



FINANCIAL STATEMENTS

2021 FUNDED STATUS REPORT

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Management's Responsibility for Financial Reporting

Management of the OPSEU Pension Plan Trust Fund (OPTrust) is responsible for the integrity and fairness of the data presented in the financial statements and the financial information presented in the *Funded Status Report* (FSR). The financial statements have been prepared in accordance with the Canadian *Chartered Professional Accountants of Canada Handbook* section 4600 — Pension Plans (s4600) and comply with the financial reporting requirements of the *Pension Benefits Act* (Ontario). In the selection of accounting policies that do not relate to its investment portfolio or pension obligations, OPTrust has chosen to comply on a consistent basis with *International Financial Reporting Standards* (IFRS), as issued by the *International Accounting Standards Board* (IASB), to the extent that those standards do not conflict with the requirements of s4600. The financial statements include amounts that must, as necessary, be based on the best estimates and judgment of management with appropriate consideration as to materiality. Where applicable, the financial information presented throughout the FSR is consistent with the financial statements.

Management has recognized the importance of OPTrust maintaining and reinforcing a high standard of conduct in all of its actions, including

the preparation and publication of statements fairly presenting the financial position of the OPSEU Pension Plan (the Plan). Systems of internal control and supporting procedures are maintained to provide assurance that transactions are properly authorized, assets are safeguarded against unauthorized use or disposition and proper records are maintained. The systems are augmented by the careful selection and training of qualified staff, the establishment of organizational structures providing for a well-defined division of responsibilities, and the communication of policies and guidelines of business conduct throughout OPTrust.

The Board of Trustees has the ultimate responsibility for the financial statements presented to plan members. The Audit, Finance and Risk Committee, consisting of Trustees appointed by each of the Province of Ontario and OPSEU, reviews the financial statements with management and the external auditor before such statements are recommended to the Board of Trustees for approval. The Audit, Finance and Risk Committee meets on a regular basis with management and the external auditor to review the scope of the audit, discuss auditor's findings, and satisfies itself that the Board of Trustees' responsibilities have been adequately discharged.

PricewaterhouseCoopers LLP, the Plan's external auditor, has conducted an independent examination of the financial statements in accordance with Canadian generally accepted auditing standards and have expressed their opinion upon completion of such examination in their report to the Board of Trustees. The auditors have full and unrestricted access to management, the Audit, Finance and Risk Committee and the Board of Trustees to discuss their audit and related findings as to the integrity of the Plan's financial reporting and the adequacy of the systems of internal control.



Peter Lindley
President and Chief Executive Officer



Upton Jeans
Chief Financial Officer

March 3, 2022

Actuaries' Opinion

Towers Watson Canada Inc. (WTW) was retained by the Board of Trustees of the Ontario Public Service Employees' Union Pension Plan (the Plan) to perform an actuarial valuation of the Plan as at December 31, 2021. The purpose of this valuation is to determine the pension obligations of the Plan as at December 31, 2021, for inclusion in the Plan's financial statements in accordance with Section 4600 of the *Chartered Professional Accountants of Canada (CPA Canada Handbook)*.

We have undertaken such a valuation and provided our related report. As this valuation was undertaken for purposes of the Plan's financial statements under the *CPA Canada Handbook* Section 4600, it might not be appropriate for other purposes and should not be relied upon or used for any other purpose.

The results of the valuation disclosed total going concern pension obligations of \$21,365 million in respect of service accrued to December 31, 2021.

The valuation of the Plan's going concern pension obligations was based on:

- members' demographic data provided by OPTrust management as at September 24, 2021 for Primary Schedule members and September 28, 2021 for OPTrust Select members, projected to December 31, 2021

using management's estimates of experience for the intervening period;

- the actuarial cost method prescribed by the *CPA Canada Handbook* Section 4600; and
- best-estimate assumptions about future events (for example, economic factors such as future rates of inflation and returns on the pension fund, as well as demographic factors) which were developed by OPTrust management in consultation with WTW and have been adopted by OPTrust management and approved by the Board.

Changes have been made to the actuarial assumptions affecting the pension obligations since the previous valuation for the purpose of the Plan's financial statements at December 31, 2021, as described in the notes to the financial statements.

We have reviewed the data used for the valuation and have performed tests of reasonableness and consistency. In our opinion, for the purposes of the valuation,

- the membership data are sufficient and reliable;
- the assumptions adopted are appropriate;
- the methods employed in the valuation are appropriate; and
- the valuation has been completed in accordance with our understanding of the requirements of the *Chartered*

Professional Accountants of Canada (CPA Canada Handbook Section 4600.

Nonetheless, differences between future experience and the assumptions about such future events will result in gains or losses which will be revealed in future valuations, none of which have been anticipated at this time. Our valuation was prepared and our opinions given in accordance with accepted actuarial practice in Canada.

Towers Watson Canada Inc.



Philip A. Morse
Fellow, Canadian Institute of Actuaries



Suzanne Jacques
Fellow, Canadian Institute of Actuaries

Toronto, Ontario
March 3, 2022

Independent Auditor's Report

To the Board of Trustees of OPSEU Pension Plan Trust Fund

Our opinion

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of OPSEU Pension Plan Trust Fund (OPTrust) as at December 31, 2021 and 2020, and the changes in its net assets available for benefits and changes in its pension obligations for the years then ended in accordance with Canadian accounting standards for pension plans.

What we have audited

OPTrust's financial statements comprise:

- the statements of financial position as at December 31, 2021 and 2020;
- the statements of changes in net assets available for benefits for the years then ended;
- the statements of changes in pension obligations for the years then ended; and
- the notes to the financial statements, which include significant accounting policies and other explanatory information.

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 *Auditor's responsibilities for the*

audit of the financial statements section of our report.

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

Independence

We are independent of OPTrust in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada. We have fulfilled our other ethical responsibilities in accordance with these requirements.

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, included in the Funded Status 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 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 OPTrust'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 OPTrust or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing OPTrust'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 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 OPTrust'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 OPTrust'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 OPTrust 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.

PricewaterhouseCoopers LLP

Chartered Professional Accountants, Licensed Public Accountants

Toronto, Ontario
March 3, 2022

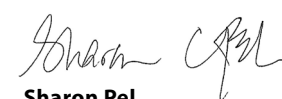
Statements of Financial Position

As at December 31 (\$ millions)	2021	2020
ASSETS		
Investments (Note 3)	27,206	26,439
Contributions receivable (Note 7)	56	52
Other assets	2	9
	27,264	26,500
LIABILITIES		
Accounts payable and accrued charges	26	38
Investment-related liabilities (Note 3)	1,325	3,416
	1,351	3,454
NET ASSETS AVAILABLE FOR BENEFITS	25,913	23,046
PENSION OBLIGATIONS (Note 5)	21,365	20,682
SURPLUS (Note 6)	4,548	2,364
PENSION OBLIGATIONS AND SURPLUS	25,913	23,046

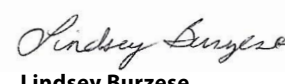
For the years ended December 31 (\$ millions)	2021	2020
SURPLUS, BEGINNING OF YEAR	2,364	1,470
CHANGE IN SURPLUS		
Increase in net assets available for benefits	2,867	1,356
(Decrease) in net pension obligations	(683)	(462)
NET INCREASE IN SURPLUS	2,184	894
SURPLUS, END OF YEAR	4,548	2,364

The accompanying notes are an integral part of these financial statements.

The financial statements were authorized for issue by the Board of Trustees on March 3, 2022 and were signed on its behalf by:



Sharon Pel
Chair



Lindsey Burzese
Vice-Chair

Statements of Changes in Net Assets Available for Benefits

For the years ended December 31 (\$ millions)	2021	2020
NET ASSETS AVAILABLE FOR BENEFITS, BEGINNING OF YEAR	23,046	21,690
Changes Due to Investment Activities		
Investment income (Note 4)	453	520
Net gain on investments (Note 4)	3,089	1,457
Investment management and administrative expenses (Notes 4 and 9)	(77)	(76)
	3,465	1,901
Changes Due to Pension Activities		
Contributions (Note 7)	582	551
Benefits paid (Note 8)	(1,138)	(1,064)
Pension administrative expenses (Note 9)	(42)	(32)
	(598)	(545)
INCREASE IN NET ASSETS AVAILABLE FOR BENEFITS	2,867	1,356
NET ASSETS AVAILABLE FOR BENEFITS, END OF YEAR	25,913	23,046

The accompanying notes are an integral part of these financial statements.

Statements of Changes in Pension Obligations

For the years ended December 31 (\$ millions)	2021	2020
PENSION OBLIGATIONS, BEGINNING OF YEAR	20,682	20,220
INCREASE IN PENSION OBLIGATIONS		
Interest accrued on benefits	1,061	1,016
Benefits accrued	566	540
Change in actuarial assumptions (Note 5)	115	42
	1,742	1,598
DECREASE IN PENSION OBLIGATIONS		
Benefits paid (Note 8)	1,138	1,064
Experience gains/(losses) (Note 5)	(79)	72
	1,059	1,136
INCREASE IN NET PENSION OBLIGATIONS	683	462
PENSION OBLIGATIONS, END OF YEAR	21,365	20,682

The accompanying notes are an integral part of these financial statements.

Notes to the Financial Statements

1. Description of the OPSEU Pension Plan

The OPSEU Pension Plan (the Plan) is a jointly sponsored pension plan. The April 18, 1994 *Sponsorship Agreement* between the Province of Ontario (the Province or Government of Ontario) and Ontario Public Service Employees Union (OPSEU) documented the agreement between the Province and OPSEU (the Sponsors) to establish the Plan, with the Province and OPSEU as joint sponsors. The *Ontario Public Service Employees Union Pension Plan Act, 1994* enacted in June 1994 facilitated certain aspects of the agreement. The Plan's primary schedule (Primary Schedule) provides pension benefits for employees of the Province in bargaining units represented by OPSEU and certain other bargaining units and employers. Pursuant to a letter of agreement executed by the Sponsors on April 19, 2018, a second schedule known as OPTrust Select was added to the Plan. OPTrust Select members are employees of participating employers in the broader public and nonprofit sectors.

The Plan and the related pension fund (Trust Fund) were established pursuant to the October 25, 1994 *Agreement and Declaration of Trust* (the Trust Agreement). The Trust Agreement also established the Board of Trustees (the Board) as the legal administrator of the Plan and the Trust Fund. The Board is composed of five appointees of the Province and five appointees of OPSEU. The legal name of the Board of Trustees and its employees is the OPSEU Pension Plan Trust Fund. The Plan, Trust Fund and Board are collectively referred to in these financial statements as OPTrust.

The Plan is registered under the *Pension Benefits Act* (Ontario) and the *Income Tax Act* (Canada) under registration number 1012046. The Plan is a registered pension plan as defined in the *Income Tax Act* and is not subject to income tax in Canada. However, OPTrust, its entities and investments are subject to other federal, provincial and municipal taxes in Canada, and some are subject to tax in other countries.

These financial statements reflect OPTrust's financial position, including the net assets available for benefits, pension obligations and surplus.

The following is a summary description of the Plan. For more complete information, reference should be made to the Plan text.

A. FUNDING

Contributions and investment earnings fund plan benefits. The determination of the value of the benefits and required contributions is based on actuarial valuations for funding purposes.

B. CONTRIBUTIONS

Under the Primary Schedule, the contribution rate for both employers and members since January 1, 2012 is 9.4% of pensionable salary up to the Year's Maximum Pensionable Earnings (YMPE) and 11% of pensionable salary above the YMPE.

Under OPTrust Select, the contribution rate for both employers and members is 3.0% of pensionable salary. For the first two years of participation, new employers are required to contribute an additional 0.2%.

C. PENSION BENEFITS

Pension benefits vest immediately under both schedules and include a lifetime pension payable at age 65.

Under the Primary Schedule, pensions are determined using a formula that considers a member's total pension service and annual salary rate averaged over the best five sequential years of membership. Members can retire early with an unreduced pension if their age plus years of pension service total 90 or if they are at least 60 years of age and have at least 20 years of pension service. Members who do not qualify for an early unreduced pension may start receiving a reduced pension between ages 55 and 65. Members who retire early also receive a temporary bridge benefit until age 65 or death, whichever occurs first.

Under OPTrust Select, there is no bridge benefit or early unreduced retirement provision. Members are entitled to an unreduced pension at age 65 and may start receiving a reduced pension between ages 55 and 65. The lifetime pension is determined by using a formula that considers a percentage of a member's pensionable pay in each year of membership plus any benefit upgrades granted by the Board.

D. INFLATION PROTECTION

Under the Primary Schedule, pensions and deferred pensions are adjusted annually for inflation based on changes to the Consumer Price Index (CPI), to a maximum of 8% in any one year. Where the inflation adjustment exceeds 8% in any one year, the excess is carried forward to any subsequent years when the adjustment is less than 8%.

Under OPTrust Select, pensions paid to retirees and pension benefits accrued for prior years by active members may be adjusted for inflation at the discretion of the Board.

E. DEATH BENEFITS

A 60% survivor pension is provided to an eligible spouse (or eligible children if there is no spouse) at no cost to the pensioner under the Primary Schedule.

Under OPTrust Select, the member's pension is reduced to pay for a spousal survivor pension. A pre-retirement death benefit is provided to the eligible spouse or to the member's designated beneficiary or estate under both schedules.

F. DISABILITY PENSIONS

Under the Primary Schedule, a disability pension is available to members with a minimum of 10 years of pension service in the Plan who meet the established criteria. The amount of the disability pension depends on the years of pension service and the average salary of the disabled member. Disability pensions are not available under OPTrust Select.

G. DEFERRED PENSIONS

Members in the Primary Schedule and OPTrust Select who terminate membership in the Plan before retirement have the right to leave their entitlement in the Plan and receive a pension when they retire. Deferred pensions are increased annually for inflation under the Primary Schedule only.

H. TERMINATION PAYMENTS

Members who terminate membership in the Primary Schedule or OPTrust Select before they become eligible for early retirement are entitled to transfer the commuted value of their pension to a registered retirement vehicle, subject to limits under the *Income Tax Act*. In some cases, members may also receive a refund of contributions.

I. TRANSFERS

Under the Primary Schedule, members who transfer to most management positions or certain professional groups are subject to a mandatory transfer of service to the Public Service Pension Plan, administered by the Ontario Pension Board. In addition, a member of the Primary Schedule who terminates their membership may be entitled to transfer the value of their pension to another pension plan if they are under the age of 55 and the other plan agrees to accept the transfer or if they are under the age of 65 and OPTrust has a reciprocal transfer agreement with that plan. The prescribed transfer options under the *Pension Benefits Act* are available to OPTrust Select members.

2. Significant Accounting Policies

A. BASIS OF PRESENTATION

These financial statements are prepared in accordance with the *Chartered Professional Accountants of Canada Handbook* Section 4600 – Pension Plans (s4600). The recognition and measurement of OPTrust's assets and liabilities are consistent with the requirements of s4600. The financial statements also include disclosures required by Regulation 909 of the *Pension Benefits Act*.

In the selection of accounting policies, OPTrust has chosen to comply with *International Financial Reporting Standards* (IFRS), as issued by the *International Accounting Standards Board* (IASB), to the extent that those standards do not conflict with the requirements of s4600.

These financial statements present the financial position of OPTrust as a separate financial reporting entity independent of participating employers, bargaining units, plan members, pensioners and sponsors.

B. USE OF ESTIMATES

In preparing these financial statements, management must make certain estimates, judgments and assumptions, that primarily affect the reported values of assets and liabilities, income and expenses, and related disclosures. Actual amounts could differ from these estimates. Significant estimates and judgments included in the financial statements relate to the valuation of real estate investments, private equity and infrastructure investments, certain fund investments and the determination of the pension obligations.

Impact of COVID-19 on significant estimates

The COVID-19 pandemic has had an impact on global economies and markets in which OPTrust invests, creating uncertainty related to estimates and assumptions used to measure the fair value of OPTrust's investments. As the impact of COVID-19 evolves, OPTrust continues to monitor the evolution of COVID-19 and management's best estimates and assumptions are reflected in the fair value of its assets and liabilities as reported.

Although global economic recovery has continued throughout 2021, there is still ongoing uncertainty as to the extent and duration of the impacts of COVID-19. With the reopening of economies along with increasing vaccination rates, uncertainty remains in terms of economic recovery rate, momentum of recovery as well as potential impact of future variants.

C. INVESTMENTS

Investments, investment-related assets and investment-related liabilities are financial instruments and are recognized on a trade date basis and stated at fair value. OPTrust uses *IFRS 13 Fair Value Measurement* in determining fair value.

i) Valuation of Investments

The fair value of investments 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. The determination of fair value is based on market conditions at a specific point in time and may not be reflective of future values. Fair values determined using valuation models and techniques require the use of assumptions that may not be supported by observable market transactions or available market data. In such cases, fair values may be significantly impacted by the choice of assumptions.

Fair values are determined as follows:

Cash

Cost approximates fair value.

Short-term Investments

Fair value is determined using cost plus accrued interest or quoted closing mid-market prices. Short-term investments include commercial paper, banker's acceptances and certificates of deposits.

Government, Corporate and Real Return Bonds

Fair value is generally determined using market quotes between the closing bid and ask prices. Where quoted prices are not available, estimated values are calculated using discounted cash flows based on current market yields for comparable securities or market information.

Public Equity

Fair value is generally represented by the closing quoted market price. Where a listed market price is not available, fair value is determined using comparable market information and considering liquidity factors.

Pooled and Hedge Funds

Fair value is determined through reference to the net asset values as reported by the external fund manager.

Real Estate, Private Equity and Infrastructure

Investments and related liabilities are valued at least annually using appropriate valuation methodologies and the valuator's best assessment of unobservable inputs, except where public market prices are available.

Investments, net of related debt, exceeding predefined thresholds are valued externally at least once every three years, or annually for significant investments following the year of acquisition. Certain investments may be selected for external valuation on a discretionary basis. Investments are otherwise valued internally. Fund investment and co-investment fair values are based on the value reported by the fund manager, asset manager or investment manager, who uses appropriate valuation methodologies. Fair value is updated for material and asset specific factors known to OPTrust at the valuation date.

The estimated value of mortgages held on real estate investments are valued using discounted cash flows based on indicative market yields of securities with comparable credit risk and term to maturity.

Derivative Instruments

Derivative instruments are financial contracts, the value of which is derived from changes in underlying assets, interest rates, foreign exchange rates, commodities or indices. Market prices are used for exchange-traded derivatives. Where quoted prices are not available, derivatives are valued using appropriate valuation techniques such as option pricing models and discounted cash flows. Inputs used in these valuations include, but are not limited to, spot prices, price volatilities, currency exchange rates, interest rate curves and credit spreads, in determining fair value.

Resell and Repurchase Agreements

Resell agreements (reverse repos) and repurchase agreements (repos) are transactions where OPTrust buys and sells securities and simultaneously agrees to sell and buy them back at a specified price at a future date. Resell and repurchase agreements are carried at cost, which together with accrued interest approximates fair value due to their short-term nature.

Collateral

Cash collateral provided by OPTrust is excluded from cash on these financial statements and an equivalent receivable amount is recognized as cash collateral pledged. Cash collateral received by OPTrust from counterparties is recognized as cash and a liability for the equivalent amount is recognized as cash collateral received.

When OPTrust pledges collateral in the form of securities to counterparties, the asset remains as an investment in OPTrust's financial statements. Collateral received in the form of securities is not recognized in OPTrust's financial statements as the risks and rewards of ownership do not transfer. OPTrust does not sell, repledge or otherwise use any securities collateral received from the securities lending program, but collateral received from transactions executed under resell agreements can be sold or repledged for the duration of each transaction.

ii) Income Recognition

Net investment income includes interest and dividend income from investments, realized gains and losses on disposal of investments, and unrealized gains and losses resulting from changes in the fair value of investments. Investment income is recognized on an accrual basis.

Realized gains and losses arise from the sale of the investment and represent the difference between net proceeds on disposal and cost. Unrealized gains and losses represent the change in the difference between the fair value and cost of the investment held.

iii) Transaction Costs

Transaction costs include incremental costs directly attributable to the acquisition, issue or disposal of investment assets or liabilities. These fees are expensed in the period on an accrual basis and reported as a component of net investment income.

iv) External Management and Performance Fees

External management fees for portfolio management are expensed when OPTrust is directly invoiced in the period incurred and recognized on an accrual basis. Performance fees are recognized on an accrual basis. Performance fees and management fees not directly invoiced are offset against net investment income.

D. PENSION OBLIGATIONS

The value of pension obligations is determined based on actuarial valuations prepared by an independent actuarial firm and verified by OPTrust. Actuarial valuations are prepared every year for financial statement reporting (financial statement valuations) and at least every three years for purposes of determining funding requirements (funding valuations).

For financial reporting purposes, s4600 requires that pension plans report the actuarial value of pension obligations using management's best estimate

assumptions and the projected unit credit method, prorated on service. This method calculates the actuarial value of pension benefits accrued up to the financial reporting date, after the projected benefits have been attributed equally to each year of a member's service. This method differs from the modified aggregate method, chosen by OPTrust and used for funding purposes, which includes the members' and employers' expected future contributions, pension benefits to be earned after the reporting date and margins of conservatism in the setting of economic assumptions. The projected benefits for OPTrust Select include the value of future intended benefit enhancements that are currently targeted at full inflation protection.

E. CONTRIBUTIONS

Contributions from members and employers that are due at year-end and transfers into the Plan, are recorded on an accrual basis. The carrying value of the receivable approximates fair value due to its short-term nature.

F. BENEFIT PAYMENTS

Payments of pensions, refunds and transfers are recorded on an accrual basis.

G. SURPLUS/DEFICIT

Surplus or deficit results from the excess or shortfall of the value of net assets available for benefits over the actuarial value of pension obligations.

H. FOREIGN CURRENCY TRANSLATION

Foreign currency transactions are translated into Canadian dollars at the rates of exchange prevailing at the dates of the transactions. The fair value of investments and cash balances denominated in foreign currencies is translated at the rates in effect at year-end. The resulting unrealized gain or loss is included in the statement of changes in net assets available for benefits.

I. FAIR VALUE DISCLOSURES

All financial instruments measured at fair value are categorized into one of three hierarchy levels, described below, for disclosure purposes. Each level is based on the transparency of the inputs used to measure the fair values of assets and liabilities:

Level 1 — inputs are unadjusted quoted prices of identical assets or liabilities in active markets. Investments that are classified as Level 1 generally include cash, actively traded equity securities and exchange traded derivatives which are valued using quoted prices.

Level 2 — inputs are used, other than quoted prices, that are observable for the asset or liability, either directly or indirectly. Investments that are classified as Level 2 include short-term securities, resell agreements, repurchase agreements, government, real return and corporate bonds and over-the-counter (OTC) derivatives. For these investments, fair values are either derived from quoted prices from less actively traded markets, independent price sources, or pricing models that use observable market data.

Level 3 — one or more significant inputs used in valuation methodologies that are unobservable in determining fair values of the assets or liabilities. Investments that are classified as Level 3 include investments in most private equity, infrastructure, real estate, pooled and hedge fund investments.

Determination of fair value and the resulting hierarchy requires the use of observable market data whenever available. The classification of a financial instrument in the hierarchy is based upon the lowest level of input that is significant to the measurement of fair value. The significance of a particular input to the fair value measurement requires judgment and evaluation of factors specific to the investment. The determination of an input's observability also requires considerable judgment.

J. AMENDMENTS TO ACCOUNTING STANDARDS

On January 13, 2021, amendments were made to *IFRS 9 Financial Instruments* and *IFRS 7 Financial Instruments: Disclosures* as a result of the implementation of interbank offered rates (IBOR) reform. These changes focused on the replacement of a number of IBOR rates with alternative benchmark rates (ABR). New disclosure was added to Note 3 to identify investments which are impacted by IBOR reform at December 31, 2021. The adoption of these amendments did not have a material impact on our financial statements. We continue to work towards the recommended target dates for the end of those IBOR rates provided by the regulators and are on track with our transition activities to move to ABRs.

3. Investments

A. FAIR VALUE HIERARCHY

The following schedule presents the fair value of OPTrust's investments categorized within the fair value hierarchy as described in Note 2.

As at December 31 (\$ millions)	2021					2020				
	Level 1	Level 2	Level 3	Fair value	Cost	Level 1	Level 2	Level 3	Fair value	Cost
Fixed income										
Cash	561	—	—	561	561	352	—	—	352	352
Short-term investments	—	4,769	—	4,769	4,767	—	5,329	—	5,329	5,328
Government and corporate bonds										
Canadian	—	2,883	—	2,883	2,762	—	3,731	—	3,731	3,383
Foreign	—	—	—	—	—	—	60	—	60	57
Real return bonds										
Canadian	—	438	—	438	279	—	438	—	438	279
Foreign	—	953	—	953	830	—	917	—	917	837
	561	9,043	—	9,604	9,199	352	10,475	—	10,827	10,236
Public equity										
Canadian	129	—	—	129	60	49	—	—	49	39
Foreign	1,699	59	—	1,758	1,312	1,859	—	—	1,859	1,280
	1,828	59	—	1,887	1,372	1,908	—	—	1,908	1,319
Pooled and hedge funds	—	719	2,835	3,554	3,283	—	265	2,671	2,936	2,911
Real estate	—	—	3,981	3,981	3,156	21	—	3,168	3,189	2,796
Private equity	—	—	4,017	4,017	2,518	—	—	3,178	3,178	2,455
Infrastructure	—	—	3,364	3,364	2,452	—	—	2,620	2,620	2,068
	—	719	14,197	14,916	11,409	21	265	11,637	11,923	10,230
Investment-related assets										
Cash collateral pledged	135	—	—	135	135	46	—	—	46	46
Accrued income	5	13	—	18	18	3	24	—	27	27
Due from brokers	—	37	—	37	37	—	11	—	11	11
Derivative instruments	—	224	—	224	133	—	280	—	280	69
Resell agreements	—	385	—	385	385	—	1,417	—	1,417	1,422
	140	659	—	799	708	49	1,732	—	1,781	1,575
INVESTMENT ASSETS	2,529	10,480	14,197	27,206	22,688	2,330	12,472	11,637	26,439	23,360
Investment-related liabilities										
Cash collateral received	(175)	—	—	(175)	(175)	(223)	—	—	(223)	(223)
Due to brokers and other liabilities	(67)	—	—	(67)	(67)	(81)	—	—	(81)	(81)
Derivative instruments	—	(86)	—	(86)	—	—	(72)	—	(72)	(30)
Bonds sold short										
Canadian	—	—	—	—	—	—	(60)	—	(60)	(58)
Foreign	—	—	—	—	—	—	(48)	—	(48)	(50)
Repurchase agreements	—	(997)	—	(997)	(997)	—	(2,932)	—	(2,932)	(2,934)
	(242)	(1,083)	—	(1,325)	(1,239)	(304)	(3,112)	—	(3,416)	(3,376)
NET INVESTMENTS	2,287	9,397	14,197	25,881	21,449	2,026	9,360	11,637	23,023	19,984

B. CHANGES IN FAIR VALUE MEASUREMENT FOR INVESTMENTS IN LEVEL 3

The following table presents a reconciliation of financial instruments measured at fair value using significant unobservable inputs and included in Level 3 of the fair value hierarchy:

For the years ended December 31 (\$ millions)	2021					2020				
	Pooled and hedge funds	Real estate	Private equity	Infra-structure	Total	Pooled and hedge funds	Real estate	Private equity	Infra-structure	Total
Balance, beginning of year	2,671	3,168	3,178	2,620	11,637	4,644	3,075	2,797	2,405	12,921
Net realized gains/(losses)	(56)	172	539	344	999	(150)	201	308	177	536
Change in unrealized gains/(losses)	268	425	827	352	1,872	(119)	(176)	58	(103)	(340)
Purchases	395	523	451	538	1,907	1,062	311	498	289	2,160
Sales/Redemptions	(443)	(307)	(827)	(490)	(2,067)	(2,766)	(243)	(483)	(148)	(3,640)
Transfers in/(out) ^a	—	—	(151)	—	(151)	—	—	—	—	—
BALANCE, END OF YEAR^a	2,835	3,981	4,017	3,364	14,197	2,671	3,168	3,178	2,620	11,637

a As at December 31, 2021, transfers out of Level 3 into Level 1 was due to private investments becoming publicly traded. There were no transfers in nor out of Level 3 for the year ended 2020.

C. SENSITIVITY TO CHANGES IN ASSUMPTIONS

Sensitivity information is available for certain direct investments in real estate, private equity and infrastructure and is presented in the table below. Sensitivity changes are not provided for investments where fair values are based on information provided by external parties where the Plan has a lack of information rights over assumptions and methodologies used to determine the fair value of the underlying investments.

As at December 31 (\$ millions)	Key factor	2021			2020	
		Change in key factor	Fair value	Increase/(Decrease) to fair value	Fair value	Increase/(Decrease) to fair value
Real estate	Capitalization rate ^a	+/- 0.25%	1,572	(140)/156	1,362	(129)/144
Mortgages	Interest rate ^b	+/- 0.25%	797	(9)/9	893	(11)/11
Private debt ^c	Discount rate ^b	+/- 0.25%	114	(1)/1	227	(1)/1
Infrastructure	Discount rate ^b	+/- 0.25%	2,184	(55)/58	1,973	(45)/48
Private equity	EBITDA multiple ^d	+/- 10%	1,482	244/(244)	839	205/(205)

a A rate of return to derive the value of an investment property based on expected income.

b The rate used in discounted cash flow analysis to determine the present value of future cash flows.

c Private debt is held within the Real Estate asset class.

d EBITDA is defined as earnings before interest, taxes, depreciation and amortization. The EBITDA multiple is used to determine the fair value of a company based on the subject company's EBITDA.

D. DERIVATIVE CONTRACTS

OPTrust utilizes derivatives to manage its asset mix exposure, enhance returns and manage financial risk. Derivative contracts are transacted by OPTrust either directly with counterparties in the OTC market or on regulated exchanges and execution platforms. The following are the types of derivative contracts that OPTrust has entered into:

Futures

Futures are standardized contracts traded on regulated future exchanges and are subject to daily cash settlement of changes in fair value. Futures contracts include the following:

Interest rate futures are contractual obligations to either buy or sell interest rate sensitive financial instruments or indices at a specified price at a future date. OPTrust utilizes interest rate futures contracts to manage its fixed income exposure.

Equity index futures are standardized contracts to either buy or sell a specific equity index at a specified price at a future date. OPTrust utilizes equity index futures contracts to manage its exposure to public equity markets.

Commodity futures are standardized contracts to either buy or sell a predetermined amount of a commodity at a specified price at a future date. OPTrust utilizes commodity futures contracts to manage its exposure to commodity markets.

Forwards

A forward contract is a contract between two parties to buy or sell an asset at a specified price at a future date. OTC currency forward contracts are contractual agreements between two parties to exchange a notional amount of one currency for another at a specified price for settlement at a future date. OPTrust utilizes foreign exchange forward contracts to modify currency exposure for both economic hedging and active currency management.

Options

Options are contractual agreements under which the seller (writer) grants the purchaser the right, but not the obligation, either to buy (call option) or sell (put option) a security, currency or another financial instrument at a specified price at or by a future date. They may be acquired in standardized amounts on regulated exchanges or may be customized and acquired in the OTC market. OPTrust utilizes options to manage its directional and volatility exposures for both economic hedging and active investing.

Swaps

Swaps are OTC contracts between two parties to exchange a series of cash flows. Swap contracts include the following:

An interest rate swap is a contractual agreement between two parties to exchange a series of fixed for floating cash flows based on a notional amount of principal. OPTrust utilizes interest rate swaps to manage interest rate exposures and duration exposures.

A credit default swap is a contractual agreement between two parties to provide protection against a change in value due to a credit event of referenced debt instruments. The purchaser pays premiums to the seller on the credit default swap in return for payment related to a change in value due to credit events. OPTrust utilizes credit default swaps to promote credit risk diversification.

A total return swap is a contractual agreement between two parties to provide the investment return on a referenced asset. The receiver of the total return on the asset pays a floating rate of interest to the payor of the asset total return. OPTrust utilizes total return swaps to promote asset risk diversification.

The notional amounts of derivative contracts represent the nominal or face amount that is used to calculate the cash payments made on that contract. The fair values of the derivative contracts included in the financial statements are determined by using the notional values and changes in the market rates or prices relative to the original terms of the contract. The notional values do not necessarily reflect the future cash flows to be exchanged nor do they indicate OPTrust's exposure to market or credit risk.

The following schedule presents the notional and fair value of OPTrust's derivative contracts held:

		2021			2020		
		Notional amount	Fair value assets	Fair value liabilities	Notional amount	Fair value assets	Fair value liabilities
As at December 31 (\$ millions)							
Interest rate contracts	Futures – long positions	229	—	—	2,998	—	—
	– short positions	6,103	—	—	1,757	—	—
	Options – long positions	—	—	—	1	4	—
	Swaps	—	—	—	767	1	(6)
Equity contracts	Futures – long positions	1,980	—	—	1,842	—	—
	– short positions	12	—	—	—	—	—
	Options – short positions	—	—	—	3,030	—	—
	Swaps	559	4	—	287	8	—
Commodity contracts	Futures – long positions	1,457	—	—	1,508	—	—
	– short positions	31	—	—	11	—	—
Currency contracts	Forwards	20,107	89	(86)	11,211	125	(66)
Credit contracts	Credit default swaps						
	– long positions	—	—	—	139	—	(3)
	– short positions	1,393	131	—	1,529	145	—
TOTAL DERIVATIVES		31,871	224	(86)	25,080	283	(75)

The following schedule presents the notional values for OPTrust's derivative positions by term to maturity:

	2021					2020				
	Within 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total	Within 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total
As at December 31 (\$ millions)										
Interest rate contracts	5,760	572	—	—	6,332	4,756	73	358	336	5,523
Equity contracts	2,551	—	—	—	2,551	5,159	—	—	—	5,159
Commodity contracts	1,488	—	—	—	1,488	1,519	—	—	—	1,519
Currency contracts	20,107	—	—	—	20,107	11,211	—	—	—	11,211
Credit contracts	—	1,393	—	—	1,393	—	1,668	—	—	1,668
TOTAL	29,906	1,965	—	—	31,871	22,645	1,741	358	336	25,080

E. SIGNIFICANT INVESTMENTS

The following schedule presents OPTrust investments having a fair value or cost exceeding 1% of the fair value or cost of net investment assets as at December 31.

As at December 31 (\$ millions)	2021			2020		
	Number of investments	Fair value	Cost	Number of investments	Fair value	Cost
Fixed income	1	273	163	9	2,306	2,149
Pooled and hedge funds	4	1,808	1,678	3	1,396	1,410
Private equity	2	545	203	—	—	—
Infrastructure	2	1,722	936	2	1,250	735

As at December 31, 2021, the investments where the individual investment has a cost or fair value exceeding 1% of the cost or fair value of net investment assets are as follows:

Fixed income — Government of Canada

Pooled and hedge funds — MAN FRM Bespoke Alpha LP, PIMCO Multi-Strategy Credit Fund, UBS Global Emerging Markets Opportunity Fund and Carlyle Ontario Credit Partnership, L.P.

Private equity — Kinetic TCo Pty Limited and Amerivet Partners Management Inc.

Infrastructure — Globalvia Infraestructuras, S.A. and BRUC OPT Energy Partners S.L.

F. RISK MANAGEMENT

OPTrust is subject to certain investment risks and engages in risk management practices to help ensure that sufficient assets will be available to fund pension benefits. OPTrust has identified our general approach to risk along with the level of risk we are willing to accept for each key risk category. We have also established a framework for effective risk management. This encompasses the monitoring, managing and reporting of enterprise risks including investment risks. Our risk approach, principles and framework are reviewed and approved by the Board.

The Board has delegated responsibility for managing risk to the President and Chief Executive Officer (the "CEO") but retains responsibility for approving OPTrust's approach to risk and monitoring risks identified by management as top enterprise risks, which have the potential to prevent OPTrust from meeting one or more of its strategic objectives. The CEO has delegated day to day responsibility for implementing the investment-related aspects of risk management to the Chief Risk Officer and Senior Vice-President Actuarial Services and Plan Policy, who ensures investment risks are measured and monitored against limits and guidelines, and to the Chief Investment Officer, who ensures that the investment risks are accurately priced and incorporated into the investment decision-making process.

There is a potential risk that OPTrust will not have sufficient assets available to fund future pension benefits. OPTrust manages this risk by focusing on the funded

status of the Plan, measured as the ratio of assets to liabilities. Since the funded status of the Plan is a function of both assets and liabilities, and both are affected by the investment environment, managing investment risks is central to ensuring assets will not fall short of liabilities.

Investment Risk

Investment risk includes the following types of risk:

- Market risk (including interest rate, foreign currency, equity price and commodity price risks)
- Credit risk; and
- Liquidity risk.

Market Risk

Market risk is the risk that the value of an investment will be adversely affected by changes in interest rates, foreign exchange rates, inflation rates, equity and commodity prices. OPTrust manages market risk through investment management practices designed to optimize the relationship between risk and return and the diversification of investments across a variety of asset classes. Risk mitigation strategies aimed at lowering the total fund's risk level are actively employed.

(a) Interest Rate Risk

Interest rate risk is the risk that the fair value of future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The potential exposure results from either changes in floating interest rates which increase or decrease cash flows or changes in the asset values for fixed rate securities (e.g., bonds, mortgages and bank loans). During periods of rising interest rates, the market value of the existing fixed income securities will generally decrease.

A 1% increase or decrease in interest rates, with all other variables held constant, would result in a decrease or increase in the value of the fixed income portfolio of \$720 million (2020 – \$747 million) respectively. The change in fair value will be offset by a change in the value of our pension liability which is also correlated to a change in interest rates.

The following table illustrates how fair value is allocated among the various types of interest-bearing investments based upon the contractual maturity of the securities:

As at December 31 (\$ millions)	2021					2020				
	Within 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total	Within 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total
Short term investments	4,769	—	—	—	4,769	5,329	—	—	—	5,329
Government and corporate bonds	—	—	290	2,593	2,883	122	163	986	2,520	3,791
Real return bonds	—	—	140	1,251	1,391	—	—	9	1,346	1,355
Resell agreements	385	—	—	—	385	1,417	—	—	—	1,417
TOTAL	5,154	—	430	3,844	9,428	6,868	163	995	3,866	11,892

OPTrust manages interest rate risk relative to its liabilities by balancing investments between interest-sensitive investments and those subject to other risks. There are also certain real estate, private equity and infrastructure investments which may have interest rate components making them subject to interest rate exposure.

The following schedule presents OPTrust's exposure to financial instruments referencing benchmark interest rates subject to IBOR reform that have yet to transition to ABRs:

As at December 31 (\$ millions)	2021	
	Fair value	Yet to transition
Non-derivative assets exposed to US LIBOR Loans ^a	352	218

^a Loans are part of the Real Estate portfolio.

(b) Foreign Currency Risk

Foreign currency risk is the risk that the value of foreign investments will be affected by changes in foreign currency exchange rates for Canadian dollars.

OPTrust's market value exposure to foreign currencies is as follows:

As at December 31 (\$ millions)	2021			2020
	Gross exposure	Impact of derivatives ^a	Net exposure	Net exposure
Canadian Dollar	13,009	7,730	20,739	18,076
Foreign currency exposure				
United States Dollar	8,043	(5,874)	2,169	1,520
Swiss Franc	50	945	995	933
Japanese Yen	190	708	898	1,037
Indian Rupee	162	101	263	269
Hong Kong Dollar	164	60	224	(13)
Euro	2,313	(2,418)	(105)	(54)
Europe – other	405	(383)	22	189
Asia Pacific – other	1,023	(970)	53	98
Emerging Markets – other	522	101	623	968
	12,872	(7,730)	5,142	4,947
NET INVESTMENTS	25,881	—	25,881	23,023

^a The impact of derivatives reflects the foreign currency exposure represented by the notional amount economically hedged using currency forwards.

The impact of a 5% absolute change in the Canadian dollar against the top five currency exposures held at year-end, holding all other variables constant would have resulted in a \$217 million change in net assets available for benefits as at December 31, 2021 (2020 – \$180 million).

As at December 31 (\$ millions)	Change versus Canadian Dollar	2021	2020
		Change in net assets available for benefits	Change in net assets available for benefits
United States Dollar	+/- 5%	+/- 103	+/- 73
Swiss Franc	+/- 5%	+/- 47	+/- 44
Japanese Yen	+/- 5%	+/- 43	+/- 49
Indian Rupee	+/- 5%	+/- 13	+/- 13
Hong Kong Dollar	+/- 5%	+/- 11	+/- 1
TOTAL		+/- 217	+/- 180

Currency risk is managed at the total OPTrust level. OPTrust economically hedges most of its currency exposure using currency forwards. The remaining unhedged exposures include currencies that are used to diversify total portfolio risk, emerging market currencies and opportunistic exposures.

(c) Equity Price Risk

Equity price risk is the risk that the fair value of a financial instrument will fluctuate because of changes in equity market prices whether those changes are caused by factors specific to the individual financial instrument, its issuer, or factors affecting all similar financial instruments traded in the market. OPTrust is exposed to equity price risk through its investment in public and private equities.

The table below shows the impact of a 10% change in public and private equity markets.

As at December 31 (\$ millions)		2021		2020
Equity market ^a	Market index	Change in market index ^b	Change in net assets available for benefits	Change in net assets available for benefits
Public equities	MSCI World Developed Index	+/- 10%	+/- 386	+/- 379
Public equities	MSCI World Developed Index	+/- 10%	+/- 343	+/- 272
TOTAL			+/- 729	+/- 651

a Equity market is based on the specific exposure of the investment. In 2020, equity market was based on the portfolio mandates of the investment managers.

b For each equity category, the expected effect of a 10% change in the market index is estimated using market data since January 2004. Currency exchange rates are not affected by the change in market indices.

OPTrust manages equity price risk through adherence to approved policies and guidelines, which includes ensuring thresholds are being met through monitoring equity exposures in developed and emerging markets, as well as total fund.

Credit Risk

Credit risk is the risk of financial loss due to a counterparty, borrower, issuer, endorser or guarantor failing to make payments under its contractual obligations. OPTrust has exposure to credit risk through short-term investments, bonds, resell agreements and OTC derivatives.

The credit risk exposure by credit rating of our counterparties, without taking account of any collateral held is as follows:

As at December 31 (\$ millions)	2021					2020				
	Short-term investments	Bonds	Resell agreements	Derivatives ^a	Total	Short-term investments	Bonds	Resell agreements	Derivatives ^a	Total
AAA/R-1 High	3,397	953	—	—	4,350	4,625	917	—	—	5,542
AA/R-1 Mid	—	1,890	26	2	1,918	286	2,066	635	23	3,010
A/R-1 Low	1,372	1,431	359	222	3,384	418	1,930	780	253	3,381
BBB/R-2 Low or lower	—	—	—	—	—	—	233	2	—	235
TOTAL	4,769	4,274	385	224	9,652	5,329	5,146	1,417	276	12,168

a Excludes exchange traded derivatives.

(d) Commodity Price Risk

Commodity price risk is the risk that the fair value of investments will fluctuate due to changes in market prices of commodities.

The table below shows the impact of a 10% change in gold and broad commodity indices:

As at December 31 (\$ millions)		2021		2020
Commodity market	Market benchmark	Change in market index ^a	Change in net assets available for benefits	Change in net assets available for benefits
Gold	S&P GSCI Gold Total Return Index	+/- 10%	+/- 128	+/- 133
Broad Commodity Exposure	Bloomberg Commodity Index	+/- 10%	+/- 12	+/- 13
TOTAL			+/- 140	+/- 146

a The expected effect of a 10% change in the commodity market index is estimated using market data since January 2004. Currency exchange rates are not affected by the change in market indices.

OPTrust manages commodity price risk through adherence to approved policies and guidelines, which includes ensuring thresholds are being met through monitoring commodity exposures in the total fund.

OPTrust mitigates credit risk on debt securities through adherence to approved policies and guidelines, which includes guidelines on exposure to single issuers.

Credit risk from OTC derivatives and resell agreements is managed by requiring counterparties to post collateral in order to back the fair value of these derivative contracts.

Credit risk for investments is measured by the positive fair value of the contractual obligations with the counterparties less any collateral or margin received as at the reporting date. OPTrust also monitors how the positive fair value of OTC derivatives and resell agreements may change in the future to ensure adequate collateral is in place.

OPTrust's collateral arrangements that support certain investment activities are as follows:

(a) Derivatives

Collateral is received from and pledged to counterparties to manage credit risk from OTC derivatives in accordance with the Credit Support Annex (CSA), which forms part of the International Swaps and Derivatives Association (ISDA) Master Agreements. All uncleared derivatives are now subject to global regulatory requirements requiring a CSA in conjunction with an ISDA. All of the ISDAs OPTrust has in place with counterparties are fully collateralized for OTC derivatives, and as a result has a right to offset credit risk against collateral received due to a default, insolvency, bankruptcy or other early termination events. In the case of exchange-traded derivatives, there is no provision to offset against obligations to the same counterparty.

(b) Resell and Repurchase Agreements

Resell and repurchase agreements include collateral received and pledged from and to counterparties.

(c) Securities Lending Program

OPTrust participates in a securities lending agreement whereby it lends securities to approved borrowers. OPTrust secures its exposure through the receipt of security collateral of at least 105% of the value of the securities lent. All securities lent are callable on demand at the option of OPTrust. Credit risk associated with the borrower is mitigated by requiring the borrower to provide collateral with market values exceeding the market value of the loaned securities. OPTrust continues to recognize securities on loan and does not recognize securities received as collateral.

The fair value of collateral received and pledged for derivatives, resell and repurchase agreements as well as for securities loaned as at December 31, is as follows:

As at December 31 (\$ millions)	2021	2020
Derivatives		
Collateral received ^a	(172)	(219)
Collateral pledged ^b	495	485
Resell and Repurchase Agreements		
Associated receivable from resell agreements	385	1,417
Collateral received ^c	(385)	(1,420)
Associated liability from repurchase agreements	(997)	(2,932)
Collateral pledged ^c	997	2,948
Securities Lending Program		
Securities loaned	194	282
Collateral received	(207)	(305)

a Includes cash collateral received of \$(172) million (2020 – \$(219) million).

b Includes cash collateral pledged of \$131 million (2020 – \$44 million).

c Includes net cash collateral pledged/(received) of \$(1) million (2020 – \$(2) million).

(d) Offsetting Arrangements

Financial assets and liabilities are offset and the net amount reported in the statement of financial position where OPTrust currently has a legally enforceable right to set-off the recognized amounts and there is an intention to settle on a net basis or realize the asset and settle the liability simultaneously. In the normal course of business, OPTrust enters into various master netting agreements or other similar arrangements that do not meet the criteria for offsetting in the statement of financial position but still allow for the related amounts to be set-off in certain circumstances, such as bankruptcy or the termination of the contracts.

The following table presents the recognized financial instruments that are offset, or subject to enforceable netting arrangements as at December 31, 2021 and 2020. Similar arrangements include repurchase agreements, resell agreements, securities lending and any related rights to financial collateral.

	2021				
	Gross amounts of recognized financial instruments	Gross amounts of recognized financial instruments set-off	Related amounts not set-off in the statement of financial position		Net amount
Net amounts of financial instruments presented			Financial collateral (received)/pledged		
As at December 31 (\$ millions)					
Financial assets					
Derivative instruments	255	(31)	224	(172)	52
Resell agreements	385	—	385	(385)	—
Securities lending	194	—	194 ^a	(194)	—
TOTAL FINANCIAL ASSETS	834	(31)	803	(751)	52
Financial liabilities					
Derivative instruments	(117)	31	(86)	86	—
Repurchase agreements	(997)	—	(997)	997	—
TOTAL FINANCIAL LIABILITIES	(1,114)	31	(1,083)	1,083	—

	2020				
	Gross amounts of recognized financial instruments	Gross amounts of recognized financial instruments set-off	Net amounts of financial instruments presented	Financial collateral (received)/pledged	Net amount
As at December 31 (\$ millions)					
Financial assets					
Derivative instruments	318	(38)	280	(219)	61
Resell agreements	1,417	—	1,417	(1,417)	—
Securities lending	282	—	282 ^a	(282)	—
TOTAL FINANCIAL ASSETS	2,017	(38)	1,979	(1,918)	61
Financial liabilities					
Derivative instruments	(110)	38	(72)	72	—
Repurchase agreements	(2,932)	—	(2,932)	2,932	—
TOTAL FINANCIAL LIABILITIES	(3,042)	38	(3,004)	3,004	—

^a These securities are included in public equity investments.

Liquidity Risk

Liquidity risk is the potential that OPTrust will not be able to meet payment obligations for pension payments, operating expenses or investment activities as they come due without the forced sale of assets. OPTrust has exposure to liquidity risk through its investment commitments, which are required to be funded in future periods, as well as through holding certain investments including pooled and hedge funds, private equity, infrastructure and real estate investments, which by nature are less liquid than public market assets (see Note 10). An additional source of liquidity risk exposure is OPTrust's use of derivatives with their potential margin calls which are impacted by daily market movements.

OPTrust forecasts and manages cash flows centrally to ensure it meets its obligations when due without unintended early liquidation of assets. OPTrust's

cash and liquidity positions are monitored daily for compliance with guidelines and limits established in a liquidity framework. Both short-term and long-term cash and liquidity requirements are assessed within this framework. In addition, OPTrust conducts various stress tests to examine how they may impact liquidity.

Liquidity risk is managed by holding cash and cash equivalents, liquid money market securities and unencumbered high-quality liquid securities that can be sold under repurchase agreements to raise funds. A core liquidity reserve is maintained for deployment in the event of severe market disruption.

The remaining terms to contractual maturity of OPTrust's investment-related liabilities are as follows:

	2021			
	Within 1 year	1 to 5 years	5 to 10 years	Total
As at December 31 (\$ millions)				
Cash collateral received	(175)	—	—	(175)
Due to brokers and other liabilities	(51)	(16)	—	(67)
Derivative instruments	(86)	—	—	(86)
Bonds sold short	—	—	—	—
Repurchase agreements	(997)	—	—	(997)
TOTAL	(1,309)	(16)	—	(1,325)

	2020			
	Within 1 year	1 to 5 years	5 to 10 years	Total
As at December 31 (\$ millions)				
Cash collateral received	(223)	—	—	(223)
Due to brokers and other liabilities	(60)	(21)	—	(81)
Derivative instruments	(67)	(4)	(1)	(72)
Bonds sold short	—	(78)	(30)	(108)
Repurchase agreements	(2,932)	—	—	(2,932)
TOTAL	(3,282)	(103)	(31)	(3,416)

OPTrust maintains unsecured credit facilities to meet potential liquidity requirements.

4. Net Investment Income

The following schedule presents the net investment income of OPTrust's investments by asset class:

	2021			2020		
	Investment income	Net gain/(loss) on investments ^a	Net investment income/(loss) ^{b/c}	Investment income/(loss)	Net gain/(loss) on investments ^a	Net investment income/(loss) ^{b/c}
For the years ended December 31 (\$ millions)						
Fixed income						
Cash and short-term investments	16	(4)	12	40	(11)	29
Government and corporate bonds						
Canadian	90	(235)	(145)	190	601	791
Foreign	5	(17)	(12)	8	72	80
Real-return bonds						
Canadian	9	—	9	10	41	51
Foreign	8	48	56	6	135	141
	128	(208)	(80)	254	838	1,092
Public equity						
Canadian	1	44	45	1	10	11
Foreign	39	128	167	34	234	268
	40	172	212	35	244	279
Pooled and hedge funds	4	186	190	1	(278)	(277)
Real estate	153	448	601	95	(70)	25
Private equity	70	1,296	1,366	31	334	365
Infrastructure	58	638	696	104	(30)	74
Derivative instruments	—	557	557	—	419	419
	285	3,125	3,410	231	375	606
	453	3,089	3,542	520	1,457	1,977
Investment management expenses						
External manager fees			(12)			(11)
Transaction costs			(12)			(15)
			(24)			(26)
NET INVESTMENT INCOME			3,518			1,951

a Includes net realized gain of \$1,721 million and net unrealized gain of \$1,368 million in 2021 and net realized gain of \$1,285 million and net unrealized gain of \$172 million in 2020.

b Certain investment-related disbursements of \$40 million in 2021 (2020 - \$40 million) have been netted against net investment income/(loss).

c Net of management fees not directly invoiced and performance fees for portfolio management.

5. Pension Obligations

A. FINANCIAL STATEMENT VALUATION

OPTrust annually reviews the actuarial assumptions used in the financial statement valuation to ensure that they reflect management's best estimate of expected trends. The key economic assumptions used for the valuation are as follows:

As at December 31	2021	2020
Inflation rate	2.00%	2.00%
Discount rate (real)	3.20%	3.20%
Discount rate (nominal)	5.20%	5.20%
Salary increases (nominal)	2.75%	2.75%

The discount rate is based on the long-term expected return of plan assets proposed by management and approved by the Board.

The inflation rate is based on the expected CPI rate increases.

Salary increases reflect the long-term inflation rate plus general Plan member salary increases.

Experience losses of \$79 million (2020 - \$72 million gain) on OPTrust's pension obligations are due to differences between actual experience and assumptions. The assumption change loss of \$115 million (2020 - \$42 million) on OPTrust's pension obligations is due to an increase in the provision for expenses.

The financial statement nominal discount rate remains unchanged at 5.20% as at December 31, 2021 which reflects current market conditions and return expectations.

B. FUNDING VALUATION

The funding valuation is based on the modified aggregate method. This method considers a time horizon that includes accumulation of benefits and receipt of contributions in respect of current members in future periods. Generally, the actuarial assumptions used to determine the pension obligations for funding purposes are more conservative than those used for the financial statement valuation. Pension obligations are valued using economic assumptions developed by reference to long-term market conditions. The funding valuation is used to identify gains or losses. Gains or losses are first split between the Primary Schedule and OPTrust Select based on the accrued liability. Gains and losses are shared equally between the Sponsors.

Gains attributed to the Primary Schedule will be allocated at the discretion of the Sponsors to fund benefit improvements, reduce contributions, or reduce any existing funding deficiencies. Funding deficiencies resulting from losses are funded over a maximum of 15 years from increased contributions.

Gains attributed to OPTrust Select are allocated at the discretion of the Sponsors after all intended benefit enhancements have been provided to members. The Sponsors can fund benefit improvements, reduce contributions, or reduce any existing funding deficiencies. Funding deficiencies resulting from losses primarily reduce the level of benefit enhancements from those intended.

In accordance with the *Pension Benefits Act*, the *Income Tax Act* and regulations, an actuarial valuation for funding purposes is required to be filed at least every three years to assess OPTrust's financial position, and to determine the funding requirements. In 2022, OPTrust is expected to file with the regulator, the December 31, 2021 funding valuation, as prepared by Towers Watson Canada Inc., showing that the Plan is fully funded, and the next funding valuation will not be required to be filed until December 31, 2024.

6. Capital

OPTrust defines capital as the funded position of the Plan, whether in surplus or deficit. Surplus is generated during periods of favourable economic performance and drawn down during periods of unfavourable economic performance in order to maintain OPTrust's ability to pay its pension obligations without unduly affecting contribution levels. OPTrust is not under regulatory requirements as it relates to capital. The surplus was \$4,548 million as of December 31, 2021 (2020 - \$2,364 million). The objective of managing capital is to ensure the Plan is fully funded to pay the plan benefits over the long term. A funding valuation is used to manage capital by identifying gains or losses as described in Note 5. OPTrust prudently manages its investments to satisfy its long-term funding requirement in accordance with its *Statement of Investment Policies and Procedures* (SIP&P) and other policies and guidelines. The SIP&P was established in 1995 and was last amended in 2021 to revise the asset mix disclosure.

OPTrust uses different scenarios to monitor the market risks in the Plan. The *Risk Appetite Statement* (RAS) sets limits on how market risks can affect the funded status of the Plan in three scenarios. Funded status is the percentage of net assets available for benefits over actuarial liabilities. RAS A and RAS B are stress scenarios which represent severe stagflation and deflationary market conditions. RAS C measures pension stability and is a tail risk estimation of our funded status. In each scenario, the value of assets and liabilities is recalculated and the change in funded status is monitored. The drawdown in funded status for these three scenarios is monitored and used as a strategic risk limit.

The table below highlights the potential reduction in funded status in the three scenarios.

As at December 31	2021	2020
	% Potential reduction to funded status ^d	% Potential reduction to funded status ^d
Risk appetite statement scenario A ^a	15.9%	16.0%
Risk appetite statement scenario B ^b	15.7%	13.2%
Risk appetite statement scenario C ^c	12.4%	11.3%

- a Under Scenario A, the assumption is that the MSCI World Index decreases by 30% while the 10-year government yield increases by 100 basis points.
- b Under Scenario B, the assumption is that the MSCI World Index decreases by 30%, while the 10-year government yield decreases by 100 basis points.
- c Scenario C is based on the average loss of the worst 10% of outcomes simulated using historical market scenarios starting from January 2004.
- d These are absolute value reductions from funded status.

7. Contributions

For the years ended December 31 (\$ millions)	2021	2020
Members		
Current service ^a	256	248
Prior service	17	16
Long-term income protection ^b	18	14
	291	278
Employers		
Current service ^a	257	248
Prior service	7	7
Long-term income protection ^b	18	14
	282	269
Transfers from other plans	9	4
TOTAL CONTRIBUTIONS	582	551

- a All contributions paid by members for current service are required contributions.
- b The employer pays member contributions for long-term income protection.

As at December 31, 2021 employers' and members' contributions receivable were \$32 million (2020 – \$30 million) and \$24 million (2020 – \$22 million) respectively. OPTrust reconciles contributions for each employer on a member-by-member basis.

8. Benefits Paid

For the years ended December 31 (\$ millions)	2021	2020
Retirement pensions	926	893
Transfers to Public Service Pension Plan	110	82
Refunds, commuted value transfers and death benefits	95	82
Transfers to other plans	7	7
TOTAL BENEFITS PAID	1,138	1,064

9. Administrative Expenses

Investment administrative expenses^a

For the years ended December 31 (\$ millions)	2021	2020
Administration	48	43
Professional services ^b	3	6
Custodial fees	2	1
TOTAL INVESTMENT ADMINISTRATIVE EXPENSES	53	50

Pension administrative expenses^a

For the years ended December 31 (\$ millions)	2021	2020
Administration	33	29
Professional services ^b	2	3
System development ^c	7	—
TOTAL PENSION ADMINISTRATIVE EXPENSES	42	32

- a Includes corporate expenses.
- b Total professional services include external audit expense of \$428 thousand (2020 – \$504 thousand) and actuarial expense of \$359 thousand (2020 – \$397 thousand).
- c Includes \$5 million of impairment charges (2020 – \$0).

10. Commitments, Guarantees, Indemnifications and Contingencies

A. COMMITMENTS

In the normal course of business, certain OPTrust entities may enter into commitments to fund certain investments over the next several years in accordance with the terms and conditions agreed to, which may be considered material. As at December 31, 2021, these commitments totaled \$2,993 million (2020 – \$2,453 million). OPTrust also has future lease commitments for office premises.

B. GUARANTEES

OPTrust enters into guarantee agreements related to certain investments. OPTrust is required to make payments to a third party if the investment companies fail to pay or perform a stated obligation to that party.

OPTrust's investment commitments, guarantees and lease commitments are as follows:

As at December 31 (\$ millions)	2021	2020
Investment commitments	2,993	2,453
Guarantees	86	410
Lease commitments	5	8
TOTAL INVESTMENT COMMITMENTS, GUARANTEES AND LEASE COMMITMENTS	3,084	2,871

C. INDEMNIFICATIONS

OPTrust indemnifies its Trustees and staff against certain claims that may be made against them to the extent that these individuals are not covered under other arrangements.

D. CONTINGENCIES

As at December 31, 2021, OPTrust is involved in litigation and claims which arise in the normal course of business. The outcome of such litigation and claims is often inherently difficult to predict. Any liability that may arise from these litigations has been recognized as appropriate or has been determined to have an insignificant impact on the financial statements.

11. Related Party Disclosures

In the normal course of business OPTrust purchased bonds at the prevailing market prices that were issued by the Province of Ontario, a sponsor of the Plan and whose employees are members of the Plan. The fair market value of the bonds as at December 31, 2021, was \$1,298 million (2020 – \$2,037 million). Investment income recorded on the bonds amounted to \$40 million for the year-ended December 31, 2021 (2020 – \$121 million).

In 2019, OPTrust entered a joint venture partnership with GWL Realty (GWL) in the ownership of its corporate headquarters in the amount of \$118 million. In 2021, the amounts paid to the joint venture with GWL amounted to \$4 million (2020 – \$3 million).

12. Key Management Personnel Compensation

Key management personnel consist of senior executives having authority and responsibility for planning and directing the activities of OPTrust. The aggregate key management personnel compensation is shown below:

For the years ended December 31 (\$ thousands)	2021	2020
Salaries, short-term employee benefits and termination benefits	5,865	5,752
Other long-term benefits	592	2,915
Post-employment benefits	2,520	1,392
TOTAL	8,977	10,059

Ten-Year Financial Review (Unaudited)

As at December 31 (\$ millions)	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
CHANGES IN NET ASSETS										
Changes due to investment activities	3,465	1,901	2,217	145	1,742	1,037	1,311	1,818	1,615	1,237
Changes due to pension activities	(598)	(545)	(464)	(498)	(497)	(391)	(393)	(289)	(368)	(235)
INCREASE/(DECREASE) IN NET ASSETS	2,867	1,356	1,753	(353)	1,245	646	918	1,529	1,247	1,002
NET ASSETS										
Investments										
Cash and short-term investments	5,330	5,681	2,725	3,406	3,332	2,417	1,460	2,750	2,275	2,251
Government and corporate bonds and debentures	2,883	3,791	9,162	6,285	5,573	4,227	3,854	2,001	1,629	1,887
Real return bonds	1,391	1,355	1,059	866	430	438	468	446	577	1,177
Bank loan notes	—	—	—	—	—	168	156	145	90	—
Public equity	1,887	1,908	1,699	1,425	2,318	3,422	5,497	5,738	5,749	4,664
Pooled and hedge funds	3,554	2,936	4,866	5,863	4,573	2,597	959	732	456	126
Real estate	3,981	3,189	3,091	2,927	2,823	2,884	2,857	2,394	2,167	2,148
Private equity	4,017	3,178	2,797	2,288	1,920	1,595	1,691	1,284	794	608
Infrastructure	3,364	2,620	2,405	2,476	2,136	2,065	2,350	2,055	2,337	1,852
Investment-related assets	799	1,781	805	324	481	132	108	154	151	149
	27,206	26,439	28,609	25,860	23,586	19,945	19,400	17,699	16,225	14,862
Contributions receivable	56	52	49	52	48	53	51	52	58	56
Other assets	2	9	8	11	5	4	5	4	5	5
TOTAL ASSETS	27,264	26,500	28,666	25,923	23,639	20,002	19,456	17,755	16,288	14,923
Liabilities										
Accounts payable and accrued charges	(26)	(38)	(28)	(39)	(44)	(49)	(54)	(78)	(69)	(64)
Investment-related liabilities	(1,325)	(3,416)	(6,948)	(5,947)	(3,305)	(908)	(1,003)	(196)	(267)	(154)
TOTAL LIABILITIES	(1,351)	(3,454)	(6,976)	(5,986)	(3,349)	(957)	(1,057)	(274)	(336)	(218)
NET ASSETS AVAILABLE FOR BENEFITS	25,913	23,046	21,690	19,937	20,290	19,045	18,399	17,481	15,952	14,705
Pension obligations	(21,365)	(20,682)	(20,220)	(18,453)	(18,265)	(17,316)	(16,756)	(15,937)	(14,958)	(14,189)
SURPLUS	4,548	2,364	1,470	1,484	2,025	1,729	1,643	1,544	994	516