50%	5.50%
Salary escalation rate	3.00% + merit	3.00% + merit
Inflation rate	2.00%	2.00%
Mortality (tables issued by the CIA)	CPM2014Publ (scale CPM-B)	CPM2014Publ (scale CPM-B)
<b>Plan membership</b>		
Active members	1,495	1,451
Pensioners	1,833	1,811
Deferred members *	521	516

\* Deferred members are former employees of the Bank who are entitled to a pension starting in the future.

## Funding surplus

The surplus for financial statement purposes differs from that calculated on a going-concern funding basis, owing to the use of a smoothed actuarial value of assets for funding purposes. The going-concern funding surplus is calculated in accordance with applicable legislation and actuarial standards.

The actuarial value of net assets available for benefits has been determined using a smoothing method that recognizes excess investment gains and losses occurring in a calendar year on a straight-line basis over five years. Excess gains and losses are determined by reference to the investment-return assumption for going-concern valuation purposes (5.50% at December 31, 2018 and 2017).

A reconciliation of the components of the measurement differences between the surplus on a going-concern funding basis and the surplus for financial statement purposes is as follows:

As at December 31	2018	2017
Funding surplus	508,000,000	466,000,000
Actuarial asset value adjustment	(37,949,157)	103,483,469
<b>Surplus for financial statement purposes</b>	<b>470,050,843</b>	<b>569,483,469</b>

## 7. Administrative expenses

As at December 31	Note	2018	2017 *
Investment management fees		7,186,450	7,237,915
Pension administration fees		610,851	640,311
Audit and actuarial fees		152,243	120,476
Other administration fees	8	2,061,364	1,810,247
<b>Total</b>		<b>10,010,908</b>	<b>9,808,949</b>

\* In 2017, actual and deemed supply consumption taxes were allocated according to the expense type to which they relate. In 2018, consumption taxes are included as part of *Other administration fees*. The 2017 figures have been adjusted to align with the current presentation format.

## 8. Related parties

Transactions with the Bank were conducted in the normal course of operations during the year and measured at the exchange amount. Included in *Other administration fees* is \$995,626 (\$927,198 in 2017) for administration services provided by the Bank to the Plan.

Key management personnel of the Plan consist of the Pension Committee and the Board, and the Plan is not charged for the compensation of these individuals. If a reasonable allocation of the compensation for key management personnel was performed, the amount would not be significant.

## 9. Pension plan surplus and capital requirements

The capital of the Plan consists of the pension plan surplus. Excluding the impact of investment income, the Plan is funded through a combination of employee and employer contributions. The pension plan surplus represents the difference between the net assets available for benefits and the pension obligations on a going-concern basis. Actuarial valuations, which aid in the determination of the extent of Plan capital, are performed annually.

Pension plan surpluses or deficits, as they arise, as well as other relevant aspects of the Plan, are managed to comply with the externally imposed requirements of the ITA and the PBSA.

The Bank is responsible for contributing the amount needed above the employees' contributions in order to fund benefits accrued by members during the year (\$14,005,243 in 2018; \$24,895,059 in 2017). In the case of a funding deficit on either a going-concern or solvency basis, additional contributions are required in accordance with the PBSA to fund the deficit. There were no additional contributions in 2018 and 2017.

In the case of a pension plan surplus, the ITA prohibits the making of contributions while the surplus exceeds 125% of the current value of the Plan's liabilities on a going-concern basis, if the Plan is also fully funded on a solvency basis (solvency ratio in excess of 105%). Last year, the January 1, 2018 actuarial results prepared by the Plan's independent actuaries concluded that the Plan had a strong funding position, both on a going-concern and a solvency basis. As a result, regulations under the ITA prohibited the Bank from contributing to the Plan after the actuarial valuation report was filed with the regulators in June 2018.

The January 1, 2019 actuarial valuations results are as follows:

- On a going-concern basis, the Plan had an actuarial surplus of \$508 million and a funding ratio of 140%.
- On a solvency basis, the Plan had an actuarial surplus of \$179 million and a solvency ratio of 112%.

As the Plan remains in a strong funding position, regulations under the ITA will continue to prohibit the Bank from contributing to the Plan; as a result, employer contributions for 2019 are therefore expected to be \$nil (\$14.0 million in 2018).

At December 31, 2018, the Plan and its sponsor are not in violation of any externally imposed legal or regulatory requirements.

## 10. Commitments

The Plan has a commitment with an investment manager to fund real estate investments. The commitment can be called upon at the discretion of the investment manager in accordance with the agreed upon terms and conditions. As at December 31, 2018, the commitment amounted to \$65,956,687 US dollars (\$90,083,064 in Canadian dollar equivalent). The Plan has sufficient liquidity to meet this commitment as it comes due.