2019 FUNDED STATUS REPORT

RETIREMENT BY DESIGN

OPTrust

With net assets of almost $22 billion, OPTrust invests and manages one of Canada's largest pension funds and administers the OPSEU Pension Plan (including OPTrust Select), a defined benefit plan with over 96,000 members.

2019 FUNDED STATUS REPORT

RETIREMENT BY DESIGN

"At OPTrust, retirement by design really means two things. The first is the way in which we invest for the long term and in the best interests of our members. The second thing we mean is how we increase availability of defined benefit pensions through the launch of OPTrust Select which was designed for the broader public and nonprofit sector."

Peter Lindley
President and Chief Executive Officer

“OPTrust Select is a game changer for nonprofits and charities. As employers, it allows us to be competitive in the marketplace. To be able to say that we offer a pension that our employees can count on, means we can recruit and retain the best and brightest.”

Cathy Taylor
Executive Director
Ontario Nonprofit Network

"OPTrust Select is very important for recruiting and retaining your good workers. There's so much insecurity in the sector — we can now go in and say, especially to young workers: this is what we have for you, we have retirement benefits for life."

Randall Terada
Decent Work Project Lead
Ontario Nonprofit Network

“As a young worker in the nonprofit sector, with a pension benefit like OPTrust Select, I’m interested in staying and pursuing my career in the sector.”

Teshini Harrison
Policy Analyst
Ontario Nonprofit Network

“We have a direct line to our members, and the work we do in Member Experience is important. We strive to reduce wait times, improve processes and always create a remarkable member experience. I’m proud of my work in contributing to OPTrust’s outstanding member service scores in 2019.”

Krys Gray
Pension Services Coordinator
OPTrust

"I am a true believer in the defined benefit pension model — knowing our members can retire with dignity is incredibly rewarding. The value and security that OPTrust provides to its members has been a driving force in my over 20-year career at OPTrust."

Tracy Hatanaka-Lejnieks
Interim Chief Financial Officer
OPTrust

2019 HIGHLIGHTS

OPTrust remains **fully funded** for the 11th consecutive year

5.10% nominal discount rate

9.2/10 average member satisfaction score

11.2% net investment return

8.2% 10-year average net investment return (2009-2019)

CEM Benchmarking reported OPTrust investments perform in line with peers with less risk to funded status and at a lower cost after adjusting for asset mix

Funding Highlights[1]

At December 31 ($ millions)

	2019 VALUATION	2018 VALUATION
Net assets available for benefits	$ **21,690**	$ 19,937
Actuarial smoothing adjustment	**(523)**	327
Present value of future contributions	**5,924**	5,718
TOTAL ASSETS	**27,091**	25,982
Present value of future benefits	**(26,511)**	(25,469)
Provision for future expenses	**(432)**	(372)
TOTAL LIABILITIES	**(26,943)**	(25,841)
TOTAL SURPLUS	$ **148**	$ 141

1 The differences between funding and financial statement valuations are described on page 18.

Over **96,000** members

Hundreds of new members enrolled in **OPTrust Select**

Accelerated progress on gender **diversity**

Received A+ for our strategy and governance approach to responsible investing from the Principles for Responsible Investment

MESSAGE FROM THE CHAIR AND VICE CHAIR

2019 was a year of many accomplishments for OPTrust. First and foremost, the Plan continued to be fully funded, the most important measure of a pension plan's success.

OPTrust also received external recognition for its excellence across several aspects of its operations, including awards for investment innovation, the design of the OPTrust Select website and its Globalvia infrastructure investment. OPTrust also achieved a top three ranking globally for its pension administration services from CEM Benchmarking. The Board also asked CEM to review OPTrust's performance with respect to investments. The report shows that OPTrust has similar performance to its peer group and carries lower funded status risk and provides higher value add, relative to benchmarks. From a cost perspective, OPTrust's costs were lower than its peer group, after adjusting for asset mix.

One of the Board's key initiatives was to recruit a new CEO. In September, we were delighted to appoint Peter Lindley to lead the organization. A financial services industry veteran, Peter brings over 30 years of experience in strategy, investments and leading high-performance teams, to OPTrust. His extensive experience is complemented by his strong commitment to defined benefit pensions and the Board is confident that, under Peter's leadership, OPTrust will continue to deliver strong results for the Plan's members.

While ensuring the Plan remains fully funded and sustainable for the long term is a core responsibility, we also want our members to continually have an exceptional service experience in their interactions with their pension plan. OPTrust is enhancing the technology to provide greater opportunities for team members to deliver value-added services to our members. Systems upgrades will also support the continued expansion of the Plan through OPTrust Select.

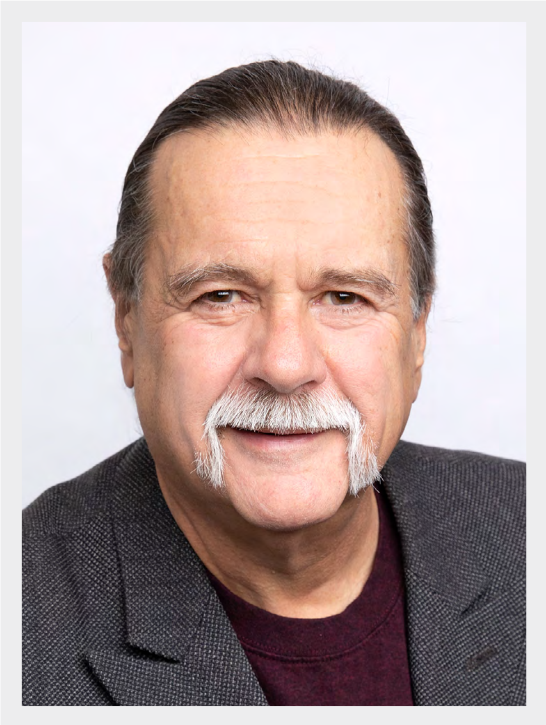
While ensuring the Plan remains fully funded and sustainable for the long term is a core responsibility, we also want our members to continually have an exceptional service experience.

BOARD CHANGES

In 2019, the Board welcomed several new members. Bob Plamondon, Deborah Leckman and Richard Nesbitt were appointed by the Government of Ontario and Len Elliott was appointed by OPSEU. Government appointee Louise Tardif and OPSEU appointee Tim Hannah concluded their terms on the Board, and we thank both for many years of dedicated service to the Plan and its members.

To help the Board carry out its strategic oversight role, the Board has established four standing committees: Governance and Administration; Investment; Audit, Finance and Risk; and Human Resources and Compensation. During 2019, the Board named trustee Michael Grimaldi as Board Chair and Chair of the Governance and Administration Committee.

It is a great privilege to serve on the board of a defined benefit pension plan and oversee work that creates a more secure future for so many people. Good pensions create tremendous value for Ontarians in every corner of our province. We thank every member of the OPTrust team and our fellow Trustees for their ongoing commitment to pensions and to the ideals of sustainability and security.



Michael Grimaldi
Chair

Sharon Pel
Vice Chair

MESSAGE FROM THE PRESIDENT AND CEO

I joined OPTrust in September, motivated by the idea of being part of a dedicated team that is doing great work on behalf of Plan members.

We listen to what our members tell us, and they say that their main priority is to know that their pension income will be there for them when they retire. They are also looking for simple and straightforward transactions with us.

In order to deliver on these priorities, OPTrust continues to focus on two things. Firstly, the funded status of the Plan — and I am happy to tell you that we are fully funded for the 11th straight year. Secondly, we focus on the member experience. I am proud to share with you that OPTrust received a top three global ranking for member services in the pension industry benchmark survey by CEM. The focus on the member was directly reinforced with the addition of the leader of Member Experience to the Executive Team when it was restructured.

The team is motivated, and I share the passion to continue to strive to serve our members even better.

STABILITY AND SECURITY

The fully funded status is the most important measure of a plan's stability. Our focus remains on the challenges we face and how they may impact the funded status. These challenges include low interest rates, short-term market volatility, low long-term projections for investment returns and shifting geopolitical forces. As a result, we expect lower returns over an extended period of time.

We invest with these challenges in mind and in such a way to ensure pensions will be paid to tomorrow's members, as well as today's members. Our investment approach focuses on risk-adjusted returns, not just returns. It is a commonly accepted belief that a younger individual can afford to take more investment risks than a more mature person can. The same holds true for pension plans. Because OPTrust is a maturing plan — meaning the number of active members and the number of retirees is close to even — we need to be aware of the risk carried in our investments. Taking too much risk today means jeopardizing the ability to pay pensions in the future.

SUSTAINABLE INVESTING

At OPTrust we recently announced the creation of a Sustainable Investing and Innovation team that will build on our current approach to responsible investing, while also identifying new opportunities to invest in sustainability. This reflects our commitment to overcome the unique challenges we face as long-term investors for the financial benefit of our members and society.

MAXIMIZING THE VALUE OF DIVERSITY

OPTrust's members are diverse and so is our team. We aim to reflect that diversity in our team, yet there is always more that we can do. This past fall, among other diversity initiatives, we recognized "Orange Shirt Day" for the first time and have begun acknowledging the traditional lands of Indigenous peoples where our company has operations. We also launched the Celebrate Citizenship Initiative, which offers time for OPTrust employees who are new Canadians to take their citizenship oath. We partnered with Women in Capital Markets and the Investor Leadership Network to assess the organization's gender representation in senior leadership roles. Our Board of Trustees enjoys good gender balance. Late in the year, we restructured our teams and the executives who lead them in order to better reflect our strategic priorities. During this process we achieved gender equity on the Executive Team — with 50 per cent female representation.

> To ensure pensions will be paid to tomorrow's members, as well as today's members, our investment approach focuses on risk-adjusted returns, not just returns.

SIMPLE. SMART. SELECT.

The nonprofit sector provides a range of essential services including disability supports, settlement services and care for seniors. OPTrust Select was created specifically to meet the needs of employers and staff in the sector and is recommended by the Ontario Nonprofit Network. It is a pension benefit with modest contribution rates, designed to provide people in this sector with a steady stream of secure, reliable retirement income for life.

Too many people feel unprepared for retirement, leading to anxiety and decreased health. Our research shows about 50 per cent of Ontarians feel retirement is further away than it used to be. OPTrust Select will help alleviate the looming retirement crisis faced by so many.

With our strong governance model and risk sharing among over 96,000 other members, OPTrust Select members can plan on receiving stable, lifetime retirement income to supplement the retirement income they will receive from government sources and other retirement savings.

COMMITTED TEAM

I am extremely proud to work with such an exceptional team that is committed to the members we serve every day. Collectively, we are focused on what matters most — retirement security today and decades into the future.

Peter Lindley
President and Chief Executive Officer

PENSION FUNDING

SUSTAINABILITY

Our Plan continues to be sustainable as long as it delivers an appropriate and competitive benefit within an acceptable range of cost in the short, medium and long terms. The Plan continues to be fully funded, yet faces ongoing challenges.

The key drivers that impact Plan sustainability are:

- **Investment Environment** — The combination of global economic uncertainty, trade tensions and bond yields declining to record lows presents a challenge as it becomes increasingly difficult to maintain the Plan in balance without changes to contribution rates or benefit levels.
- **Low Interest Rates that Reduce Expectations for Returns** — The low interest rate environment continues to drive the discount rate assumption downward. The lower the discount rate the higher the pension obligation.
- **Plan Maturity** — As the number of retirees in our Plan increases and the proportion of members making contributions to the Plan decreases, our ability to address potential funding shortfalls diminishes.
- **Longevity Risk** — Members are living longer. This means it costs more to pay lifetime pensions.

OPTrust continues to address the challenge of Plan sustainability through our Member-Driven Investing strategy and our funding strategy. Plan sustainability is always top-of-mind and we study the headwinds facing the Plan and quantify the likely impacts of these factors over time.

FUNDING PENSIONS

Keeping the Plan fully funded over the long term begins with a thoughtful, prudent approach to Plan funding.

Our thinking on funding is rooted in the belief that sustainability matters. Members need to know they can count on their pension to be there when they retire. However, the need for sustainability before retirement also exists. We seek to enhance the likelihood that our members' contribution rates and benefit levels will not fluctuate significantly throughout their working lives.

In past years our funding policy was comprised of three goals, which we seek to balance: benefit security, contribution rate stability and intergenerational equity, which means that every generation of members will pay a fair amount for the benefits they receive — not that every generation should pay the same contributions for the same benefit. With the introduction of OPTrust Select, we added a fourth goal: fairness between the primary schedule and OPTrust Select. Of all these goals, the security of accrued benefits is most important. As a Trust, it is essential we keep our commitment to members that they will receive the benefit for which they paid.

The pension commitment spans many decades. In keeping with that time horizon, short-term market events, whether positive or negative, should not lead to contribution rate changes. Instead, contribution rates should change when economic and/or demographic conditions change the long-term expected cost of the benefit.

Our discount rate strategy is an important component of our funding policy. The discount rate includes a margin to protect the Plan from future adverse events. The level of margin within the discount rate is set so that the funded status of the Plan is preserved. This means that we decrease the discount rate when there is positive experience and consider increasing it during challenging times. A funding surplus will only be recognized when there is a significant probability that it will not be temporary.

FUNDING VALUATION ASSUMPTIONS

	2019 VALUATION	2018 VALUATION
Inflation rate	2.00%	2.00%
Discount rate (real)	3.10%	3.15%
Discount rate (nominal)	5.10%	5.15%
Salary increases (nominal)[1]	2.75%	2.75%

1 Plus an allowance for promotion, based on a long-term scale.

SENSITIVITY TO ACTUARIAL ASSUMPTION CHANGES

($ millions)

	+0.50%	-0.50%
Impact of change in inflation linked assumptions[1]	166	(170)
Impact of change in funding discount rate assumption[2]	1,844	(2,140)
Impact of change in assumed increase in salaries	(586)	517

1 Assumes equivalent change in economic assumptions that are dependent on inflation.

2 Assumes all other assumptions remain unchanged.

2019 FUNDING VALUATION

OPTrust engages independent actuaries to perform regular valuations of the Plan to ensure there are enough assets to meet the projected cost of members' lifetime pensions. These valuations provide a snapshot of the Plan's financial position and ability to meet its pension obligations, while providing a review of gains and losses experienced since the last valuation.

The Plan's 2019 funding valuation shows the Plan remained fully funded as of December 31, 2019. The funding valuation also showed deferred (or "smoothed") investment gains of $523 million, which will be recognized over the next four years and should further improve the Plan's funded status in years to come.

The Plan's real discount rate for the 2019 funding valuation was reduced to 3.10%, net of inflation, down from 3.15% in 2018. The effect of this change increased the total fund liabilities by $194 million.

In 2020, we will file the December 31, 2019 funding valuation with the provincial regulator showing that the Plan is fully funded.

Changes in the Plan's actuarial assumptions can have a major impact on the projected cost of members' pensions and the Plan's funded status. The table above shows the impact (in millions of dollars) of a 0.5% change in certain key assumptions on the Plan's funded status.

Financial Statement and Funding Valuations

The financial position of the Plan is presented using two different methods: funding valuations and financial statement valuations.

FUNDING VALUATIONS

An actuarial funding valuation presents the Plan's financial information in a manner determined by OPTrust's Board of Trustees and is subject to regulatory constraints. It determines if the Plan's assets, together with expected investment income and projected future contributions in respect of current members, are sufficient to fund members' expected benefits.

This valuation approach is known as the modified aggregate method. It identifies any gains and losses that have occurred since the last funding valuation and confirms the overall contribution requirements until the next valuation. The funding valuation uses assumptions that are best estimates, with the exception of the discount rate, which includes a margin of conservatism.

Ontario regulations require a funding valuation to be filed with provincial authorities at least once every three years. Please see Note 5 to the financial statements on page 63 for further discussion.

FINANCIAL STATEMENT VALUATIONS

OPTrust's financial statements rely on an actuarial valuation prepared in accordance with Canadian accounting standards for pension plans. The financial statement valuation is prepared using our "best estimate" assumptions and does not incorporate margins of conservatism.

The valuation recognizes the increase in value of future obligations over time, and pension-related receipts and disbursements. Experience gains or losses on investment activities are recognized in the year incurred. Experience gains or losses related to other assumptions are recognized in conjunction with the funding valuation.

SERVING OUR MEMBERS

Exceeding members' expectations to deliver a remarkable experience remains a singular focus for us.

We live in the information age and know our members are inundated by information from many sources on a daily basis. As such, we are leveraging technology to get relevant information to our members when they need it most. From enrolment, through mid-career, to retirement we provide support on options to grow, maintain and collect pensions.

TRANSFORMATION

Our service transformation journey continued during the year, in parallel with a technology transformation that has so far delivered better tools for members. In June we released a refreshed secure online member and employer portal delivering a modern user experience, and accessibility for members across widely used mobile devices. This technology enhancement reinforces our commitment to provide members 24/7 access to useful tools and relevant information without being confined to a desk or constrained by our opening hours. In addition, the new technology allows us to continue introducing new features and desired functionality over time.

REMARKABLE EXPERIENCE

Members continued to be very satisfied with the services we provide, rating the service at an average of 9.2/10 in 2019. Members resoundingly reported that the team was respectful, courteous and helpful, despite challenges with transaction volumes and response times throughout the year. We do not take their compliments lightly and are working to make the experience remarkable every time. We're also very pleased that we've been recognized as one of the top three pension plan administrators globally for service, according to an international benchmarking study by CEM.

Under the government's Transition Exit Initiative, the team processed approximately 1,500 retirements and roughly 2,640 membership terminations, with a high degree of member satisfaction. As part of our continuous improvement culture, we enhanced selected benefit options statements to ensure our members have the information they need when crucial financial decisions have to be made.

We understand that the decision to retire can be a stressful one, so we piloted a program where our team guides members through pension forms and options as they transition into retirement. This has proven to be very beneficial to members and efficient for us.

OPTRUST SELECT IMPLEMENTATION

Our administration team extends a warm welcome to OPTrust Select members and employers. Since inception, 28 new employers have joined OPTrust Select — the new schedule of benefits under the Plan, representing approximately 930 potential new members. We are pleased to be partnering with the nonprofit and charitable sectors in pursuit of broadening defined benefit coverage in Ontario.

Work with our employers continued to evolve and we are expanding our information partnership model to ensure members have relevant information, especially at enrolment and pre-retirement.

Highlights for the year

Top three CEM global ranking for service and top two among Canadian peer group

9.2/10 average member satisfaction score

$**984 million** total entitlements paid

76 pension information sessions delivered across Ontario

Supported members through approximately **46,600** member transactions

Supported members through over **53,300** telephone counselling events

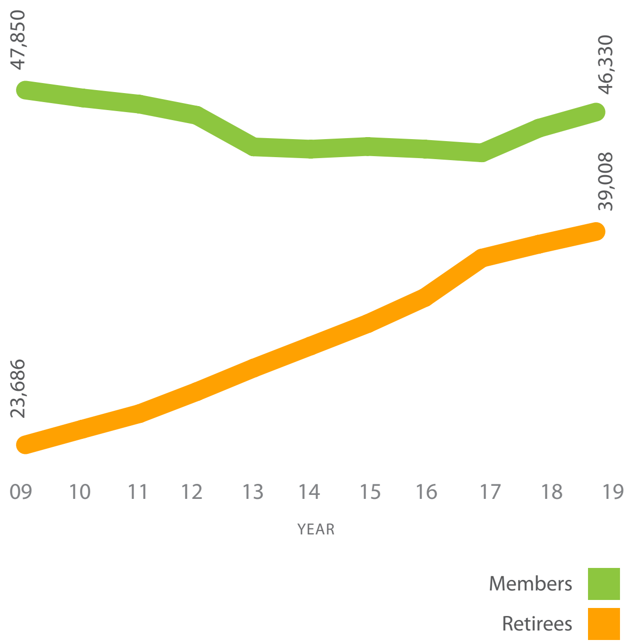
Over **75,000** online transactions and electronic communications

Over **346,800** visits to our website

OPTrust remains **fully funded** for the **11th consecutive year**

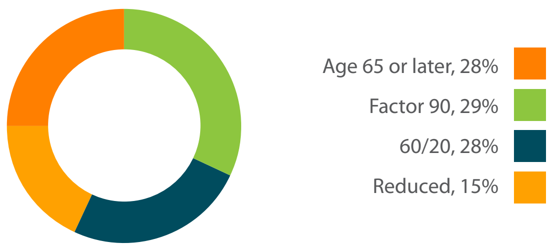
OPTRUST'S ACTIVE MEMBERS AND RETIREES

At December 31



In 2019, OPTrust's active membership was 46,330 at year-end, while the number of retirees was 39,008 at year-end, net of deaths. Deferred members are accounted for separately.

2019 RETIREMENT SNAPSHOT



In 2019, OPTrust members retired under one of the following options:

Age 65 or later: The normal retirement age under the Plan is age 65; members can postpone retirement as late as age 71.

Factor 90: Age plus years of pension service total at least 90

60/20: Age 60 or older plus at least 20 years of pension service

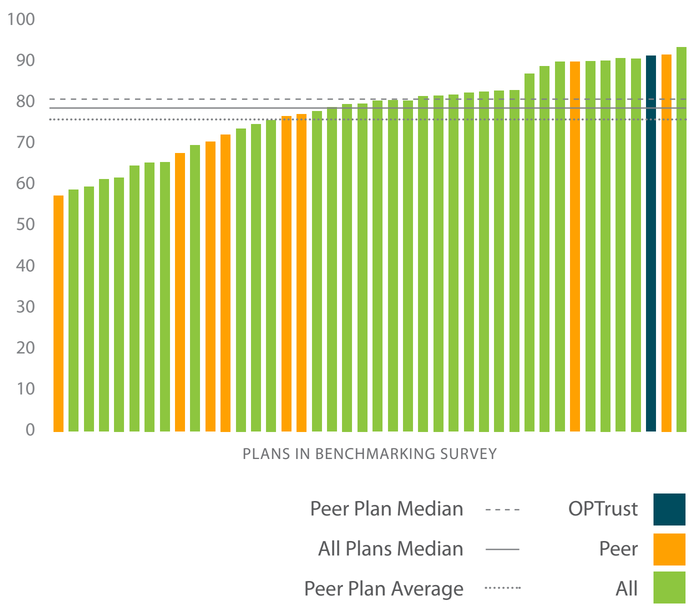
Reduced: Available starting at age 55 to members who do not qualify for an unreduced pension

Note: Chart does not include deferred, disability or survivor pensions.

BENCHMARKING OUR WORK

We benchmark our work against other defined benefit pension plans to better understand how our overall services compare to other organizations doing similar work. While plan administrators conduct business differently we have found many opportunities to share our approaches and learn from others, while collaborating to improve the retirement system across Canada and globally, for the benefit of members.

TOTAL SERVICE SCORE VS. EXTERNAL BENCHMARKS



OPTrust's total service score was 90 out of 100 in the most recent survey of leading pension plans by CEM. Our score placed us in the top three globally and top two among our peer group of Canadian plans.

MEMBERSHIP STATISTICS

At December 31	**2019**	2018	2017	2016	2015	2014
Active members	**46,330**	46,354	45,259	43,575	43,835	44,008
Average age	44.8	44.7	44.9	45.1	46.1	46.3
Average salary	$ 65,605	$ 63,195	$ 63,887	$ 62,121	$ 62,488	$ 62,417
Number of new members enrolled	3,799	5,218	5,210	4,567	4,271	4,170
Number of members terminated or retiring	3,823	4,123	3,526	4,827	4,444	3,989
Former members with entitlements in the Plan	**1,629**	1,411	1,399	1,500	1,237	1,735
Deferred pensioners	**9,508**	8,943	8,386	8,058	8,198	8,524
Current pensioners	**39,008**	38,221	37,355	36,409	33,721	31,946
Average age	72.0	71.4	70.9	70.3	70.2	69.8
Average annual pension	$ 21,930	$ 21,613	$ 21,426	$ 21,321	$ 20,868	$ 20,519
Total members and pensioners	**96,475**	94,929	92,399	89,542	86,991	86,213

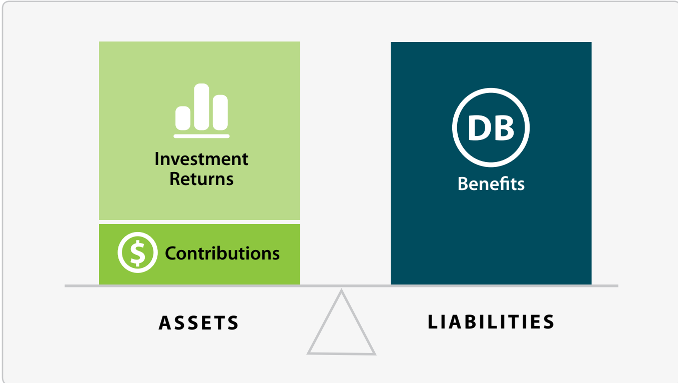
INVESTMENT STRATEGY AND PERFORMANCE

MDI STRATEGY

Our Member-Driven Investing (MDI) strategy is designed to carefully balance risk and return. We seek to earn the returns necessary to keep the Plan fully funded, while keeping benefit levels and contribution rates stable.

We invest with a total fund mindset and are committed to protecting the Plan's funded status over the long term.

To ensure continued alignment with our Plan's funding objectives, we are conducting a review of benchmarks and performance metrics.



KEY ACCOMPLISHMENTS

We are long-term investors. Our actions in 2019 were designed to better position the portfolio through market cycles. Key accomplishments include:

- **Enhanced our long-term strategic asset mix** to make our portfolio more robust in the context of sustained lower returns, marginally reducing our risk of being underfunded
- **Further balanced our portfolio risk** by increasing exposure to assets that do well in market stress environments
- **Internalized more assets** to save costs and improve our ability to respond to changing market environments
- **Maintained strong performance** in our illiquid asset strategies; they continued to add diversification to our total fund and act as a partial inflation hedge.

Investment Environment: Global Risks

Global growth expectations have declined:
Weaker economic conditions across developed and emerging market countries have shifted growth expectations towards the downside in 2019. Interest rates have moved lower as a result.

Climate Change:
Climate change is one of the most complex and significant risks facing the world today. We must ensure that our portfolio remains resilient to the challenges its presents.

Asset valuations remain elevated:
Returns have been pulled forward as interest rates have declined, in turn raising asset prices. This may reduce returns that can be achieved on a go forward basis.

Geopolitical risks are wide spread:
Trade tensions and a lack of global policy coordination have increased macroeconomic uncertainty. This could filter into market volatility and an investment environment that is more difficult to navigate.

ASSET MIX BY ASSET CLASS

	WEIGHT
Public Equity	11.3%
Private Equity	12.9%
Market Neutral and Multi-Asset Strategies	20.0%
Real Estate	14.3%
Infrastructure	11.1%
Fixed Income	37.1%
Gold	2.5%
Credit	7.7%
Funding	-16.9%
Total	100.0%

Asset class weights are presented on an exposure basis, including the effect of derivatives.

ASSET MIX BY PORTFOLIO

	WEIGHT
Liability Hedging Portfolio	31.4%
Return Seeking Portfolio	77.3%
Risk Mitigation Portfolio	8.2%
Funding Portfolio	-16.9%
Total	100.0%

Investment Performance

ASSET CLASS OVERVIEW

To fulfill our MDI objectives, we divide our total fund assets into four categories: Liability Hedging Portfolio (LHP), Return Seeking Portfolio (RSP), Risk Mitigation Portfolio (RMP) and Funding Portfolio (FP). Each of these portfolios has a specific purpose in helping us deliver on our MDI objectives.

Liability Hedging Portfolio: The LHP is designed to help manage funded status volatility by mitigating risk associated with changes to the discount rate of the Plan's pension liabilities. We do this through hedging a significant portion of the Plan's interest rate sensitivity. This portfolio is composed of Canadian government bonds, both nominal and real return bonds. These bond holdings also serve as the main source of funding liquidity for the Plan.

Our LHP delivered attractive returns in 2019 as bond values increased on the back of falling interest rates. On net, Canadian nominal and real return bonds jointly earned 11.6% in the year. In 2019, we increased our allocation to LHP to hedge a greater share of our liabilities and further diversify our asset risk across different market environments.

Return Seeking Portfolio: We keep our Plan fully funded by investing to earn sufficient returns that maintain Plan sustainability at the lowest risk possible, while keeping benefit levels and contribution rates stable. In a low return environment, this requires taking an appropriate amount of risk to earn a return high enough to meet our pension obligations. The RSP serves this purpose. Assets in this portfolio include: equity (both public and private equity investments), credit (both through internal and external strategies), market neutral and multi-asset strategies (through external managers) and real assets (real estate and infrastructure).

Public Equity: Our public equity exposure is designed to complement our private equity strategy and generate returns using liquid market instruments. Public equity markets performed well in 2019, with most markets posting significant positive returns, despite moderating global growth. Risk sentiment remained healthy, buoyed by a lower interest rate environment. In addition to developed market equity, we maintain a meaningful allocation to emerging market equity for geographic diversification and to increase opportunities for growth. Both developed and emerging market equities performed well in 2019 and our overall public equity exposure delivered a net return of 23.2% for the year.

Private Equity: Private equity is expected to generate higher returns than public equity over the long term while providing a smoother volatility profile. Our private equity strategy, which focuses on buyout investments and long-term equities, allows us to identify a broad range of investment opportunities and execute upon those that offer the most attractive risk-adjusted returns. We invest directly into private companies, typically alongside partners and indirectly, through private equity funds.

While the market remains competitive, we continue to be able to identify attractive investment opportunities and are focused on those that we expect to perform well throughout market and economic cycles. In 2019, we made nine new investments representing $525 million of committed capital. We also committed an additional $135 million throughout the year to existing portfolio companies to support their ongoing growth and value-creation initiatives. As in prior years, we were able to capitalize on strong market conditions by selling equity ownership stakes in certain portfolio companies that had achieved their value-creation plans while retaining minority positions, to continue to participate in future growth opportunities. The private equity portfolio generated a net return of 24.7% in 2019.

Credit: We have added more credit exposure to our portfolio, as credit has an attractive return-risk profile for a maturing pension plan. Credit has characteristics of both equity and fixed income and allows us to gain exposure to all parts of a company's capital structure. We manage our credit exposure through both internal and external strategies. We maintain a diversified portfolio of both private and public credit, with the majority of our exposure focused on the United States. We anticipate adding more credit allocation to our total fund, when opportunities arise. Our credit strategies earned net returns of 13.4%.

Market Neutral and Multi-Asset Strategies: We invest in customized, liquid alternative strategies to access a broader and more diversified set of risk premia and value-add opportunities. These investments are less correlated with traditional market returns and make our total fund portfolio more resilient to different economic and market environments.

Market neutral strategies generated a net return of 2.2% in 2019. Within this portfolio, asset-allocation based strategies performed well, supported by the strong performance in both equities and fixed income. Alternative risk premia strategies ended the year up modestly, despite the significant factor volatility experienced at different points in the year. We continue to diversify our exposures with several new managers being onboarded throughout 2019.

ZELIS HEALTHCARE

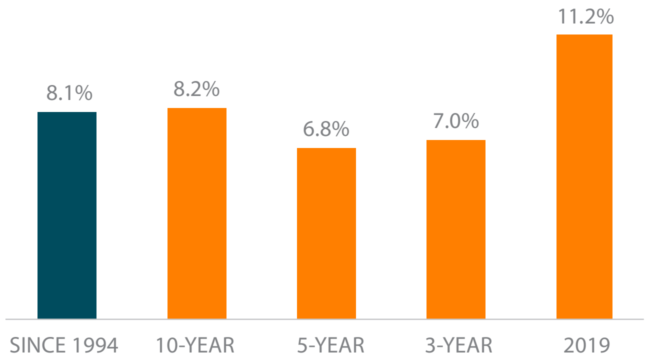
In 2016, OPTrust invested alongside a core private equity fund partner in the combination of three businesses to form Zelis Healthcare. Zelis is a market-leading healthcare technology company that specializes in healthcare claim cost management and payment solutions in the United States. The company serves a broad landscape of insurance providers, offering customers an enterprise-level solution that provides value across the entire lifecycle of a healthcare claim. In 2019, following three years of growth, Zelis merged with RedCard Systems, forming the next generation leader in healthcare payments optimization. The strategic combination of the two technology companies creates a differentiated leader with end-to-end capability across the healthcare payments ecosystem. On a combined basis, Zelis and RedCard serve over 700 payer clients, including the top five US-based health plans, Blue Cross Blue Shield plans, regional health plans, third-party administrators and self-insured employers, and 600,000+ providers, delivering approximately US$5 billion of claim savings, US$50 billion of provider payments and more than 500 million payment data communications annually.

Real Estate: The real estate portfolio is an important diversifier to the total fund, lowering funded status volatility, and providing predictable income to fulfill our pension obligations. Real estate can provide attractive risk-adjusted returns and is also a hedge against inflation over the long term.

We have remained focused on building resilience in our real estate portfolio by targeting defensive sectors driven by demographic, consumer and technological change, and by actively modernizing and improving the functionality of our properties. We committed to 13 new investments totaling $764 million in 2019, 12 in North America and one in the United Kingdom. These investments were sourced primarily through existing partnerships, reflecting our ability to access compelling opportunities through our network of trusted partners. New commitments were partially offset by $274 million in realizations. The real estate portfolio generated a net return of 5.2% in 2019.

Infrastructure investments add diversification as well as cash flow and the potential for return enhancement through long-term capital growth.

TOTAL FUND INVESTMENT PERFORMANCE



The Total Fund return is net of management fees, transaction costs and investment administration expenses. Investment administration expenses have not been deducted from asset class returns shown.

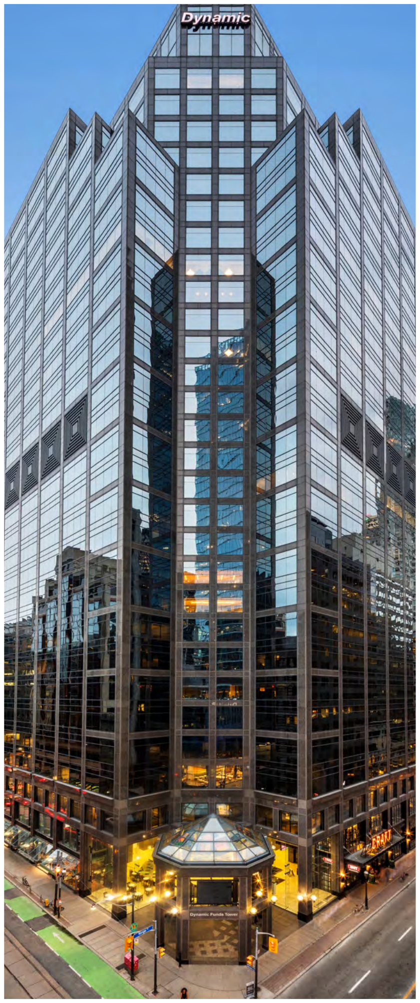
Infrastructure: Infrastructure investments add diversification to the total fund and act as a partial inflation hedge. They also provide cash flow and the potential for return enhancement through long-term capital growth.

Asset valuations have remained elevated against a backdrop of two record years of fundraising within the infrastructure asset class. The heightened competition for assets in this market continued to drive us towards smaller scale opportunities and establishing platforms to pursue them. Despite a challenging market environment and reflecting the value of our flexible and partner-driven approach, we were able to invest $192 million into new and existing platform companies. The infrastructure portfolio generated a net return of 12.8% in 2019.

Risk Mitigation Portfolio: This portfolio serves the purpose of diversification and as a protection against severe market downturns. We hold US Treasuries, safe-haven currencies and gold in this portfolio, as these assets typically perform well in market stress environments and provide stable risk-adjusted returns. While this portfolio performed well in 2019, we do not always expect strong performance from the risk mitigation portfolio, especially when the return seeking portfolio performs well.

RMP's net assets totaled $1.8 billion at the end of 2019, compared to $900 million a year earlier. We have increased our allocation to the RMP on the back of rising market uncertainties, as we continued to build out a diversified mix of assets. The RMP earned a net return of 5.4% on the year.

Funding Portfolio: This portfolio represents the net funding for the total fund, which allows us to achieve the optimal overall return-risk profile for the total fund. The Funding Portfolio includes exposures such as bond repurchase agreements, implied funding from our derivative positions, and liquidity reserves. The -16.9% weight of the Funding Portfolio reflects OPTrust's overall balance sheet leverage.

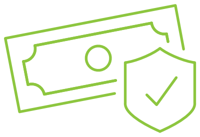


Case Study: Dynamic Funds Tower

In February 2019, OPTrust acquired a 25% interest in a downtown Toronto office complex, alongside its partners Great-West Life Real Estate Fund, London Life Real Estate Fund and IG Investment Management. The complex includes **1 Adelaide Street East** (Dynamic Funds Tower), a 30-storey LEED® Gold certified office tower, **20 Victoria Street**, a nine-story boutique office building and **85 Yonge Street**, a three-story retail building. The complex is anchored by the Dynamic Funds Tower, the current corporate headquarters of OPTrust. Dynamic Funds Tower is located on a prominent corner in downtown Toronto, at the intersection of Yonge and Adelaide Streets, and has a variety of restaurants and retail services located within walking distance. The property enjoys immediate access to the Toronto PATH system, offering connectivity to over 50 downtown Toronto office buildings, retail, major tourist attractions, and transportation links. King Subway Station, one of the busiest transit stations in Toronto, is located steps away from the property. The Dynamic Funds Tower is currently 99% leased.

With strong demand and historic low vacancy rates for downtown Toronto office space, and the aligned interests of trusted strategic partners, this property presented a unique and valuable opportunity to invest in a high-profile property in downtown Toronto. The investment is expected to generate stable and growing cash flows to OPTrust, providing sustainability and security to our members.

Sustainable Investing Activities in 2019



Received **A+** for our strategy and governance approach to responsible investing from the Principles for Responsible Investment (PRI)

Supported the **Christchurch Call**, which sets out commitments for governments and technology companies to eliminate terrorist and violent extremist content online

Signed the **PRI Investor statement** on deforestation and forest fires in the Amazon

Progressed on climate action: Climate Change Action Plan (CCAP) one-year update released in May

Completed **one out of three phases** of a total fund, climate change risk assessment

Voted at **2,048** company meetings in **53** countries

Engaged **453** companies on key ESG issues,including climate change, board effectiveness, gender diversity and data privacy

Expanded our **Green Bond** holdings with a $100 million investment in Ontario government Green Bonds

SUSTAINABILITY AND INNOVATION

OPTrust's responsible investing (RI) approach is rooted in our belief that environmental, social and governance (ESG) factors affect investment risk and return as well as our reputation. Our RI program ensures material ESG considerations are integrated into our investment decision-making processes and ownership practices to better assess and manage their impact on the Plan's stability and sustainability.

As our RI program has grown and evolved, we have strengthened our ESG integration and developed our capabilities to measure and assess associated performance.

Further, we have used our voice to effect change by engaging with our portfolio companies and advocating for sustainable and transparent financial markets. Moving forward, we will continue to enhance our understanding of ESG risks while thinking thematically in the context of opportunity, capitalizing on innovation and partnerships focused on developing solutions to challenges that threaten the sustainability of the Plan and the world.

Climate Change

Climate change is one of the most complex and significant risks facing the world today. Ensuring that our portfolio remains resilient to the challenges it presents is an integral part of our investment mandate. OPTrust's Climate Change Action Plan (CCAP) outlines our strategy to navigate climate change's systemic risks and facilitate our transition into a low carbon economy.

Through 2019, we achieved progress across the CCAP's four areas of focus. Accomplishments include:

Measuring our carbon exposure

- Initiated an earnings at risk analysis on public investments and carbon footprint assessment on our total fund.

Enhancing processes and data

- Updated investment assessments and documentation to address climate change considerations.
- Engaged a strategic partner to develop climate resilience plans for real estate assets.

Internal education and culture

- Held education sessions to strengthen internal climate change awareness and equip investment teams to better identify and manage climate risks in their portfolios.

Engagement, advocacy and communications

- Collaborated, as a member of the Investor Leadership Network's Climate Change Advisory Committee, with a group of leading global investors to accelerate the adoption of climate-related disclosures under the Task Force on Climate-related Financial Disclosures (TCFD) framework. The Committee released a guide, *TCFD Implementation: Practical Insights and Perspectives from Behind the Scenes for Institutional Investors*, to share our collective experiences and lessons learned from our TCFD implementation journeys.

As part of our commitment to transparency, we will report for the third consecutive year in accordance with TCFD recommendations later in 2020.

DIVERSITY AND INCLUSION

Serving a membership as diverse as ours and investing in a global market means cultivating an environment that embraces diversity and inclusion in everything we do. We know diversity of thought, background, culture and perspective is critical to creating long-term value, which is why it has become a significant organizational priority for OPTrust.

In 2018, we conducted our first diversity census to provide a strong foundation of data. The survey concluded that OPTrust is highly diverse across several dimensions of diversity and inclusion. We are actively engaged in building on our unique strengths. During the year, we made some significant achievements in working with OPTrust's Diversity Council, chaired by a member of our Executive Team.

2019 Highlights

Partnered with members of the Investor Leadership Network (ILN) in a joint statement to accelerate progress on gender diversity issues in the spheres where ILN investors can exert collective influence. The ILN is a group of 14 leading global institutional investors representing more than $6 trillion in assets collectively furthering action on gender diversity in investments, climate disclosure and enhancing infrastructure expertise.

Participated in a Women in Capital Markets (WCM) and ILN survey that assessed the gender representation of the ILN's member organizations who contributed data. The survey noted OPTrust has an organization-wide representation of women at 47% and an above-average percentage of women in senior leadership roles, which for OPTrust is defined as positions at a director level and above.

Committed to pursuing EDGE certification by maintaining a strong gender-balanced pool of talent, proactively managing pay equity, maintaining a strong framework of effective policies and practices, as well as maintaining an inclusive culture while developing an action plan to further progress. EDGE is the global business certification standard for workplace gender equality.

Marked Orange Shirt Day to honour Indigenous survivors and their families who were impacted by the residential school system in Canada. Recognized the Indigenous land on which we conduct our operations with a land acknowledgement sign and raised broader awareness in the organization on Indigenous communities.

Celebrated Pride Month and the LBGTQ+ movement in the cities where OPTrust operates.

Joined the Celebrate Citizenship Challenge, an initiative that encourages members of our team — who are becoming Canadian citizens — to take a paid day for their citizenship oath ceremony.

We recognize we are on a journey and there is much more to accomplish in the coming years to make meaningful progress towards a more inclusive organization for our membership and team.

GOVERNANCE AND ACCOUNTABILITY

As a jointly sponsored public sector pension plan, good governance is one of the foundations of all we do. OPTrust's Board of Trustees have many responsibilities under the governance system; one of the most critical is its responsibility to select and oversee the CEO. In 2019, the Board was called on to select a new CEO and conducted a successful search, appointing Peter Lindley in September. Another key governance responsibility of the Board is oversight of compensation.

Keeping the governance system effective means looking for ways to continuously improve and strengthen the policies and practices that underpin it. This led the Board to conduct a review of its governance policies to ensure they continue to meet governance best practices and to reflect OPTrust's values, including a new focus on culture. Other changes made to the governance system include the establishment of an Auditor Independence Policy and a Subsidiary Governance Policy. The Board also authorized management to proceed with a project to streamline and modernize the policy universe using a plain language approach.

Another priority of the Board is to ensure it is kept apprised of trends and developments in pension plan management. The Board has implemented a comprehensive orientation program for new trustees, and builds into its workplans educational sessions on topics relevant to the matters before the Board.

Further information about the governance system at OPTrust can be found at **optrust.com/gov.html**.

STANDING COMMITTEES OF THE BOARD

The **Governance and Administration Committee (GAC)** monitors plan administration and major pension initiatives and oversees the preparation of actuarial valuations. The GAC also oversees various governance-related activities, monitors Trustee education and development and oversees the preparation of the Funded Status Report.

The **Audit, Finance and Risk Committee (AFRC)** monitors the budget and provides oversight in the areas of financial reporting, tax compliance, audits, internal controls, corporate insurance, information technology, regulatory compliance and enterprise risk management.

The **Investment Committee (IC)** oversees the investment activities of OPTrust and monitors the progress of strategic investment initiatives. The IC also makes recommendations to the Board for changes to key investment policies.

The **Human Resources and Compensation Committee (HRCC)** monitors OPTrust's HR strategy and reviews and monitors management's compensation strategy, including incentive plans.

The Board has also established two committees which operate on an as-needed basis: the **Adjudication Panel**, which gives Plan members access to a review process in the event of certain types of disputes, and the **Concern Assessment Panel**, which provides a forum for addressing complaints under OPTrust's Whistle-Blowing Policy.

RISK MANAGEMENT AND COMPLIANCE

In 2019, management continued to expand operational risk across the organization and, as a best practice, developed a fraud-risk management framework to complement existing policies and practices, which will be implemented in 2020. Also in 2019 OPTrust's compliance register was uploaded into the compliance module of our risk management software. When fully implemented, the software will help management monitor regulatory risk more effectively by tagging compliance requirements to applicable operational processes. The software is also being used for purposes of OPTrust's organization-wide compliance attestations.

A new process for refreshing and managing the organization's mission-critical risks was implemented in 2018 using a risk universe. The top risks identified through this process are monitored and reports are provided to the Board every quarter. The next refresh of the mission-critical risks will take place in Q2 2020. Enterprise Risk Management now reports to an enhanced Risk Division overseen by the Chief Risk Officer, which includes key risk functions within OPTrust.

In 2018 management adopted a new de-centralized approach to crisis management to ensure the ongoing preparedness for crises, should they occur. In 2019 three key tests of the crisis management framework took place (a tabletop exercise, a test of our alternative work locations, and an IT disaster recovery test).

COMPENSATION PROGRAM

Overview

OPTrust actively considers its obligation of stewardship in preserving pensions for tomorrow on behalf of our members, and in our commitment to continually provide a superior member experience. Our management employees are measured and remunerated in alignment with our organizational strategy.

OPTrust's Compensation Framework:

- **Short-term incentive plan (STIP, annual incentive):** Drives towards creating a high-performance organization allowing OPTrust to attract and retain high-caliber talent. It is based on individual performance and assessed against objectives directly aligned with OPTrust's annual business plan.
- **Long-term incentive plan (LTIP):** Aligns to the three key MDI metrics that measure:

a. Maintaining the fully funded status of the Plan

b. Managing risk in an efficient and effective manner

c. Preserving the surplus in the Plan

These metrics measure performance over a three-to-five-year period that reflects the long-term perspective of the total fund portfolio. We are one of the first pension plans globally to align its LTIP directly to members' interests with a focus on preserving the funded status of the Plan.

COMPENSATION OVERSIGHT

The Board has oversight of the compensation program through its Human Resources and Compensation Committee and is responsible for approving OPTrust's management compensation structure and policies.

OPTrust's CEO has overall responsibility for establishing the compensation of other management personnel, including STIP and LTIP, consistent with the compensation philosophy and principles approved by the Board.

The Board has direct responsibility for determining the STIP and LTIP awards for the CEO, approving the CEO's recommendation on aggregate STIP for the CEO's direct reports and all other management employees, and the overall LTIP Total Fund Performance factor and the Asset Class Performance factors. The Board also amends OPTrust's compensation structure and policies, as required. Advice from an independent compensation consultant is obtained during compensation reviews.

COMPENSATION DISCLOSURE

The Board is committed to transparency regarding the compensation program. Details about the base salary and other compensation paid to the President and CEO and Chief Investment Officer are found on page 37.

Incentive payments: Payments under OPTrust's annual STIP and LTIP are reported for the year in which they are earned but are paid in subsequent calendar years.

Post-employment benefits: All OPTrust employees are eligible to contribute to the Plan which provides pension benefits based on their years of pension service and average salary up to the maximums allowed under the *Income Tax Act*. Employees whose salary exceeds this maximum contribution level participate in the Above Maximum Plan which provides pension benefits based on the same formula as the Plan. The post-employment benefits disclosed reflect the value of the benefits earned for the year under both plans.

Other benefits: The amounts disclosed include vacation payouts, other taxable benefits and the employer's share of all employee benefit premiums and contributions (excluding the pension benefit) made on behalf of employees.

TRUSTEE EXPENSES

The Board of Trustees do not receive compensation from OPTrust. Reimbursement for Trustee-related incidental expenses and education received by Trustees totalled $115 thousand in 2019 (2018 – $119 thousand). The Trustees appointed by the Province of Ontario receive a per diem paid directly by the Province. Trustees appointed by OPSEU are compensated by the union for any loss of regular income as a result of time spent fulfilling their duties as a member of the Board.

COMPENSATION PRINCIPLES

OPTrust's compensation philosophy and principles provide a framework for the design of our compensation programs to ensure that we properly incent the behaviours necessary to achieve our mission.

1. Align individual and team incentives with OPTrust's mission, values and investment strategy
2. Explicitly reward performance that helps OPTrust achieve its mission and mandate
3. Ensure we are able to attract and retain the highly-skilled professionals required to deliver on our mandate
4. Include an integrated design framework and performance management system
5. Support and reinforce the prudent risk-taking culture that is necessary to achieve our mission and mandate
6. Support a governance model that provides appropriate oversight and monitoring of the compensation strategy.

2019 EXECUTIVE COMPENSATION

($ thousands)	Base earnings	STIP	LTIP	Post-employment benefits	Other benefits	Total
Peter Lindley President and CEO*	110	165	47	41	1	364
James Davis Chief Investment Officer	385	508	1,040	75	30	2,038

* The President and CEO start date was September 16, 2019.

BOARD ADVISORS

Actuary
Willis Towers Watson

Investment Advisor
Templar Investments Ltd.

External Auditor
PricewaterhouseCoopers LLP

Internal Auditor
Ernst & Young LLP

Compensation Advisor
Hugessen Consulting Inc.

Information Technology/ Risk Advisor
Deloitte Canada

External Legal Advisor
Fasken Martineau DuMoulin LLP

MEMBERS OF THE BOARD OF TRUSTEES

At December 31, 2019

Michael Grimaldi, Chair[1]

Work Advisor (retired)
Ministry of Labour

Appointed in 2012, Chair since April 1, 2019

Governance and Administration Committee Chair and Audit, Finance and Risk Committee

Sharon Pel, Vice Chair[2]

Consultant, Inglewood Advisory Services

Appointed in 2017, Vice Chair since November 3, 2018

Investment Committee Chair, Governance and Administration Committee, Adjudication Panel

Lindsey Burzese[1]

Surface Water Specialist
Ministry of the Environment, Conservation and Parks

Appointed in 2018

Human Resources and Compensation Committee Chair, Investment Committee, Adjudication Panel

Len Elliott[1]

Industrial Health and Safety Inspector
Ministry of Labour

Appointed in April 2019

Governance and Administration Committee, Audit, Finance and Risk Committee, Investment Committee, Adjudication Panel

Jason Glover[1]

Probation and Parole Officer
Ministry of Community Safety and Correctional Services

Appointed in 2018

Investment Committee, Human Resources and Compensation Committee

Deborah Leckman[2]

Senior Investment Professional

Appointed in January 2019

Investment Committee, Human Resources and Compensation Committee

Richard Nesbitt[2]

Adjunct Professor at the Rotman School of Management, University of Toronto and a Visiting Professor at the London School of Economics, United Kingdom

Appointed in September 2019

Governance and Administration Committee, Audit, Finance and Risk Committee, Human Resources and Compensation Committee, Adjudication Panel

Bob Plamondon[2]

Consultant, board member and author

Appointed in January 2019

Governance and Administration Committee, Audit, Finance and Risk Committee

Randy Marie Sloat[1]

Customer Care Representative (retired)
Ministry of Government and Consumer Services

Appointed in 2012

Governance and Administration Committee, Audit, Finance and Risk Committee, Human Resources and Compensation Committee; Adjudication Panel (OPSEU alternate)

Don Wilkinson[2]

Vice Chair, Deloitte and Leader of National Asset Management Group (retired)

Appointed in 2017

Audit, Finance and Risk Committee Chair, Investment Committee, Human Resources and Compensation Committee, Adjudication Panel (Government alternate)

1 Appointed by OPSEU
2 Appointed by the Government of Ontario

MEMBERS OF THE EXECUTIVE TEAM

At December 31, 2019

Peter Lindley
President and Chief Executive Officer

Karen Danylak
Vice President, Corporate Affairs

James Davis
Chief Investment Officer

Audrey Forbes
Senior Vice President, Member Experience

Kelly Glass
Senior Vice President, People, Communications and Public Affairs

Dani Goraichy
Chief Risk Officer and Senior Vice President, Actuarial Services and Plan Policy

Tracy Hatanaka-Lejnieks
Interim Chief Financial Officer

Rick Votano
Interim Vice President, Information Technology, Program Delivery and Business Support

John Walsh
Managing Director, General Counsel

2019 FUNDED STATUS REPORT

FINANCIAL STATEMENTS

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 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.

Tracy Hatanaka-Lejnieks
Interim Chief Financial Officer

Peter Lindley
President and Chief Executive Officer

March 5, 2020

Actuaries' Opinion

Towers Watson Canada Inc. (Willis Towers Watson) 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, 2019. The purpose of this valuation is to determine the pension obligations of the Plan as at December 31, 2019, 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 $20,220 million in respect of service accrued to December 31, 2019.

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

- members' demographic data provided by OPTrust management as at September 27, 2019 projected to December 31, 2019, 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 Willis Towers Watson 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, 2019, 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 Morse

Philip A. Morse
Fellow, Canadian Institute of Actuaries

Laura Newman.

Laura Newman
Fellow, Canadian Institute of Actuaries

Toronto, Ontario
March 5, 2020

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, 2019 and 2018, 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, 2019 and 2018;
- 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 a summary of significant accounting policies.

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 5, 2020

Statements of Financial Position

As at December 31 ($ millions)	2019	2018
ASSETS		
Investments (Note 3)	**28,218**	25,860
Contributions receivable (Note 7)	**49**	52
Other assets	**8**	11
	28,275	25,923
LIABILITIES		
Accounts payable and accrued charges	**28**	39
Investment-related liabilities (Note 3)	**6,557**	5,947
	6,585	5,986
NET ASSETS AVAILABLE FOR BENEFITS	**21,690**	19,937
PENSION OBLIGATIONS (Note 5)	**20,220**	18,453
SURPLUS (Note 6)	**1,470**	1,484
PENSION OBLIGATIONS AND SURPLUS	**21,690**	19,937

For the years ended December 31 ($ millions)	2019	2018
SURPLUS, BEGINNING OF YEAR	**1,484**	2,025
CHANGE IN SURPLUS		
Increase/(decrease) in net assets available for benefits	**1,753**	(353)
Increase in net pension obligations	**(1,767)**	(188)
NET DECREASE IN SURPLUS	**(14)**	(541)
SURPLUS, END OF YEAR	**1,470**	1,484

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 5, 2020 and were signed on its behalf by:

Michael Grimaldi
Chair

Sharon Pel
Vice-Chair

Statements of Changes in Net Assets Available for Benefits

For the years ended December 31 ($ millions)	2019	2018
NET ASSETS AVAILABLE FOR BENEFITS, BEGINNING OF YEAR	**19,937**	20,290
Changes Due to Investment Activities		
Investment income (Note 4)	**449**	501
Net gain/(loss) on investments (Note 4)	**1,830**	(291)
Investment management and administrative expenses (Notes 4 and 9)	**(62)**	(65)
	2,217	145
Changes Due to Pension Activities		
Contributions (Note 7)	**552**	539
Benefits paid (Note 8)	**(984)**	(1,013)
Pension administrative expenses (Note 9)	**(32)**	(24)
	(464)	(498)
INCREASE/(DECREASE) IN NET ASSETS AVAILABLE FOR BENEFITS	**1,753**	(353)
NET ASSETS AVAILABLE FOR BENEFITS, END OF YEAR	**21,690**	19,937

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

Statements of Changes in Pension Obligations

For the years ended December 31 ($ millions)	2019	2018
PENSION OBLIGATIONS, BEGINNING OF YEAR	**18,453**	18,265
INCREASE IN PENSION OBLIGATIONS		
Interest accrued on benefits	**1,029**	1,008
Benefits accrued	**498**	492
Assumption changes increase/(decrease) (Note 5)	**1,195**	(106)
	2,722	1,394
DECREASE IN PENSION OBLIGATIONS		
Benefits paid (Note 8)	**984**	1,013
Experience (losses)/gains (Note 5)	**(29)**	193
	955	1,206
INCREASE IN NET PENSION OBLIGATIONS	**1,767**	188
PENSION OBLIGATIONS, END OF YEAR	**20,220**	18,453

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 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 may be 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, 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 pensioners 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 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.

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 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) 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.

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 and bank deposits.

Government, Corporate and Real Return Bonds
Fair value is 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.

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

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.

Real Estate
All direct real estate investments are valued using appropriate valuation methodologies on an annual basis. Independent appraisals are conducted at least once every three years. Where an investment is not independently valued, it is valued internally.

Investments held through fund investments are determined using the values reported by the external fund managers and updated for any specific market and other investment factors known to OPTrust that could affect the fair value of the investment.

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.

Private Equity and Infrastructure
Private equity and infrastructure investments are valued on an annual basis, except where market prices are available. Fair value is determined using appropriate valuation methodologies and management's best estimates. All significant investments are externally valued on an annual basis. Where an investment is not independently valued, it is valued internally.

For investments held through fund investments, fair value is generally determined by the external investment manager using accepted valuation methods and other relevant information. Valuations are updated for any specific market and other investment factors known to OPTrust that could affect the fair value of the investment.

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, discounted cash flows and consensus pricing from independent brokers and/or third-party vendors. 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.

OPTrust does not sell, repledge or otherwise use any collateral held in the form of securities. For collateral pledged in the form of securities, the asset remains as an investment in OPTrust's financial statements. For collateral received in the form of securities, the asset is not recognized in OPTrust's financial statements as the risks and rewards of ownership have not been transferred.

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 estimated fair value and cost of the investment held.

iii) Transaction Fees
Transaction fees include incremental costs directly attributable to the acquisition or issue of investment assets or liabilities, and are expensed in the period on an accrual basis.

iv) External Management and Performance Fees
External management fees for portfolio management are expensed when directly incurred by OPTrust in the period and recognized on an accrual basis. Performance fees are paid to external managers when investment returns exceed a prescribed threshold. These fees and other certain management fees 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 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.

J. RECLASSIFICATION

Certain comparative figures have been reclassified to conform with current year presentation.

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.

	2019					2018				
As at December 31 ($ millions)	**Level 1**	**Level 2**	**Level 3**	**Fair value**	**Cost**	Level 1	Level 2	Level 3	Fair value	Cost
Fixed income										
Cash	**351**	**—**	**—**	**351**	**351**	351	—	—	351	351
Short-term investments	**—**	**2,374**	**—**	**2,374**	**2,367**	—	3,055	—	3,055	3,046
Government and corporate bonds										
Canadian	**—**	**8,071**	**—**	**8,071**	**7,855**	—	5,851	—	5,851	5,890
Foreign	**—**	**700**	**—**	**700**	**715**	—	434	—	434	404
Real return bonds										
Canadian	**—**	**441**	**—**	**441**	**302**	—	421	—	421	302
Foreign	**—**	**618**	**—**	**618**	**624**	—	445	—	445	436
	351	**12,204**	**—**	**12,555**	**12,214**	351	10,206	—	10,557	10,429
Public equity										
Canadian	**33**	**—**	**—**	**33**	**36**	29	—	—	29	34
Foreign	**1,666**	**—**	**—**	**1,666**	**1,307**	1,396	—	—	1,396	1,226
	1,699	**—**	**—**	**1,699**	**1,343**	1,425	—	—	1,425	1,260
Pooled and hedge funds	**—**	**222**	**4,644**	**4,866**	**4,716**	13	222	5,628	5,863	5,790
Real estate	**16**	**—**	**3,075**	**3,091**	**2,524**	—	—	2,927	2,927	2,279
Private equity	**—**	**—**	**2,797**	**2,797**	**2,137**	—	—	2,288	2,288	1,647
Infrastructure	**—**	**—**	**2,405**	**2,405**	**1,756**	137	—	2,339	2,476	1,888
	16	**222**	**12,921**	**13,159**	**11,133**	150	222	13,182	13,554	11,604
Investment-related assets										
Cash collateral pledged	**58**	**—**	**—**	**58**	**58**	165	—	—	165	163
Accrued income	**5**	**39**	**—**	**44**	**44**	4	33	—	37	37
Derivative instruments	**—**	**217**	**—**	**217**	**75**	—	122	—	122	15
Resell agreements	**—**	**486**	**—**	**486**	**490**	—	—	—	—	—
	63	**742**	**—**	**805**	**667**	169	155	—	324	215
INVESTMENT ASSETS	**2,129**	**13,168**	**12,921**	**28,218**	**25,357**	2,095	10,583	13,182	25,860	23,508
Investment-related liabilities										
Cash collateral received	**(124)**	**—**	**—**	**(124)**	**(124)**	(44)	—	—	(44)	(44)
Due to brokers and other liabilities	**(67)**	**—**	**—**	**(67)**	**(67)**	(60)	—	—	(60)	(60)
Derivative instruments	**—**	**(63)**	**—**	**(63)**	**(9)**	—	(287)	—	(287)	(2)
Repurchase agreements	**—**	**(6,303)**	**—**	**(6,303)**	**(6,337)**	—	(5,556)	—	(5,556)	(5,541)
	(191)	**(6,366)**	**—**	**(6,557)**	**(6,537)**	(104)	(5,843)	—	(5,947)	(5,647)
NET INVESTMENTS	**1,938**	**6,802**	**12,921**	**21,661**	**18,820**	1,991	4,740	13,182	19,913	17,861

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

The following table presents a reconciliation of financial instruments included in Level 3 of the fair value hierarchy:

	2019					2018				
For the years ended December 31 ($ millions)	**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	**5,628**	**2,927**	**2,288**	**2,339**	**13,182**	4,322	2,823	1,920	2,025	11,090
Net realized gains	**57**	**194**	**446**	**57**	**754**	48	140	341	127	656
Change in unrealized gains/(losses)	**77**	**(88)**	**10**	**99**	**98**	(199)	122	58	148	129
Purchases	**631**	**631**	**662**	**90**	**2,014**	1,945	343	207	188	2,683
Sales/Redemptions	**(1,749)**	**(589)**	**(609)**	**(180)**	**(3,127)**	(488)	(501)	(238)	(149)	(1,376)
BALANCE, END OF YEAR[a]	**4,644**	**3,075**	**2,797**	**2,405**	**12,921**	5,628	2,927	2,288	2,339	13,182

a There were no transfers in nor out of Level 3 and no settlements of Level 3 financial instruments for the years ended 2019 and 2018.

C. SENSITIVITY TO CHANGES IN ASSUMPTIONS

Sensitivity information is available for direct investments in real estate and certain private equity and infrastructure investments, and is presented in the table below. Due to limitations, such as lack of information rights, sensitivity changes are not provided for certain investments.

		2019			2018	
As at December 31 ($ millions)	**Key factor**	**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%	2,920	(101)/115	2,523	(108)/119
Mortgages	Interest rate	+/- 0.25%	1,173	(11)/12	876	(7)/7
Infrastructure	Discount rate[b]	+/- 0.25%	2,130	(45)/48	528	(18)/13
Private equity	Discount rate[b]	+/- 0.25%	N/A[c]	N/A[c]	125	(1)/1
Private equity	EBITDA multiple[d]	+/- 10%	670	138/(138)	N/A[c]	N/A[c]

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 OPTrust values the majority of its private equity investments using the EBITDA multiple and has been doing so for a number of years. On that basis, a sensitivity of the discount rate will no longer be disclosed starting in 2019, as it is deemed not to be a significant input to value the private equity portfolio by management.

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.

Equity index futures are standardized contracts to either buy or sell a specific equity index at a specified price at a future date.

Commodity futures are standardized contracts to either buy or sell a predetermined amount of a commodity at a specified price at a future date.

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.

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.

Swaps

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

Equity and commodity swaps are contracts between two parties to exchange a series of cash flows based on the return of an equity, a basket of equities or an equity or commodity index. One party typically agrees to pay a floating interest rate in return for receiving the equity or commodity return.

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.

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.

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:

As at December 31 ($ millions)			2019 Notional amount	2019 Fair value assets	2019 Fair value liabilities	2018 Notional amount	2018 Fair value assets	2018 Fair value liabilities
Interest rate contracts	Futures	– long positions	**148**	**—**	**—**	1,595	—	—
		– short positions	**70**	**—**	**—**	1,719	—	—
	Options	– long positions	**10**	**10**	**—**	11	10	—
	Swaps	– long positions	**1,837**	**—**	**(38)**	3,150	—	(50)
		– short positions	**839**	**42**	**(2)**	4,147	40	—
Equity contracts	Futures	– long positions	**797**	**—**	**—**	733	—	—
		– short positions	**—**	**—**	**—**	58	—	—
	Options	– long positions	**—**	**—**	**—**	110	—	—
		– short positions	**—**	**—**	**—**	53	—	(1)
Commodity contracts	Futures	– long positions	**548**	**—**	**—**	423	—	—
		– short positions	**12**	**—**	**—**	1	—	—
Currency contracts	Forwards		**7,145**	**77**	**(23)**	8,075	70	(236)
	Options	– long positions	**—**	**—**	**—**	230	2	—
Credit contracts	Credit default swaps							
		– long positions	**438**	**—**	**(11)**	—	—	—
		– short positions	**1,040**	**99**	**—**	—	—	—
TOTAL DERIVATIVES				**228**	**(74)**		122	(287)

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

As at December 31 ($ millions)	2019 Within 1 year	2019 1 to 5 years	2019 5 to 10 years	2019 Over 10 years	2019 Total	2018 Within 1 year	2018 1 to 5 years	2018 5 to 10 years	2018 Over 10 years	2018 Total
Interest rate contracts	**1**	**(6)**	**(12)**	**29**	**12**	4	29	(15)	(18)	—
Equity contracts	**—**	**—**	**—**	**—**	**—**	(1)	—	—	—	(1)
Currency contracts	**54**	**—**	**—**	**—**	**54**	(164)	—	—	—	(164)
Credit contracts	**—**	**88**	**—**	**—**	**88**	—	—	—	—	—
TOTAL	**55**	**82**	**(12)**	**29**	**154**	(161)	29	(15)	(18)	(165)

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.

	2019			2018		
As at December 31 ($ millions)	**Number of investments**	**Fair value**	**Cost**	Number of investments	Fair value	Cost
Fixed income	**17**	**5,402**	**5,176**	21	5,443	5,350
Pooled and hedge funds	**6**	**3,695**	**3,581**	6	5,122	5,131
Infrastructure	**3**	**1,425**	**937**	3	1,364	935

As at December 31, 2019, the investments where the individual issue has a cost or fair value exceeding 1% of the cost or fair value of net investment assets were comprised of one or more holdings of the following:

Fixed income — Government of Canada, Province of Ontario, Province of Quebec, Safe Trust, Sound Trust, Sure Trust and Merit Trust.

Pooled and hedge funds — AQR Offshore Multi-Strategy Fund XVIII LP, Aviva Investors Multi-Strategy Target Return Private Pooled Fund, Bridgewater Pure Alpha Major Markets, Ltd, Man Risk Premia Bespoke X LP, PIMCO Multi-Strategy Credit Fund and Schroders OPTrust Diversified Growth Fund.

Infrastructure — Globalvia Infraestructuras, S.A., Firelight Infrastructure Partners LP and Harvest Pipeline Company.

F. RISK MANAGEMENT

Investment Risk

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.

The management of these investment risks is addressed in OPTrust's Risk Appetite Statement and other management policies.

Investment risk includes the following types of 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.

OPTrust manages interest rate risk relative to its liabilities by investing so that there is an appropriate mix 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.

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 $1,199 million (2018 – $930 million) respectively.

(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. Currency risk is managed at the total OPTrust level. OPTrust 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.

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

As at December 31 ($ millions)	2019 Gross exposure	2019 Impact of derivatives[a]	2019 Net exposure	2018 Net exposure
Canadian Dollar	**13,223**	**4,495**	**17,718**	17,505
Investments subject to currency risk				
United States Dollar	4,783	(2,914)	1,869	452
Japanese Yen	107	432	539	520
Swiss Franc	23	506	529	532
Taiwan Dollar	130	57	187	126
South Korean Won	122	56	178	188
Euro	1,635	(1,705)	(70)	(75)
Europe – other	368	(297)	71	121
Asia Pacific – other	905	(851)	54	18
Emerging Markets – other	365	221	586	526
	8,438	**(4,495)**	**3,943**	2,408
NET INVESTMENTS	**21,661**	**—**	**21,661**	19,913

a The impact of derivatives reflects the foreign currency exposure represented by the notional amount 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 $157 million change in net assets available for benefits as at December 31, 2019 (2018 - $86 million).

As at December 31 ($ millions)	Change versus Canadian Dollar	2019 Change in net assets available for benefits	2018 Change in net assets available for benefits
United States Dollar	+/- 5%	+/-89	+/-21
Japanese Yen	+/- 5%	+/-26	+/-25
Swiss Franc	+/- 5%	+/-25	+/-25
Taiwan Dollar	+/- 5%	+/-9	+/-6
South Korean Won	+/- 5%	+/-8	+/-9
TOTAL		**+/-157**	+/-86

(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.

OPTrust manages equity price risk through adherence to approved policies and guidelines.

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

As at December 31 ($ millions) Equity market[a]	Market index	Change in market index[b]	2019 Change in net assets available for benefits	2018 Change in net assets available for benefits
Private	**MSCI World Index**	**+/- 10%**	**+/-212**	+/-183
Emerging	**MSCI EMF Index**	**+/- 10%**	**+/-123**	+/-116
Developed	**MSCI World Index**	**+/- 10%**	**+/-91**	+/-73
TOTAL			**+/-426**	+/-372

a Equity market is 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.

(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.

As at December 31 ($ millions) Commodity market	Market benchmark	Change in market index[a]	2019 Change in net assets available for benefits	2018 Change in net assets available for benefits
Gold	S&P GSCI Gold Total Return Index	**+/- 10%**	**+/-54**	+/-31
Broad Commodity Index[b]	Bloomberg Commodity Index	**+/- 10%**	**—**	+/-10
TOTAL			**+/-54**	+/-41

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.

b There was no Broad Commodity Index exposure in 2019.

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 debt securities, resell agreements and OTC derivatives.

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.

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

	2019					2018				
As at December 31 ($ millions)	**Short-term investments**	**Bonds**	**Resell agreements**	**Derivatives[a]**	**Total**	Short-term investments	Bonds	Resell agreements	Derivatives[a]	Total
AAA/R-1 High	**2,264**	**3,203**	**—**	**—**	**5,467**	2,585	2,743	—	—	5,328
AA/R-1 Mid	**—**	**1,544**	**240**	**3**	**1,787**	—	1,337	—	—	1,337
A/R-1 Low	**110**	**4,242**	**246**	**204**	**4,802**	425	3,071	—	110	3,606
BBB/R-2 Low or lower	**—**	**841**	**—**	**—**	**841**	45	—	—	—	45
TOTAL	**2,374**	**9,830**	**486**	**207**	**12,897**	3,055	7,151	—	110	10,316

a Excludes exchange traded derivatives.

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. It is common practice to execute a CSA in conjunction with an ISDA master agreement. Under the ISDA master agreement for OTC derivatives, OPTrust has a right to offset credit risk against collateral received in the event of default, insolvency, bankruptcy or other early termination. 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 recallable 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)	2019	2018
Derivatives		
Collateral received[a]	**(122)**	(11)
Collateral pledged[b]	**156**	283
Resell and Repurchase Agreements		
Associated receivable from resell agreements	**486**	—
Collateral received[c]	**(485)**	—
Associated liability from repurchase agreements	**(6,303)**	(5,556)
Collateral pledged[c]	**6,320**	5,544
Securities Lending Program		
Securities loaned	**164**	229
Collateral received	**(175)**	(248)

a Includes cash collateral (received) of $(122) million (2018 - $(11) million).

b Includes cash collateral pledged of $2 million (2018 - $165 million).

c Includes net cash collateral pledged/(received) of $54 million (2018 - $(33) 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, 2019 and 2018. Similar arrangements include repurchase agreements, resell agreements, securities lending and any related rights to financial collateral.

	2019				
				Related amounts not set-off in the statement of financial position	
As at December 31 ($ millions)	**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**
Financial assets					
Derivative instruments	**234**	**(17)**	**217**	**(122)**	**95**
Resell agreements	**486**	**—**	**486**	**(485)**	**1**
Securities lending	**164**	**—**	**164**[a]	**(164)**	**—**
TOTAL FINANCIAL ASSETS	**884**	**(17)**	**867**	**(771)**	**96**
Financial liabilities					
Derivative instruments	**(80)**	**17**	**(63)**	**63**	**—**
Repurchase agreements	**(6,303)**	**—**	**(6,303)**	**6,303**	**—**
TOTAL FINANCIAL LIABILITIES	**(6,383)**	**17**	**(6,366)**	**6,366**	**—**

As at December 31 ($ millions)	2018				
Financial assets					
Derivative instruments	126	(4)	122	(11)	111
Resell agreements	—	—	—	—	—
Securities lending	229	—	229[a]	(229)	—
TOTAL FINANCIAL ASSETS	355	(4)	351	(240)	111
Financial liabilities					
Derivative instruments	(291)	4	(287)	283	(4)
Repurchase agreements	(5,556)	—	(5,556)	5,554	(12)
TOTAL FINANCIAL LIABILITIES	(5,847)	4	(5,843)	5,827	(16)

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:

	2019			
As at December 31 ($ millions)	**Within 1 year**	**1 to 5 years**	**Over 5 years**	**Total**
Cash collateral received	**(124)**	—	—	**(124)**
Due to brokers and other liabilities	**(44)**	**(23)**	—	**(67)**
Derivative instruments	**(23)**	**(20)**	**(20)**	**(63)**
Repurchase agreements	**(6,303)**	—	—	**(6,303)**
TOTAL	**(6,494)**	**(43)**	**(20)**	**(6,557)**

	2018			
Cash collateral received	(44)	—	—	(44)
Due to brokers and other liabilities	(35)	(25)	—	(60)
Derivative instruments	(237)	(10)	(40)	(287)
Repurchase agreements	(5,556)	—	—	(5,556)
TOTAL	(5,872)	(35)	(40)	(5,947)

OPTrust maintains unsecured credit facilities to meet potential liquidity requirements. As at December 31, 2019 and 2018 certain amounts were drawn on the credit facilities in the form of letters of credit.

4. Net Investment Income

For the years ended December 31 ($ millions)	2019 Investment income/(loss)	2019 Net gain/(loss) on investments[a]	2019 Net investment income[b/c]	2018 Investment income	2018 Net gain/(loss) on investments[a]	2018 Net investment income/(loss)[b/c]
Fixed income						
Cash and short-term investments	68	(4)	64	57	1	58
Government and corporate bonds						
Canadian	124	371	495	110	(92)	18
Foreign	(3)	41	38	8	(80)	(72)
Real return bonds						
Canadian	11	20	31	3	(12)	(9)
Foreign	4	47	51	—	4	4
	204	475	679	178	(179)	(1)
Public equity						
Canadian	1	2	3	1	(5)	(4)
Foreign	42	231	273	44	(49)	(5)
	43	233	276	45	(54)	(9)
Pooled and hedge funds	1	141	142	1	(162)	(161)
Real estate	138	(31)	107	128	134	262
Private equity	26	430	456	38	361	399
Infrastructure	37	118	155	111	195	306
Derivative instruments	—	464	464	—	(586)	(586)
	202	1,122	1,324	278	(58)	220
	449	1,830	2,279	501	(291)	210
Investment management expenses						
External manager fees			(11)			(11)
Transaction fees			(7)			(6)
			(18)			(17)
NET INVESTMENT INCOME			2,261			193

a Includes realized gain of $1,113 million and unrealized gain of $717 million in 2019 and realized gain of $147 million and unrealized loss of $(438) million in 2018.

b Certain investment-related disbursements of $52 million in 2019 (2018 - $58 million) have been netted against net investment income/(loss).

c Net of certain management 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	2019	2018
Inflation rate	**2.00%**	2.00%
Discount rate (real)	**3.20%**	3.65%
Discount rate (nominal)	**5.20%**	5.65%
Salary increases (nominal)	**2.75%**	2.75%

Experience (losses)/gains of $(29) million (2018 - $193 million) on OPTrust's pension obligations are due to differences between actual experience and assumptions. The assumption change (losses)/gains of $(1,195) million (2018 - $106 million) on OPTrust's pension obligations is primarily due to a change in the discount rate assumption noted above.

The financial statement nominal discount rate decreased from 5.65% as at December 31, 2018 to 5.20% as at December 31, 2019 to reflect changes in 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 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 2020, OPTrust is expected to file with the regulator, the December 31, 2019 funding valuation, as prepared by Willis Towers Watson, showing that the Plan is fully funded, and the next funding valuation will not be required to be filed until December 31, 2022.

6. Capital

OPTrust is not under regulatory requirements as it relates to 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 capacity to pay its pension obligations without unduly affecting contribution levels. The surplus was $1,470 million as of December 31, 2019 (2018 - $1,484 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 2019 to revise the asset mix disclosure and to reflect regulatory changes.

OPTrust uses stress scenarios to monitor the market risks in the Plan. The *Risk Appetite Statement* sets limits on how market risks can affect the funded status of the Plan in two stress scenarios. These stress scenarios represent severe stagflation and deflationary market conditions. 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 two scenarios is monitored and used as a strategic risk limit. The table below highlights the potential reduction in funded status in the two stress scenarios.

As at December 31	2019	2018
	% Potential reduction to funded status	% Potential reduction to funded status
Risk appetite statement scenario A[a]	**12.5%**	9.4%
Risk appetite statement scenario B[b]	**10.7%**	9.5%

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.

7. Contributions

For the years ended December 31 ($ millions)	2019	2018
Members		
Current service[a]	**247**	241
Prior service	**14**	14
Long-term income protection[b]	**15**	13
	276	268
Employers		
Current service[a]	**247**	241
Prior service	**7**	7
Long-term income protection[b]	**15**	13
	269	261
Transfers from other plans	**7**	10
TOTAL CONTRIBUTIONS	**552**	539

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, 2019 employers' and members' contributions receivable were in the amount of $28 million (2018 – $31 million) and $21 million (2018 – $21 million) respectively. OPTrust has a process which reconciles contributions for each employer on a member-by-member basis.

8. Benefits Paid

For the years ended December 31 ($ millions)	2019	2018
Retirement pensions	**852**	822
Transfers to Public Service Pension Plan	**42**	115
Refunds, commuted value transfers and deaths	**82**	69
Transfers to other plans	**8**	7
TOTAL BENEFITS PAID	**984**	1,013

9. Administrative Expenses

Investment administrative expenses[a]

For the years ended December 31 ($ millions)	2019	2018
Administration	**39**	42
Professional services[b]	**4**	5
Custodial fees	**1**	1
TOTAL INVESTMENT ADMINISTRATIVE EXPENSES	**44**	48

Pension administrative expenses[a]

For the years ended December 31 ($ millions)	2019	2018
Administration	**30**	23
Professional services[b]	**2**	1
TOTAL PENSION ADMINISTRATIVE EXPENSES	**32**	24

a Includes corporate expenses.

b Total professional services include external audit expense of $469 thousand in 2019 (2018 - $411 thousand) and actuarial expense of $402 thousand in 2019 (2018 - $581 thousand).

10. Guarantees, Commitments and Contingencies

In the normal course of business, certain OPTrust entities may, from time to time, provide guarantees to various counterparties and 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. OPTrust also enters into future lease commitments for office premises.

OPTrust's commitments, guarantees and leases are as follows:

As at December 31 ($ millions)	2019	2018
Investment commitments	**2,322**	2,464
Guarantees	**27**	28
Lease commitments	**9**	11
TOTAL COMMITMENTS, GUARANTEES AND LEASES	**2,358**	2,503

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.

As at December 31, 2019, OPTrust was 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, 2019, was $3,722 million (2018 - $2,603 million). Investment income recorded on the bonds amounted to $100 million for the year-ended December 31, 2019 (2018 - $38 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)	2019	2018
Salaries, short-term employee benefits and termination benefits[a]	**6,644**	6,690
Post-employment benefits	**571**	429
Other long-term benefits	**1,673**	3,691
TOTAL	**8,888**	10,810

a Termination benefits include amounts settled during the year.

Ten-Year Financial Review (Unaudited)

As at December 31 ($ millions)	**2019**	2018	2017	2016	2015	2014	2013	2012	2011	2010
CHANGES IN NET ASSETS										
Changes due to investment activities	**2,217**	145	1,742	1,037	1,311	1,818	1,615	1,237	578	1,530
Changes due to pension activities	**(464)**	(498)	(497)	(391)	(393)	(289)	(368)	(235)	(192)	(202)
INCREASE/(DECREASE) IN NET ASSETS	**1,753**	(353)	1,245	646	918	1,529	1,247	1,002	386	1,328
NET ASSETS										
Investments										
Cash and short-term investments	**2,725**	3,406	3,332	2,417	1,460	2,750	2,275	2,251	2,296	1,395
Government and corporate bonds and debentures	**8,771**	6,285	5,573	4,227	3,854	2,001	1,629	1,887	2,201	2,282
Real return bonds	**1,059**	866	430	438	468	446	577	1,177	1,495	1,280
Bank loan notes	**—**	—	—	168	156	145	90	—	—	—
Public equity	**1,699**	1,425	2,318	3,422	5,497	5,738	5,749	4,664	4,213	5,731
Pooled and hedge funds	**4,866**	5,863	4,573	2,597	959	732	456	126	—	170
Real estate	**3,091**	2,927	2,823	2,884	2,857	2,394	2,167	2,148	1,802	1,419
Private equity	**2,797**	2,288	1,920	1,595	1,691	1,284	794	608	547	431
Infrastructure	**2,405**	2,476	2,136	2,065	2,350	2,055	2,337	1,852	969	648
Investment-related assets	**805**	324	481	132	108	154	151	149	265	142
	28,218	25,860	23,586	19,945	19,400	17,699	16,225	14,862	13,788	13,498
Contributions receivable	**49**	52	48	53	51	52	58	56	50	44
Other assets	**8**	11	5	4	5	4	5	5	6	2
TOTAL ASSETS	**28,275**	25,923	23,639	20,002	19,456	17,755	16,288	14,923	13,844	13,544
Liabilities										
Accounts payable and accrued charges	**(28)**	(39)	(44)	(49)	(54)	(78)	(69)	(64)	(64)	(57)
Investment-related liabilities	**(6,557)**	(5,947)	(3,305)	(908)	(1,003)	(196)	(267)	(154)	(77)	(170)
TOTAL LIABILITIES	**(6,585)**	(5,986)	(3,349)	(957)	(1,057)	(274)	(336)	(218)	(141)	(227)
NET ASSETS AVAILABLE FOR BENEFITS	**21,690**	19,937	20,290	19,045	18,399	17,481	15,952	14,705	13,703	13,317
Pension obligations	**(20,220)**	(18,453)	(18,265)	(17,316)	(16,756)	(15,937)	(14,958)	(14,189)	(13,499)	(12,923)
SURPLUS	**1,470**	1,484	2,025	1,729	1,643	1,544	994	516	204	394

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This report summarizes certain provisions of the OPSEU Pension Plan. Please note that this report does not create any rights to benefits not provided for in the actual terms of the Plan. In the event of any conflict or omission, the legal requirements of the OPSEU Pension Plan will govern in all cases.

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