OPTrust

2018

BUILDING FOR THE FUTURE

FUNDED STATUS REPORT

With net assets of almost $20 billion, OPTrust invests and manages one of Canada's largest pension funds and administers the OPSEU Pension Plan, a defined benefit plan with almost 95,000 members.

BUILDING FOR THE FUTURE

The world is experiencing wide-ranging change — in technology, communications and the environment. In the face of such change, OPTrust's members can know that their pension plan is stable. Good governance oversees the process of decision making and the process by which decisions are implemented. This is how OPTrust has achieved and maintained its fully funded status. Contribution rates are stable and so are benefits.

OPTrust's innovative investment strategy is designed to maintain this stability because it is aligned with the interest of members. That means we are not pursuing exceedingly high returns, which would necessitate increased risk and result in instability. This is the approach that helps build for the future, paying pensions today, preserving pensions for tomorrow.

DEFINED BENEFIT

"There was no question I would join right away, it made sense for me to start working towards retirement security for the future. It makes my life a lot easier to know that my pension is in safe hands with OPTrust."

Caroline Lynch
OPTrust Member
Business Analyst
Ministry of Transportation

FINANCIAL SECURITY

“*My OPTrust pension has allowed me to meet my day-to-day living expenses, it is a big part of my retirement income. There is independence and security in knowing that I don’t need to worry.*”

Steven Gulyas
OPTrust Retiree
Ministry of Advanced Education, Skills and Training

FUTURE GOALS

"*Having a defined benefit pension takes away a lot of financial stress and allows me to focus on other savings and goals for my future.*"

Jamie Haldenby
OPTrust Member
Data Management Officer
Ministry of the Environment, Conservation and Parks

2018 HIGHLIGHTS

1% net investment return

Fully funded defined benefit pension plan

Released our **Climate Change Action Plan** (CCAP)

Almost **$20 billion** in net assets

Almost **95,000** members

OPTrust Select: launched the first new **jointly sponsored defined benefit offering** in a generation

Average **member satisfaction** score of

9.1/10

FUNDING HIGHLIGHTS[1]

At December 31 ($ millions)

	2018 VALUATION	2017 VALUATION
Net assets available for benefits	**$ 19,937**	$ 20,290
Actuarial smoothing adjustment	**327**	(885)
Present value of future contributions	**5,718**	5,797
TOTAL ASSETS	**25,982**	25,202
Present value of future benefits	**(25,469)**	(24,718)
Provision for future expenses	**(372)**	(350)
TOTAL LIABILITIES	**(25,841)**	(25,068)
TOTAL SURPLUS	**$ 141**	$ 134

1 The differences between funding and financial statement valuations are described on page 21.

OPTrust continued to add conservatism to our funding valuation by lowering the discount rate used to value the Plan's liability in order to help protect the Plan from future market volatility.

5.15% discount rate

Joined a group of **leading global investors as part of a G7 initiative** to promote gender diversity, develop infrastructure investment in emerging economies and improve financial reporting related to climate change

Message from the Chair and Vice-Chair

The fundamental responsibility of any pension plan is to create a secure retirement income for its members. Good pensions are important to individuals but are also essential to our economy as they create security and prosperity for tens of thousands of Ontarians. We believe more people deserve workplace pensions, so we introduced OPTrust Select, the first new defined benefit pension offering in a generation. This retirement solution offers workplaces in the broader public sector, charitable and nonprofit sectors the advantages of a defined benefit pension plan at a moderate cost. The solution was recommended by the Ontario Nonprofit Network (ONN), the independent network for the 58,000 nonprofits and charities in Ontario.

As OPTrust created the opportunity for greater retirement security for many Ontarians, it also continued to deliver sustainability and security to the Plan's almost 95,000 members. The Plan remains fully funded after a year of ongoing market challenges and a low-return environment. Members also continued to highly rate OPTrust's service.

While we are pleased with the successes of 2018, OPTrust devoted time and energy throughout the year to preparing for the future. As a Board we continue to oversee the successful phased updating of the organization's core Pension Administration System. When this project is complete, the system will form the foundation on which OPTrust will continue to deliver a remarkable member experience.

Looking out for our members' interests also means looking beyond what happens in our offices. This year, OPTrust played a leadership role in advancing new thinking on climate change with the release of its Climate Change Action Plan and by hosting a Climate Change Symposium. As one of the most significant risks today, better understanding the effects of climate change on the Plan is a critical and long-term endeavour.

Board changes

2018 was a year of change and renewal for the Board. As part of OPTrust's governance structure one Government of Ontario appointee and one OPSEU appointee fill the positions of Chair and Vice-Chair, with the roles alternating between Government and OPSEU appointees every two years. We were honoured to be selected as Chair and Vice-Chair and look forward to continuing to serve OPTrust in these leadership roles. Past Chair Vicki Ringelberg completed her term on the Board in 2018 after serving as a Trustee since 2011. We thank Vicki for her leadership and dedication during her many years on the Board. Thank you also to Patricia Li, who left the Board in 2018. We welcomed two new OPSEU appointees this year, Lindsey Burzese and Jason Glover, and thank them for their ongoing commitment to retirement security, good pensions and the Plan's 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. 2018 also saw new Chairs appointed to each of the Board's committees, with Don Wilkinson, a Government appointee assuming the Chair of Audit, Finance and Risk, and Lindsey Burzese, an OPSEU appointee, assuming the Chair of Human Resources and Compensation. As Board Chair and Vice-Chair, we were also appointed Chairs of the Governance and Administration and Investment Committees respectively. As a Board we continue to look for ways to enhance our oversight and in 2018, we completed a Canadian Association of Pension Supervisory Authorities (CAPSA) governance review which confirmed that our governance is robust and effective.

2018 was a year of many accomplishments for the organization as it maintained a position of strength and sustainability for the Plan. We thank all OPTrust staff and our fellow Trustees for their incredible work this year and look forward to continuing to serve the Plan and its members.

Tim Hannah
Chair

Sharon Pel
Vice-Chair

Message from the Interim President and CEO

FOUR IMPORTANT THINGS TO KNOW

1. You contribute
2. Your employer contributes
3. OPTrust invests the contributions
4. You receive secure retirement income for life

In 2018, global markets were characterized by volatility and low returns, however we demonstrated that our strategy to deliver sustainability and stability for our members is working. Despite the headwinds we faced, the Plan remains fully funded and on solid footing.

Pensions are a long-term endeavour, with true success measured over decades rather than years. This is especially important to remember when short-term market events occur or returns are challenging. Over the long term, we know that periods of low returns are possible, which is why we continue to work diligently to ensure the Plan is able to weather these events. The core idea of our Member-Driven Investing (MDI) strategy is that the primary goal of a pension plan must be to maintain its funded status rather than the pursuit of high investment returns.

While keeping the Plan fully funded is our most critical responsibility, we also believe that our members deserve a remarkable experience in their dealings with their pension plan at a low cost. We pay close attention to our members' views on the service they receive and I am pleased to report that members continue to rate their overall satisfaction with OPTrust very highly with an average score of 9.1 out of 10 for 2018. OPTrust also benchmarks itself against leading pension plans around the world through CEM Benchmarking Inc. (CEM) and achieved a score of 89 out of 100, placing it in the top six plans globally for service.

That experience takes more than a system. It takes great people who listen to our members and understand their needs. In 2018, OPTrust launched a transformation of its Member Services group to Member Experience in recognition of the importance of our members and the experience they deserve with their pension plan. This work will continue to evolve the way our members interact with, and receive services from, OPTrust.

It is important to members that OPTrust provides their secure retirement income and delivers a remarkable member experience at a low cost. OPTrust staff strive to do just that. Prudent management of expenses is consistent with our mission of paying

pensions today, preserving pensions for tomorrow.

We also created the opportunity to bring the advantages of a defined benefit plan and our services to more people through the introduction of OPTrust Select, the first new defined benefit pension offering in a generation. This retirement solution is targeted to workers in the charitable, nonprofit and broader public sectors.

I would like to thank OPTrust staff for their hard work in 2018 and OPTrust's Board of Trustees for their guidance and oversight on behalf of the Plan and its members. As we look ahead to 2019, we will continue to stay the course, putting our members' interests foremost in all we do.

Doug Michael
Interim President and CEO

Strategy

Plan Funding

Sustainability
The Plan is considered sustainable if it can deliver an appropriate and competitive benefit within an acceptable range of cost in the short, medium and long term.

The Plan is fully funded and on solid footing, although it continues to face challenges. Interest rates are at historic lows, market volatility has become the new normal and the Plan is becoming increasingly mature.

The key drivers that impact Plan sustainability are:

- **Investment Environment** — The combination of low interest rates and high market volatility presents a challenge as it becomes increasingly difficult to maintain the Plan in balance without changes to contribution rates or benefit levels.
- **Plan Maturity** — OPTrust is experiencing an ongoing decline in the active to inactive membership ratio which inhibits the Plan's ability to withstand risk and address potential funding shortfalls.
- **Longevity Risk** — Advancements in medical research and technology, along with improvements in public health education, are expected to continue to contribute to an increase in overall life expectancy, which in turn increases the Plan's pension obligations.
- **Discount Rate for Funding Valuation** — The low interest rate environment, together with the need for long-term sustainability, have driven the discount

The Plan is fully funded and on solid footing. Keeping the Plan fully funded over the long term begins with a thoughtful, prudent approach to plan funding.

rate assumption downward. The lower the discount rate, the higher the pension obligation.

OPTrust continues to address the Plan sustainability challenge through our Member-Driven Investing strategy and our funding policy.

Funding Policy

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. 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.

Our funding policy has four goals: benefit security, contribution rate stability, intergenerational equity and fairness between the primary schedule and OPTrust Select. Of these, the security of accrued benefits is the primary goal. As a pension plan, it is essential we ensure that members receive the benefit for which they have paid.

Paying pensions to members is a long-term commitment, spanning many decades. In keeping with that time horizon, short-term market events, whether positive or negative, should not result in contribution rate changes. Contribution rates should only change when risk tolerance or the expected cost of the benefit changes. Changes to these factors could be the result of sustained changes in economic conditions or member demographics and/or member employment patterns.

Our discount rate strategy is an important component of our funding policy. The discount rate includes a margin for conservatism 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 maintained. 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.

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Managing Risk

OPTrust places importance on the Plan's funded status as this is the measure that matters because it means stability in benefits and contributions for members and retirees. To maintain a fully funded status, we balance assets and liabilities. We use a return-seeking portfolio focused on generating attractive risk-adjusted returns to keep the Plan sustainable over the long term, and a liability-hedging portfolio to offset short-term changes in the value of liabilities caused by changes in interest rates.

The majority of a member's pension is paid from investment returns, and the generation of returns carries risk. Risk management is not the same thing as risk avoidance. We work to ensure that investments earn returns that are commensurate with the amount of risk taken. In this way, we use risk as a lever, increasing risk when markets provide an attractive forward-looking return, and decreasing risk when they do not.

This risk-management culture includes everyone in the organization. The actuarial team uses a margin in the discount rate, building a buffer in good times that may be used to protect the funded status in bad times. The portfolio construction team develops a robust portfolio, harvesting uncorrelated risk premia across investment strategies and asset classes. The asset class teams generate value-add returns, with as little risk as possible.

An independent investment risk function, reporting to the CEO, serves as an effective second line of defense by developing and implementing frameworks for managing the funded status, liquidity and market risks. To reinforce this risk culture, our long-term incentive compensation is linked to our funded status, risk efficiency and avoiding large drawdowns.

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OPTrust Select

In 2018, OPTrust launched OPTrust Select, the first new jointly sponsored, defined benefit (DB) product offering in a generation. It is designed for modest income earners. One of the top priorities for the organization for many years has been to expand DB pensions to more people. Research shows that people with a DB pension can lead a more fulfilling retirement because they know their income is secure. As a result, they make greater economic contributions to their communities.

OPTrust Select opens the door to creating a better retirement for more people. Its innovative design brings the advantages of OPTrust's large scale and investment expertise to people who would otherwise not have access to a DB pension plan and a more secure retirement. It offers enhanced risk-sharing with active members and retirees. This innovative offering provides significantly reduced volatility in contribution rates and pension expenses. And, OPTrust Select creates greater sustainability for all Plan members over the long term through the allocation of risk and costs over a broader membership base.

OPTrust's sponsors approved the new schedule of benefits in April 2018. Since that time, we have met with hundreds of employer and employee groups who are interested in joining OPTrust Select. We have begun the enrollment process for several of these employers.

OPTrust Select opens the door to creating a better retirement for more people.

Pension Funding

2018 Funding Valuation

OPTrust engages independent actuaries to perform regular valuations of the Plan to ensure there are sufficient assets to meet the projected cost of members' and retirees' 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.

FUNDING VALUATION ASSUMPTIONS

	2018 VALUATION	2017 VALUATION
Inflation rate	2.00%	2.00%
Investment return (real)	3.15%	3.30%
Investment return (nominal)	5.15%	5.30%
Salary increases (nominal)[1]	2.75%	2.75%

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

The Plan's 2018 funding valuation showed it remained fully funded as of December 31, 2018. The funding valuation also confirmed net deferred (or smoothed) investment losses of $327 million, which will be recognized over the next four years. These deferred losses have been taken into consideration in our long-term planning.

The Plan's real discount rate for the 2018 funding valuation was reduced to 3.15%, net of inflation, down from 3.30% in 2017. The effect of this change increased the total fund liabilities by $555 million. Decreasing the discount rate reduces the risk of future losses due to investment returns falling short of expectations, strengthening the Plan's long-term sustainability.

SENSITIVITY TO ACTUARIAL ASSUMPTION CHANGES

($ millions)

	+0.50%	-0.50%
Impact of change in inflation linked assumptions[1]	157	(162)
Impact of change in funding discount rate assumption[2]	1,761	(2,041)
Impact of change in assumed increase in salaries	(551)	484

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

2 Assumes all other assumptions remain unchanged.

In 2019, the Plan will file its December 31, 2018, funding valuation with the regulator showing that it is fully funded.

Changes in the Plan's actuarial assumptions can have a major impact on the projected cost of members' and retirees' pensions and the Plan's funded status. This table 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

A funding valuation presents the Plan's financial information in a manner set out by OPTrust's Board of Trustees in its funding policies and is subject to regulatory constraints. It determines if the Plan's assets, together with expected investment income and current members' projected future contributions, are sufficient to fund current members' and retirees' 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 establishes 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.

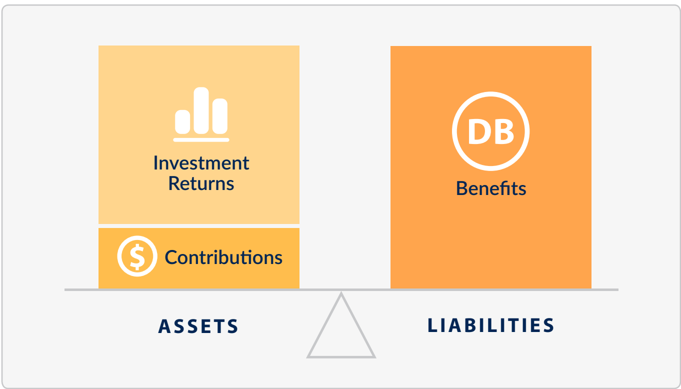
Ontario regulations require that a funding valuation be filed with the provincial authorities at least once every three years. Please see note 5 to the financial statements on page 62 for further discussion.

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 best estimate assumptions, as determined by OPTrust management (with no margins or conservatism).

The valuation recognizes the increase in the value of future obligations over time. Experience gains or losses resulting from the Plan's investments and changes to OPTrust management's best estimate discount rate are fully recognized in the year incurred. Experience gains or losses related to other assumptions are recognized in conjunction with the funding valuation.

Investment Strategy and Performance



Member-Driven Investing (MDI) Strategy

OPTrust's mission is paying pensions today, preserving pensions for tomorrow. Our members depend on us to provide secure, predictable income in retirement. Our investment strategy is designed with this mission in mind and fully aligned with the interests of our members.

We strive to earn enough return to keep the Plan sustainable over the long term, while keeping benefit levels and contribution rates stable. Our investment strategy carefully balances risk and return to deliver on these objectives. We avoid undue risk, and only take risk when the investment returns are commensurate with the risk taken.

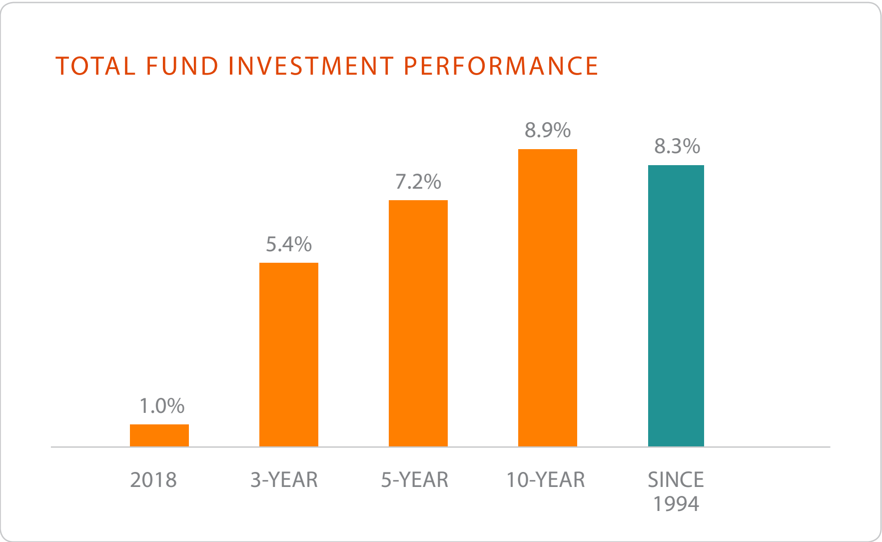
MDI Implementation Progress and Key Accomplishments

We are long-term investors; our actions in 2018 were designed to better position the portfolio through market cycles and to increase the capabilities of our investment program. Key accomplishments include:

- **Enhanced portfolio diversification:** we have made our portfolio more diversified by reallocating some risk from equities to credit and alternative public market strategies and implementing enhanced risk-mitigation strategies. This will improve our risk-adjusted return over the long term.
- **Liquid asset internalization:** we now manage over $10 billion of gross liquid assets internally — this has reduced costs, made us more agile, and allowed us to pursue more customized strategies.
- **Illiquid asset rebalancing:** we took advantage of favourable market conditions to realize gains on some illiquid assets, while taking a disciplined approach to new capital deployments.

Investment Performance

OPTrust's investment objective is to improve pension certainty by earning enough return to keep the Plan sustainable, while maintaining stability in contribution rates and benefits levels. Our goal is not to earn outsized returns, which would require taking excessive risk. The total fund return for 2018 was 1% against a challenging investment backdrop.



The total fund outperformed the -0.2% return on our reference portfolio, which is comprised of 75% global developed market equities and 25% Canadian long-term bonds. This portfolio is selected to deliver the long-term expected return that we need to ensure the Plan is fully funded in a simple, easy-to-implement, passive indexed portfolio. Our MDI strategy seeks to deliver the same return as the reference portfolio over the long term, but at a much lower level of risk. In 2018, the total fund outperformed the reference portfolio on both a return and risk-adjusted return basis. Over the last three years, the total fund has outperformed the reference portfolio return, at a much lower level of risk. These results, combined with OPTrust's fully funded status, show that the MDI strategy is delivering the intended results.

Investment Environment: Global Risks Beginning to Emerge

- **Asset valuations are elevated:** Assets remain richly priced despite a weakening of market sentiment in 2018; expected returns for taking risk are below historical norms.
- **Monetary policy is tightening:** Central banks are unwinding policy stimulus as we approach the later stages of the economic cycle; higher interest rates and tighter global liquidity conditions are a headwind to asset returns.
- **Market volatility is increasing:** Elevated valuations, tighter monetary policy, and macro economic uncertainty have caused market volatility to increase from exceptionally low levels.
- **Geopolitical environment is unpredictable:** Uncertainty about future economic and global trade policy in key economies has contributed to market volatility and made the investment environment more difficult to navigate.

Asset Class Overview

Public Equity: Our public equity exposure is designed to complement our private equity strategy and generate returns using liquid market instruments. Public equity markets had a challenging year in 2018, with major markets posting significant negative returns. Moderating global growth, rising interest rates, and tighter global liquidity conditions all weighed on equity markets. We maintain only a small amount of public equity exposure. It delivered a return of -11.4% through 2018.

Fixed Income: Our fixed-income assets hedge the interest rate sensitivity of our liabilities and serve as the main source of liquidity for the Plan. Fixed income also provides diversification benefits for the portfolio as it generally performs well in environments when riskier assets produce low or negative returns.

Returns from our fixed-income portfolio were slightly negative for the year. Canadian long-term interest rates fluctuated across a wide range through 2018, ending marginally lower. Positive returns on our Canadian government bonds were offset by negative returns on our U.S. Treasury holdings, reflecting an increase in U.S. interest rates in 2018. Our fixed-income portfolio earned -0.4% on the year.

Alternative Public Market Strategies: Asset returns are composed of a risk-free rate, risk premia, and alpha components. We invest in customized,

ASSET MIX

Public Equity	10.8%
Private Equity	11.5%
Alternative Public Market Strategies	28.6%
Real Estate	14.7%
Infrastructure	12.4%
Fixed Income	33.8%
Funding	-11.8%
Total	100.0%

alternative public market strategies to access a broader and more diversified set of risk premia and alpha streams. These strategies are less correlated with traditional market returns and make our total fund portfolio more resilient to different economic and market environments.

Alternative public market strategies generated a net return of -5.4% in 2018. Within this portfolio, alternative risk premia and multi-asset strategies struggled, consistent with weak returns delivered by market risk premia in 2018. Lower returns in these strategies were offset by positive returns from our pure alpha and insurance-linked securities strategies.

Real Estate: The real estate portfolio provides predictable income and attractive risk-adjusted returns, helping to fund the Plan's pension obligations and lowering funded status volatility. Real estate is also an important diversifier and hedge against inflation over the long term.

Real estate markets were characterized by strong fundamentals and ample access to capital in 2018, but the cycle is maturing and expected returns have moderated. Against this backdrop, we focused on building portfolio resilience through market cycles. We committed to 10 new investments totalling $435 million in 2018, nine in North America and one in Scandinavia. These investments were sourced through existing partners, reflecting our ability to access compelling opportunities through our network of trusted partner relationships. New commitments were partially offset by $258 million of selective realizations. The real estate portfolio generated a net return of 7.6% in 2018.

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 in a record year for fundraising within the infrastructure asset class. While this environment created good selling opportunities in the portfolio in 2017, the heightened competition from increasing capital inflows has meant there was better value in 2018 in smaller scale opportunities and establishing platforms to pursue them. We executed on six new transactions totaling $569 million, reflecting the value of our flexible and partner-driven approach in a challenging market. The infrastructure portfolio was able to generate a net return of 9.9% in 2018.

Private Equity: Private equity is expected to generate higher returns than public equity over the long term while providing a smoother volatility profile. The overall private equity market continues to be competitive, supporting readily-available, low-cost leverage and high valuations. Our private equity strategy, which includes private credit, long term equities and buyout investments, allows us to identify a broad range of investment opportunities and execute upon those which offer the most attractive risk-adjusted returns.

In 2018, we committed to 10 new investments totalling $434 million and funding ongoing growth and expansion initiatives in various portfolio companies. As in 2017, we were able to capitalize on the strong market conditions by selling our equity ownership stakes in certain portfolio companies that had achieved their value-creation plans while retaining minority positions, where practicable, to continue to participate in future growth potential. The private equity portfolio generated a net return of 15.7% for the year.

Currency, Overlay and Other: The remainder of the total fund return is comprised of our foreign currency exposures, overlay portfolio activity, credit, gold, cash and money market, and other capital markets activities. Among these exposures, currency and overlay portfolio activities made the largest contributions to total fund returns at 0.9% and -0.7% respectively. We hedge most of our foreign currency exposures, as fluctuations in exchange rates can significantly impact the volatility of a global investment portfolio. However, we do maintain some exposure to currencies that can act as a safe haven in times of stress and a small amount of emerging market currencies. The positive return contribution from currency in 2018 reflected a weakening of the Canadian dollar against the foreign currencies we hold. Negative return contributions from the overlay portfolio mostly reflected currency hedges to bring down our total fund foreign currency exposures and positions undertaken to diversify our total fund risk-mitigation strategy. Other items in this category made only marginal contributions to total fund returns.

CASE STUDY — ST. GEORGE'S UNIVERSITY

Medforth Global Healthcare Education

In August 2014, OPTrust, with a consortium of partners, made a substantial private equity investment to Medforth Global Healthcare Education, an organization dedicated to addressing the growing global need for high-quality medical and healthcare professional training. Its schools demonstrate a history of providing excellent teaching and student support, with an emphasis on training healthcare professionals who serve with knowledge, compassion, dedication and expertise. Medforth seeks to address the shortage of physicians and other healthcare professionals, particularly in medically underserved communities. Its educational institutions are committed to delivering high-quality medical training with excellent academic outcomes and career opportunities. They include St. George's University in Grenada, West Indies, one of the world's leading universities committed to outstanding medical and healthcare education, and Rocky Vista University, a leading osteopathic medical school with campuses in Colorado and Utah.

St. George's University, True Blue Campus

OPTrust was selected as a partner for this transaction based on our ability to provide flexible capital solutions and our long-term investment orientation. The investment is expected to provide stable and attractive risk-adjusted returns for the total fund.

Responsible Investing

We believe environmental, social and governance (ESG) factors affect investment risk and return as well as our reputation. OPTrust's Responsible Investing (RI) program ensures material ESG factors are considered where their impact could affect the Plan's sustainability and stability in both the short and long term.

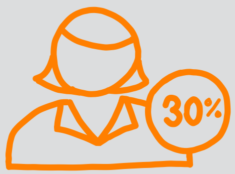
OPTrust's Responsible Investing program ensures material environmental, social and governance factors are considered where their impact could affect the Plan's sustainability and stability.

The RI program is implemented through all phases of the investment life cycle and our active ownership practices. The identification, assessment and management of ESG factors allow us to better assess the risks as we make investment decisions. Our commitment to active ownership encompasses monitoring, voting and engaging investee companies and engaging with regulators and industry organizations on material ESG issues. This year we affirmed our RI beliefs:

- **ESG factors impact Plan sustainability and stability.** A proactive management of ESG factors is required to mitigate risk and enhance value to ensure Plan sustainability and stability for our members.
- **Our voice has influence.** Engagement is a cornerstone of our approach to responsible investing and we use our position regularly to improve long-term performance.
- **We are active stewards of our members' capital.** Our fiduciary duty includes a duty to be active owners where it is in the best interests of the Plan members to do so. Throughout the investment process we use the levers of proxy voting, engagement and advocacy to help manage ESG-related risk.
- **Working collaboratively amplifies our voice.** We take advocacy positions to encourage sustainable and transparent financial markets and we work together with peers, business partners and other external organizations to strengthen our influence.
- **We can measure progress by measuring impact.** We continue to look for innovative ways to enhance our RI processes as better data becomes available and as approaches to RI mature so that we can better understand the impact our RI initiatives are having.

Further information about our RI program can be found at **optrust.com/ri.html**.

RESPONSIBLE INVESTING ACTIVITIES



Aligned our Proxy Voting Guidelines to our commitment to the **30% Club Canada**

Endorsed **The Tobacco-Free Finance Pledge**

Became a supporter of the **Transition Pathway Initiative**

Endorsed the **Statement of Investor Commitment to Support a Just Transition on Climate Change**

OPTrust took action on **climate change**: CCAP released in June

Voted at
2,430
company meetings in 55 countries

Signed the **2018 Global Investor Statement to Governments on Climate Change**

Supported **The Investor Agenda**. Reported actions in four areas: Investment, Corporate Engagement, Investor Disclosure, Policy Advocacy

Engaged
456
companies on key ESG issues

Engaged securities regulators on **climate change** and **gender diversity**

Climate Change

OPTrust's Climate Change Action Plan (CCAP) was released in 2018 and outlines the steps we will take to better understand and assess climate risk and opportunities across the fund. The foundation of our approach lies in our beliefs about climate change and how it may influence our ability to deliver on our mission. The approach outlined in the CCAP can be summarized as follows:

- **Measurement matters.** We are focused on developing our approach to assessing and managing the risks and ensuring opportunities are captured.
- **Change happens with influence.** We use our ownership position to promote better practices among our investee companies. Climate change is a major part of this dialogue.
- **Impact through innovation.** We acknowledge that new technologies will be key in our process to better understand climate change risks and opportunities.
- **Organizational stewardship.** We pursue opportunities to green our organization because we believe that together we can create a more sustainable future for people and our planet.

As part of our continued commitment to transparency, we will report in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) for the second year in OPTrust's upcoming Responsible Investing Report.

CLIMATE CHANGE SYMPOSIUM

Climate change is one of the most significant risks facing the world and its complexity requires innovative thinking to find solutions. OPTrust is leading conversations among pension investors to enhance climate change-related disclosure, reduce uncertainty in the investing environment and find more efficient ways to manage climate change risk in pension investing.

In November, OPTrust held a Climate Change Symposium, which brought together over 175 prominent investors, leading climate scientists and thought leaders from around the globe. Our goal is to pivot from conversations about climate change to action so that meaningful progress can be made in assessing the impact of climate change on plan sustainability.

Serving Members

A Remarkable Member Experience

OPTrust puts our members first in all we do. In 2018, that commitment shone through as members and retirees rated their interactions with OPTrust at 9.1/10, on average. We also achieved very high marks in a global benchmarking study of about 50 pension plan administrators, conducted by CEM, moving from tenth place in 2017 to sixth in 2018. But we know there is more to be done so we have set our sights on moving to the next level — exceeding expectations.

We can only exceed members' expectations if we know what those expectations are. So, in 2018 we engaged members in even deeper conversations about what would improve their experiences with us. They confirmed our thinking: that timely, accurate services are now just a starting point and we need to continue aiming for ongoing improvements, to deliver a remarkable experience.

Members define a "remarkable experience" as including more opportunities for dialogue with OPTrust, simplicity and ease, and our ability to anticipate their needs based on their individual pension and life circumstances. Over the next three years, our goal is to put this practice in place so we can consistently exceed member expectations.

In 2018 we expanded our telephone services to accept more verbal member requests, reducing the need for paper and increasing simplicity for members. We also established an easy-to-use online tool for members to book one-on-one virtual or in-person counselling appointments. The new tool is helpful to those members who cannot easily visit our office, especially those outside the Greater Toronto Area. Members can reserve dedicated time with our staff and use the tool to get help with complex issues, using simple and effective communications applications like video conferencing.

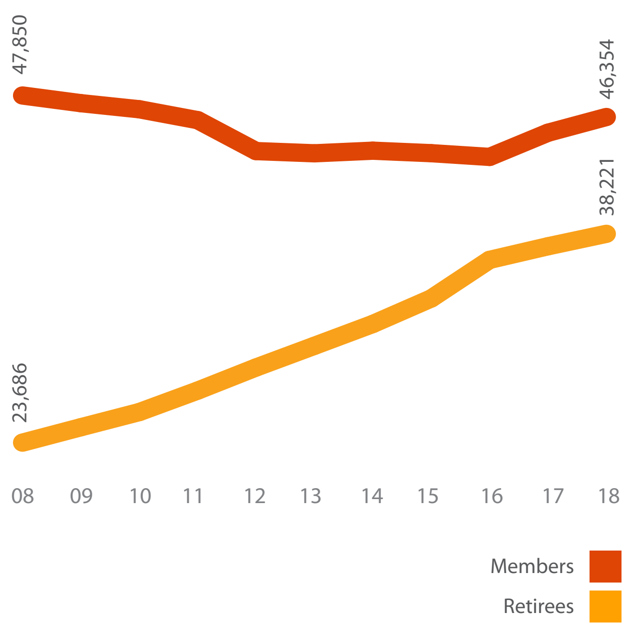
Members and retirees rated their interactions with OPTrust at 9.1/10, on average.

During the year, we introduced electronic payment options for retirees living outside of Canada and the U.S., adding flexibility and ease for retirees. These are examples of ways we are delivering a better experience in the immediate and near term. Based on member requests, we also expanded our pension information sessions and added more webinars to allow members to participate in discussions about their pensions in the comfort of their own homes.

We continued to improve processes related to legislative compliance and managing day-to-day risks. Pension administration staff also dedicated a considerable amount of time and effort working with employers to improve efficiency. We value the partnerships we have with employers and will continue to focus on them throughout 2019.

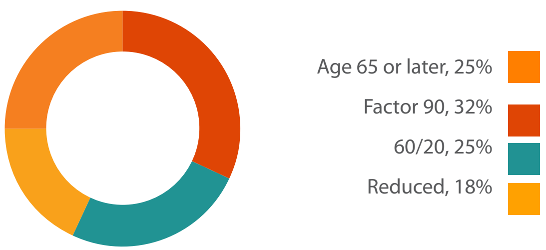
OPTRUST'S ACTIVE MEMBERS AND RETIREES

At December 31



In 2018, OPTrust's active membership increased to 46,354 at year-end, while the number of retirees increased to 38,221 at year-end, net of deaths. Deferred members are accounted for separately.

2018 RETIREMENT SNAPSHOT



In 2018, 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.

2018 HIGHLIGHTS

Top 6 CEM global ranking

9.1/10
Average **member satisfaction** score

9.2/10
Satisfaction score for **information sessions**

1,275
New retirees

$1,013 million
Total **entitlements** paid

2,399
Pension **information session** attendees

1,569 in-person counselling sessions

47,622 telephone counselling sessions

50,154
Member transactions received and processed

87%
Member requests processed within service standards

5,029
Proactive notices to members and retirees

298,050
Visits to optrust.com

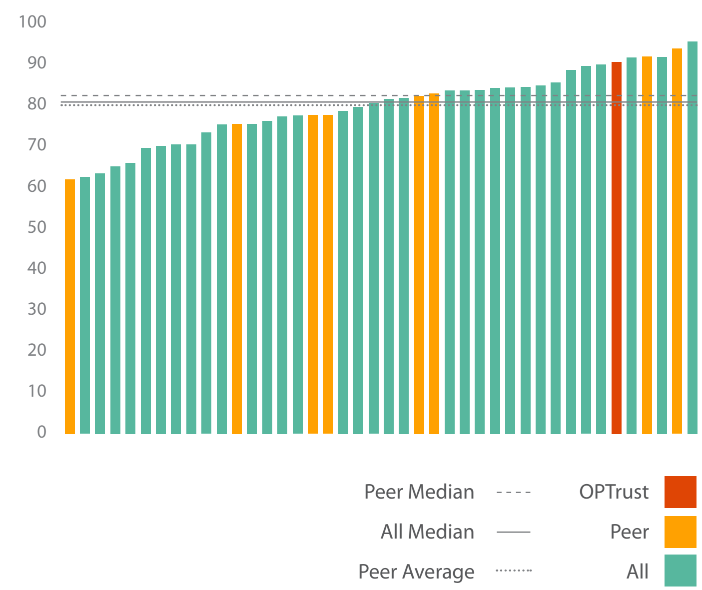
865,531
Page views

58%
First-contact resolution

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 89 out of 100 in the most recent survey of leading pension plans by CEM. Our score exceeded both the median score for our peer group of nine Canadian plans, and the 46 plans included in the survey.

MEMBERSHIP STATISTICS

At December 31	**2018**	2017	2016	2015	2014	2013
Active members	**46,354**	45,259	43,575	43,835	44,008	43,827
Average age	44.7	44.9	45.1	46.1	46.3	46.5
Average salary	$ 63,195	$ 63,887	$ 62,121	$ 62,488	$ 62,417	$ 62,391
Number of new members enrolled	5,218	5,210	4,567	4,271	4,170	3,453
Number of members terminated or retiring	4,123	3,526	4,827	4,444	3,989	3,607
Former members with entitlements in the Plan*	**1,411**	1,399	1,500	1,237	1,735	1,471
Deferred pensioners**	**8,943**	8,386	8,058	8,198	8,524	8,744
Current pensioners	**38,221**	37,355	36,409	33,721	31,946	30,426
Average age	71.4	70.9	70.3	70.2	69.8	69.3
Average annual pension	$ 21,613	$ 21,426	$ 21,321	$ 20,868	$ 20,519	$ 20,351
Total members and pensioners	**94,929**	92,399	89,542	86,991	86,213	84,468

* Includes members whose termination or divestment was unprocessed at year-end.

** Includes former members whose termination or divestment has been processed and who continue to have entitlements in the Plan.

Governance and Accountability

OPTrust is committed to improving its governance system to ensure it continues to deliver retirement security to its members. In 2017, the Board revised its governance system to incorporate best practices for strategic boards recommended by governance expert Gordon L. Clark. In 2018 the Board approved a customized self-assessment questionnaire designed to provide an annual check-in on whether the Board's practices effectively support its governance goals and to identify any potential areas for improvement. The first self-assessment process using the new questionnaire will take place in 2019.

Management continues to evolve its governance through the use of cross-divisional special-purpose management committees with mandates to implement important strategic initiatives. The special-purpose committees are led by members of the Executive Committee and report directly to the CEO.

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 and retirees 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 2017, the Board approved a new framework for managing enterprise risk based on a maturity assessment conducted by OPTrust's internal auditor. In 2018, management implemented the framework approved by the Board. A new and more efficient process for refreshing and managing the organization's mission-critical risks was implemented through the use of a risk universe. The top risks identified through this process are monitored and reports are provided to the Board every quarter. Management adopted a new platform for its operational risk management (ORM) program and completed pilots in two areas (Investment Finance and Member Experience). The program will continue to be rolled out to the rest of the organization over the next two years.

The compliance register developed in 2016 as part of OPTrust's new centralized compliance function was installed in a module of the new risk system. The register will be integrated with the ORM module to manage regulatory compliance risk more efficiently. The new system will also be used for purposes of OPTrust's organization-wide compliance attestations.

In 2018 management also conducted an in-depth review of its crisis management program. A new de-centralized approach to crisis management was developed through broad engagement across the organization. Under the new governance system, crisis management reports to the Operating Committee comprised of senior leaders in the organization. Day-to-day crisis preparedness is led by the Crisis Management Working Group, a sub-committee of the Governance, Risk and Compliance (GRC) Working Group. An actual crisis will be managed by a Crisis Response Team (CRT), led by the VP, Human Resources. All crisis response and business continuity plans were updated during the review.

Compensation Program

OPTrust actively considers its obligation of stewardship in paying pensions today, preserving pensions for tomorrow on behalf of our members, and in our commitment to continually provide a superior member experience. OPTrust's management compensation framework aligns to our organizational strategy.

FINANCIAL
Ensuring the Plan's long-term fully funded status

STAKEHOLDER
Build and enhance relationships with key internal/external stakeholders

PROCESS AND RISK
Continuous improvement, risk management and cost efficiencies

PEOPLE
Improving the organization's ability to adapt, innovate and grow

OPTrust's Compensation Framework:

1. **Short-Term Incentive Plan (STIP):** Drives towards creating a high-performance organization allowing OPTrust to attract and retain high-calibre talent. It is based on individual performance and assessed against the objectives in individual balanced scorecards, within four quadrants directly aligned to OPTrust's annual business plan.

2. **Long-Term Incentive Plan (LTIP):** Aligns to how management is meeting the three MDI metrics and with individual investment team performance, relative to benchmark. The three key MDI metrics are:

   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.

We are one of the first pension plans globally to take this innovative approach to align its LTIP directly to members' interests. These metrics are applied over a three-to-five-year period.

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.

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 personnel, and reviewing and approving amendments to OPTrust's compensation structure and policies as required.

Compensation disclosure

The Board is committed to transparency regarding the compensation program and details about the base salary and other compensation paid to the President and CEO, Chief Investment Officer and Chief Pension Officer/SVP, Human Resources 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 the subsequent calendar year.

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 contribute to a supplementary pension plan established by the Province of Ontario, 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.

TRUSTEES EXPENSES

The Trustees of the Plan do not receive compensation from OPTrust. Reimbursement for Trustee-related incidental expenses and education received by Trustees totalled $119 thousand in 2018 (2017 – $85 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.

2018 EXECUTIVE COMPENSATION

($ thousands)	Base earnings	STIP	LTIP	Post-employment benefits	Other benefits	Total
James Davis Chief Investment Officer	385	514	886	74	30	1,889
Reg Swamy Chief Pension Officer and Senior Vice-President, Human Resources	280	249	345	46	24	944

The President and CEO went on leave during 2018. At time of publication, data for compensation was not available.

2018 TOTAL ADMINISTRATIVE EXPENSES

($ millions)

	$	%
Investment	48	0.24
Plan administration	24	0.12
Total	**72**	**0.36**

ADMINISTRATIVE EXPENSES

Prudent management of expenses is consistent with our mission. Administrative expenses are separated into investment and plan administration. Investment costs include in-house activities: investment research, portfolio construction, technology, control and reporting processes. Plan administration costs include providing member service, processing member transactions and upgrading the pension administration system.

The table shows the total administrative expenses.

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

OPTrust Cares

The OPTrust Cares committee organizes employee-led fundraising for charities. The focus for 2018 was Emily's House, which is dedicated to caring for children with complex needs while supporting their families. Emily's House brings together high quality, respite and palliative care with the warmth and comfort of a child-focused environment that allows children and their families to have a home away from home.

Through a variety of awareness and fundraising efforts the committee raised over $5,300 for Emily's House.

MEMBERS OF THE BOARD OF TRUSTEES

At December 31, 2018

Tim Hannah, Chair[1]

Senior Environmental Officer
Ministry of the Environment, Conservation and Parks

Appointed in 2012,
Chair since November 3, 2018

Governance and Administration Chair (since November 3, 2018), Investment Committee, Audit, Finance and Risk, Adjudication Panel

Sharon Pel, Vice-Chair[2]

Consultant, Inglewood Advisory Services

Appointed in 2017,
Vice-Chair since November 3, 2018

Investment Committee (Chair since November 3, 2018), Audit, Finance and Risk, Governance and Administration, Human Resources and Compensation 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, since November 3, 2018), 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 Committee and Compensation Committee

Michael Grimaldi[1]

Worker Advisor (retired)
Ministry of Labour

Appointed in 2012

Governance and Administration, Audit, Finance and Risk Committees

Vicki Ringelberg[1]

Chief Financial Officer and Chief Operating Officer (retired)

AIC Limited & Portland Investment Counsel

Appointed in 2011,
Chair since November 2016

Governance and Administration (Chair), Audit, Finance and Risk, Investment Committees; Adjudication Panel

Randy Marie Sloat[1]

Customer Care Representative
Ministry of Government and Consumer Services

Appointed in 2012

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

Louise Tardif[2]

Vice-President, National Bank Financial (retired)

Appointed in 2014

Human Resources and Compensation, Governance and Administration, Investment Committees; Adjudication Panel

Don Wilkinson[2]

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

Appointed in 2017

Audit, Finance and Risk (Chair since November 3, 2018), Investment, Human Resources and Compensation Committees, Adjudication Panel (Government Alternative)

1 Appointed by OPSEU
2 Appointed by the Government of Ontario

MEMBERS OF THE EXECUTIVE COMMITTEE

At December 31, 2018

Doug Michael
Interim President and CEO
Chief Financial Officer and Senior Vice-President, Administrative Services

Karen Danylak
Vice-President, Corporate Affairs
Corporate Secretary

James Davis
Chief Investment Officer

Jeremiah Hudacin
Vice-President, Investment Risk

Tim Shortill
Senior Vice-President, Strategy, Communications and Public Affairs

Reg Swamy
Chief Pension Officer and Senior Vice-President, Human Resources

John Walsh
Managing Director, General Counsel

FINANCIALS

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 *Chartered Professional Accountants of Canada Handbook* Section 4600 — Pension Plans and comply with the financial reporting requirements of the *Pension Benefits Act* (Ontario). 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. 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 satisfy 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 has expressed their opinion upon completion of such examination in their report to the Board of Trustees. The auditors have full and unrestricted access to 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 internal control systems.

Doug Michael
Interim President and CEO

March 7, 2019

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, 2018. The purpose of this valuation is to determine the pension obligations of the Plan as at December 31, 2018, 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 $18,453 million in respect of service accrued to December 31, 2018.

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

- members' demographic data provided by OPTrust management as at October 5, 2018 projected to December 31, 2018, 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, 2017, 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 *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.

Ian Markham

Ian Markham
Fellow, Canadian Institute of Actuaries

Laura Newman

Laura Newman
Fellow, Canadian Institute of Actuaries

Toronto, Ontario
March 7, 2019

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, 2018 and 2017, 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, 2018 and 2017;
- 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 7, 2019

Statement of Financial Position

As at December 31 ($ millions)	2018	2017
ASSETS		
Investments (Note 3)	**25,860**	23,586
Contributions receivable (Note 7)	**52**	48
Other assets	**11**	5
	25,923	23,639
LIABILITIES		
Accounts payable and accrued charges	**39**	44
Investment-related liabilities (Note 3)	**5,947**	3,305
	5,986	3,349
NET ASSETS AVAILABLE FOR BENEFITS	**19,937**	20,290
PENSION OBLIGATIONS (Note 5)	**18,453**	18,265
SURPLUS (Note 6)	**1,484**	2,025
PENSION OBLIGATIONS AND SURPLUS	**19,937**	20,290

For the years ended December 31 ($ millions)	2018	2017
SURPLUS, BEGINNING OF YEAR	**2,025**	1,729
CHANGE IN SURPLUS		
(Decrease)/increase in net assets available for benefits	**(353)**	1,245
Increase in net pension obligations	**(188)**	(949)
NET (DECREASE)/INCREASE IN SURPLUS	**(541)**	296
SURPLUS, END OF YEAR	**1,484**	2,025

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 7, 2019 and were signed on its behalf by:

Tim Hannah
Chair

Sharon Pel
Vice-Chair

Statement of Changes in Net Assets Available for Benefits

For the years ended December 31 ($ millions)	2018	2017
NET ASSETS AVAILABLE FOR BENEFITS, BEGINNING OF YEAR	**20,290**	19,045
Changes Due to Investment Activities		
Investment income (Note 4)	**501**	491
Net (loss)/gain on investments (Note 4)	**(291)**	1,321
Investment management and administrative expenses (Notes 4 and 9)	**(65)**	(70)
	145	1,742
Changes Due to Pension Activities		
Contributions (Note 7)	**539**	529
Benefits paid (Note 8)	**(1,013)**	(1,003)
Pension administrative expenses (Note 9)	**(24)**	(23)
	(498)	(497)
(DECREASE)/INCREASE IN NET ASSETS AVAILABLE FOR BENEFITS	**(353)**	1,245
NET ASSETS AVAILABLE FOR BENEFITS, END OF YEAR	**19,937**	20,290

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

Statement of Changes in Pension Obligations

For the years ended December 31 ($ millions)	2018	2017
PENSION OBLIGATIONS, BEGINNING OF YEAR	**18,265**	17,316
INCREASE IN PENSION OBLIGATIONS		
Interest accrued on benefits	**1,008**	981
Benefits accrued	**492**	471
Assumption changes (Note 5)	**(106)**	509
	1,394	1,961
DECREASE IN PENSION OBLIGATIONS		
Benefits paid (Note 8)	**1,013**	1,003
Experience gains (Note 5)	**193**	9
	1,206	1,012
INCREASE IN NET PENSION OBLIGATIONS	**188**	949
PENSION OBLIGATIONS, END OF YEAR	**18,453**	18,265

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 is a separate schedule from the primary schedule under the Plan. OPTrust Select members are employees of participating employers in the broader public and non-profit sectors. As at December 31, 2018, there are no OPTrust Select members.

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 subsidiaries 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 employees 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 employees 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 on an ad hoc basis at the discretion of the Board, based on the funded status of the Plan and other factors.

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 benefits to the Public Service Pension Plan, administered by the Ontario Pension Board. In addition, a member of the primary schedule who terminates their membership before age 65 may be entitled to transfer the value of their pension to another pension plan, if 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.

The presentation of mortgage debt related to real estate was changed in 2018. Previously, mortgage debt related to real estate was presented on a gross basis as part of real estate. Effective January 1, 2018, real estate investments are presented net of related mortgages. Prior period comparatives have been restated. The change in accounting was made to align the presentation of non-consolidated real estate investments with that of the other asset classes. There was no impact on net assets available for benefits nor on the Statement of Financial Position.

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. In periods of economic turmoil or when markets are illiquid, the determination of fair value may be more difficult to establish.

Fair values are determined as follows:

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.

Bonds 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 real estate investments are valued using appropriate valuation methodologies. All direct investments are valued 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 (repo agreements) 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 dividends, 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 attributable to the acquisition or issue of investment assets or liabilities, and are expensed in the period on an accrual basis.

iv) External Management Fees

External management fees for portfolio management are expensed in the period on an accrual basis.

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 purposes (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.

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 their 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 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 real estate, private equity and most infrastructure and 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.

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.

	2018					2017				
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**	366	—	—	366	366
Short-term investments	**—**	**3,055**	**—**	**3,055**	**3,046**	—	2,966	—	2,966	2,961
Government and corporate bonds										
Canadian	**—**	**5,851**	**—**	**5,851**	**5,890**	—	4,878	—	4,878	4,840
Foreign	**—**	**434**	**—**	**434**	**404**	—	695	—	695	689
Real return bonds										
Canadian	**—**	**421**	**—**	**421**	**302**	—	430	—	430	302
Foreign	**—**	**445**	**—**	**445**	**436**	—	—	—	—	—
	351	**10,206**	**—**	**10,557**	**10,429**	366	8,969	—	9,335	9,158
Public equity										
Canadian	**29**	**—**	**—**	**29**	**34**	48	—	—	48	42
Foreign	**1,396**	**—**	**—**	**1,396**	**1,226**	2,269	1	—	2,270	1,801
	1,425	**—**	**—**	**1,425**	**1,260**	2,317	1	—	2,318	1,843
Pooled and hedge funds	**13**	**222**	**5,628**	**5,863**	**5,790**	14	237	4,322	4,573	4,302
Real estate[a]	**—**	**—**	**2,927**	**2,927**	**2,279**	—	—	2,823	2,823	2,298
Private equity	**—**	**—**	**2,288**	**2,288**	**1,647**	—	—	1,920	1,920	1,346
Infrastructure	**137**	**—**	**2,339**	**2,476**	**1,888**	111	—	2,025	2,136	1,729
	150	**222**	**13,182**	**13,554**	**11,604**	125	237	11,090	11,452	9,675
Investment-related assets										
Cash collateral pledged	**165**	**—**	**—**	**165**	**163**	—	—	—	—	—
Accrued income	**37**	**—**	**—**	**37**	**37**	37	—	—	37	37
Due from brokers	**—**	**—**	**—**	**—**	**—**	6	4	—	10	10
Derivative instruments	**—**	**122**	**—**	**122**	**15**	—	62	—	62	31
Resell agreements	**—**	**—**	**—**	**—**	**—**	—	372	—	372	382
	202	**122**	**—**	**324**	**215**	43	438	—	481	460
INVESTMENT ASSETS	**2,128**	**10,550**	**13,182**	**25,860**	**23,508**	2,851	9,645	11,090	23,586	21,136
Investment-related liabilities										
Cash collateral received	**(44)**	**—**	**—**	**(44)**	**(44)**	—	—	—	—	—
Due to brokers and other liabilities	**(60)**	**—**	**—**	**(60)**	**(60)**	(62)	—	—	(62)	(62)
Derivative instruments	**—**	**(287)**	**—**	**(287)**	**(2)**	—	(31)	—	(31)	—
Repurchase agreements	**—**	**(5,556)**	**—**	**(5,556)**	**(5,541)**	—	(3,212)	—	(3,212)	(3,240)
	(104)	**(5,843)**	**—**	**(5,947)**	**(5,647)**	(62)	(3,243)	—	(3,305)	(3,302)
NET INVESTMENTS	**2,024**	**4,707**	**13,182**	**19,913**	**17,861**	2,789	6,402	11,090	20,281	17,834

a As a change in presentation, $403 million of mortgage debt, previously recognized as Level 2 as at December 31, 2017 has been restated and is shown net of real estate assets as part of Level 3.

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:

For the years ended December 31 ($ millions)	2018					2017				
	Pooled and hedge funds	Real estate[b]	Private equity	Infra-structure	Total	Pooled and hedge funds	Real estate[b]	Private equity	Infra-structure	Total
Balance, beginning of year	**4,322**	**2,823**	**1,920**	**2,025**	**11,090**	2,202	2,883	1,587	1,950	8,622
Investment income	**—**	**128**	**38**	**105**	**271**	—	137	48	73	258
Net realized gains	**48**	**12**	**303**	**22**	**385**	53	252	116	134	555
Change in unrealized gains/(losses)	**(199)**	**122**	**58**	**148**	**129**	39	(53)	124	52	162
Purchases	**1,945**	**343**	**207**	**188**	**2,683**	2,358	285	305	196	3,144
Sales	**(488)**	**(501)**	**(238)**	**(149)**	**(1,376)**	(330)	(681)	(260)	(380)	(1,651)
BALANCE, END OF YEAR[a]	**5,628**	**2,927**	**2,288**	**2,339**	**13,182**	4,322	2,823	1,920	2,025	11,090

a There were no transfers in nor out of Level 3 and no settlements of Level 3 financial instruments for the years ended December 31, 2018 and 2017.
b 2017 has been restated due to a change in presentation where $403 million of mortgage debt previously presented as Level 2 is now netted against Level 3.

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.

The fair value of certain investments where OPTrust does not have access to the underlying investment information is based on the value provided by the external manager.

As at December 31 ($ millions)	Key factor	2018			2017		
		Fair value	+0.25%	-0.25%	Fair value	+0.25%	-0.25%
Real estate	Capitalization rate[a]	**2,523**	**(108)**	**119**	1,409	(58)	63
Mortgages related to real estate	Interest rate	**876**	**(7)**	**7**	403	(5)	5
Private equity	Discount rate[b]	**125**	**(1)**	**1**	—	—	—
Infrastructure	Discount rate[b]	**528**	**(18)**	**13**	529	(15)	14

a A rate of return to derive the value of an investment property based on expected income.
b The interest rate used in a discounted cash flow analysis to determine the present value of future cash flows.

D. DERIVATIVE CONTRACTS

OPTrust utilizes derivatives to manage its asset mix exposure, to enhance returns and to manage financial risk. Derivative contracts are transacted by OPTrust either directly with counterparties in the over-the-counter (OTC) market or on regulated exchanges and execution platforms, and include the following types of contracts:

Futures

Futures are standardized contracts traded on regulated future exchanges and are subject to daily cash settlement of changes in fair value. Examples of futures are described below:

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. An example of a forward contract is an OTC currency forward contract which is a contractual agreement 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. Examples of swaps are described below:

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 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 the value of the referenced asset in case of a credit event.

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 summarizes the notional and fair value of OPTrust's derivative contracts held:

			2018			2017		
As at December 31 ($ millions)			**Notional amount**	**Fair value assets**	**Fair value liabilities**	Notional amount	Fair value assets	Fair value liabilities
Interest rate contracts	Futures	– long positions	**1,595**	**—**	**—**	2,048	—	—
		– short positions	**1,719**	**—**	**—**	2,368	—	—
	Options	– long positions	**11**	**10**	**—**	10	5	—
	Swaps	– long positions	**3,150**	**—**	**(50)**	18	—	—
		– short positions	**4,147**	**40**	**—**	—	—	—
Equity contracts	Futures	– long positions	**733**	**—**	**—**	815	—	—
		– short positions	**58**	**—**	**—**	177	—	—
	Options	– long positions	**110**	**—**	**—**	1,189	15	—
		– short positions	**53**	**—**	**(1)**	—	—	—
Commodity contracts	Futures	– long positions	**423**	**—**	**—**	—	—	—
		– short positions	**1**	**—**	**—**	—	—	—
Currency contracts	Forwards		**8,075**	**70**	**(236)**	6,127	42	(31)
	Options	– long positions	**230**	**2**	**—**	—	—	—
Credit contracts	Credit default swaps							
		– long positions	**—**	**—**	**—**	5	—	—
		– short positions	**—**	**—**	**—**	6	—	—
TOTAL DERIVATIVES				**122**	**(287)**		62	(31)

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

	2018				2017			
As at December 31 ($ millions)	**Within 1 year**	**1 to 5 years**	**Over 5 years**	**Total**	Within 1 year	1 to 5 years	Over 5 years	Total
Interest rate contracts	**4**	**29**	**(33)**	**—**	5	—	—	5
Equity contracts	**(1)**	**—**	**—**	**(1)**	15	—	—	15
Currency contracts	**(164)**	**—**	**—**	**(164)**	11	—	—	11
TOTAL	**(161)**	**29**	**(33)**	**(165)**	31	—	—	31

E. SIGNIFICANT INVESTMENTS

As at December 31, OPTrust held certain investments having a fair value or cost exceeding 1% of the fair value or cost of net investment assets.

	2018			2017		
As at December 31 ($ millions)	**Number of investments**	**Fair value**	**Cost**	Number of investments	Fair value	Cost
Fixed income	**21**	**5,443**	**5,350**	13	4,032	3,933
Pooled and hedge funds	**6**	**5,122**	**5,131**	4	3,755	3,566
Infrastructure	**3**	**1,364**	**935**	3	1,332	1,053

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, United States Treasury Bonds, Lakeshore Trust, Merit Trust, Prime Trust, Safe Trust, Sound Trust and Sure Trust.

Pooled and hedge funds — AQR Offshore Multi-Strategy Fund XVIII LP, Aviva Investors Multi-Strategy Target Return Private Pooled, 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 L.P. 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. Investment risks include market risk, credit risk and liquidity risk.

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). 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 $930 million (2017 – $944 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:

	2018			2017
As at December 31 ($ millions)	**Gross exposure**	**Impact of derivatives[a]**	**Net exposure**	Net exposure
Canadian Dollar	**12,101**	**5,404**	**17,505**	17,553
Investments subject to currency risk				
Swiss Franc	**21**	**511**	**532**	5
Japanese Yen	**68**	**452**	**520**	3
United States Dollar	**4,176**	**(3,724)**	**452**	2,086
South Korean Won	**188**	**—**	**188**	144
Indian Rupee	**158**	**28**	**186**	112
Europe – other	**1,886**	**(1,840)**	**46**	1
Asia Pacific – other	**844**	**(826)**	**18**	46
Emerging Markets – other	**471**	**(5)**	**466**	331
	7,812	**(5,404)**	**2,408**	2,728
NET INVESTMENTS	**19,913**	**—**	**19,913**	20,281

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 currencies held at year-end, holding all other variables constant would have resulted in a $89 million change in net assets available for benefits as at December 31, 2018 (2017 – $129 million).

		2018	2017
As at December 31 ($ millions)	**Change versus Canadian Dollar**	**Change in net assets available for benefits**	Change in net assets available for benefits
Swiss Franc	**+/- 5%**	**+/- 25**	+/- 0
Japanese Yen	**+/- 5%**	**+/- 25**	+/- 0
United States Dollar	**+/- 5%**	**+/- 21**	+/- 117
South Korean Won	**+/- 5%**	**+/- 9**	+/- 7
Indian Rupee	**+/- 5%**	**+/- 9**	+/- 5
TOTAL		**+/- 89**	+/- 129

(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]	**2018** Change in net assets available for benefits	2017 Change in net assets available for benefits
Private	**MSCI World Index**	**+/- 10%**	**+/- 183**	+/- 135
Developed	**MSCI World Index**	**+/- 10%**	**+/- 73**	+/- 272
Emerging	**MSCI EMF Index**	**+/- 10%**	**+/- 116**	+/- 74
TOTAL			**+/- 372**	+/- 481

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]	**2018** Change in net assets available for benefits	2017 Change in net assets available for benefits[b]
Gold	**S&P GSCI Gold Total Return Index**	**+/-10%**	**+/- 31**	—
Broad Commodity Index	**Bloomberg Commodity Index**	**+/-10%**	**+/- 10**	—
TOTAL			**+/- 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 Gold or Broad Commodity Index exposure in 2017.

(e) Inflation Risk

Inflation risk is the risk that fair value of future cash flows of an instrument will fluctuate because of changes in current inflation or expected future inflation. OPTrust has direct inflation risk through investments in Canadian real return bonds and indirect inflation risk through nominal bonds, infrastructure and real estate investments where inflation inputs are used to determine the fair value of investments.

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 only dealing with highly-rated counterparties and requiring certain 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:

As at December 31 ($ millions)	2018 Short-term investments	2018 Bonds	2018 Resell agreements	2018 Derivatives[a]	2018 Total	2017 Short-term investments	2017 Bonds	2017 Resell agreements	2017 Derivatives[a]	2017 Total
AAA/R-1 High	**2,585**	**2,743**	**—**	**—**	**5,328**	2,418	2,285	—	—	4,703
AA/R-1 Mid	**—**	**1,337**	**—**	**—**	**1,337**	—	1,293	—	9	1,302
A/R-1 Low	**425**	**3,071**	**—**	**110**	**3,606**	548	2,425	372	33	3,378
BBB/R-2 Low or lower	**45**	**—**	**—**	**—**	**45**	—	—	—	—	—
TOTAL	**3,055**	**7,151**	**—**	**110**	**10,316**	2,966	6,003	372	42	9,383

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)	2018	2017
Derivatives		
Collateral received[a]	**11**	12
Collateral pledged[b]	**283**	61
Resell and Repurchase Agreements		
Associated receivable from resell agreements	**—**	372
Collateral received[c]	**—**	375
Associated liability from repurchase agreements	**5,556**	3,212
Collateral pledged[d]	**5,544**	3,192
Securities Lending Program		
Securities loaned	**229**	246
Collateral received	**248**	259

a Includes cash collateral (received) of $(11) million (2017 – $(11) million).
b Includes cash collateral pledged of $165 million (2017 – $10 million).
c Includes cash collateral (received) of $nil (2017 – $(2) million).
d Includes cash collateral (received)/pledged of $(33) million (2017 – $6 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, 2018 and 2017. Similar arrangements include repurchase agreements, resell agreements, securities lending and any related rights to financial collateral.

As at December 31 ($ millions)	2018					
				Related amounts not set-off in the statement of financial position		
	Gross amounts of recognized financial instruments	Gross amounts of recognized financial instruments set-off	Net amounts of financial instruments presented	Financial instruments	Financial collateral (received)/ pledged	Net amount
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)**	**—**	**5,544**	**(12)**
TOTAL FINANCIAL LIABILITIES	**(5,847)**	**4**	**(5,843)**	**—**	**5,827**	**(16)**

As at December 31 ($ millions)	2017					
Financial assets						
Derivative instruments	63	(1)	62	(5)	(57)	—
Resell agreements	372	—	372	—	(372)	—
Securities lending	246	—	246[a]	—	(246)	—
TOTAL FINANCIAL ASSETS	681	(1)	680	(5)	(675)	—
Financial liabilities						
Derivative instruments	(32)	1	(31)	5	12	(14)
Repurchase agreements	(3,212)	—	(3,212)	—	3,192	(20)
TOTAL FINANCIAL LIABILITIES	(3,244)	1	(3,243)	5	3,204	(34)

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 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:

	2018			
As at December 31 ($ millions)	Within 1 year	1 to 5 years	Over 5 years	Total
Due to brokers and other liabilities	(35)	(25)	—	(60)
Derivative instruments	(237)	(10)	(40)	(287)
Repurchase agreements	(5,556)	—	—	(5,556)
TOTAL	(5,828)	(35)	(40)	(5,903)
	2017			
Due to brokers and other liabilities	(39)	(23)	—	(62)
Derivative instruments	(31)	—	—	(31)
Repurchase agreements	(3,212)	—	—	(3,212)
TOTAL	(3,282)	(23)	—	(3,305)

OPTrust maintains unsecured credit facilities to meet potential liquidity requirements. As at December 31, 2018 and 2017 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)	2018 Investment income	2018 Net gain/(loss) on investments[a]	2018 Net investment income/(loss)[b]	2017 Investment income	2017 Net gain/(loss) on investments[a]	2017 Net investment income/(loss)[b]
Fixed income						
Cash and short-term investments	**57**	**1**	**58**	18	5	23
Government and corporate bonds						
Canadian	**110**	**(92)**	**18**	114	119	233
Foreign	**8**	**(80)**	**(72)**	17	—	17
Real return bonds						
Canadian	**3**	**(12)**	**(9)**	9	(8)	1
Foreign	**—**	**4**	**4**	—	—	—
Bank loans notes	**—**	**—**	**—**	5	(10)	(5)
	178	**(179)**	**(1)**	163	106	269
Public equity						
Canadian	**1**	**(5)**	**(4)**	5	4	9
Foreign	**44**	**(49)**	**(5)**	52	558	610
	45	**(54)**	**(9)**	57	562	619
Pooled and hedge funds	**1**	**(162)**	**(161)**	—	100	100
Real estate	**128**	**134**	**262**	137	198	335
Private equity	**38**	**361**	**399**	55	232	287
Infrastructure	**111**	**195**	**306**	79	182	261
Derivative instruments	**—**	**(586)**	**(586)**	—	(59)	(59)
	278	**(58)**	**220**	271	653	924
	501	**(291)**	**210**	491	1,321	1,812
Investment management expenses						
External manager fees			**(11)**			(20)
Transaction fees			**(6)**			(6)
			(17)			(26)
NET INVESTMENT INCOME			**193**			1,786

a Includes realized gain of $147 million and unrealized loss of $(438) million in 2018 and realized gain of $1,236 million and unrealized gain of $85 million in 2017.

b Certain investment-related disbursements of $58 million in 2018 (2017 – $57 million) have been netted against net investment income/(loss).

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	2018	2017
Inflation rate	**2.00%**	2.00%
Discount rate (real)	**3.65%**	3.60%
Discount rate (nominal)	**5.65%**	5.60%
Salary increases (nominal)	**2.75%**	2.75%

Experience gains of $193 million (2017 – $9 million) on OPTrust's pension obligations are due to differences between actuarial experience and assumptions. The assumption change gains/(losses) of $106 million (2017 – $(509) million) on OPTrust's pension obligations is due to a change in the discount rate assumption noted above.

The financial statement nominal discount rate increased from 5.60% as at December 31, 2017 to 5.65% as at December 31, 2018 to reflect market condition changes and expected returns.

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 or losses 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 or losses 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 2019, OPTrust is expected to file with the regulator, the December 31, 2018 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, 2021.

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 $1,484 million as of December 31, 2018 (2017 – $2,025 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 2018 to include new disclosure requirements under the *Pension Benefits Act*.

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 ($ millions)	2018	2017
	% Potential reduction to funded status	% Potential reduction to funded status
Risk appetite statement scenario A[a]	**9.4%**	9.7%
Risk appetite statement scenario B[b]	**9.5%**	10.1%

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)	2018	2017
Members		
Current service [a]	**241**	233
Prior service	**14**	17
Long-term income protection [b]	**13**	14
	268	264
Employers		
Current service [a]	**241**	233
Prior service	**7**	7
Long-term income protection [b]	**13**	14
	261	254
Transfers from other plans	**10**	11
TOTAL CONTRIBUTIONS	**539**	529

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, 2018 employers' and members' contributions receivable were in the amount of $31 million (2017 – $27 million) and $21 million (2017 – $21 million) respectively. OPTrust has a reconciliation process which reconciles contributions for each employer on a member-by-member basis. This detailed process ensures that contributions are consistent with member information supplied by the employers.

8. Benefits Paid

For the years ended December 31 ($ millions)	2018	2017
Retirement pensions	**822**	799
Transfers to Public Service Pension Plan	**115**	123
Refunds, commuted value transfers and deaths	**69**	75
Transfers to other plans	**7**	6
TOTAL BENEFITS PAID	**1,013**	1,003

9. Administrative Expenses

Investment administrative expenses [a]

For the years ended December 31 ($ millions)	2018	2017
Administration	**42**	38
Professional services [b]	**5**	4
Custodial fees	**1**	2
TOTAL INVESTMENT ADMINISTRATIVE EXPENSES	**48**	44

Pension administrative expenses [a]

For the years ended December 31 ($ millions)	2018	2017
Administration	**23**	21
Professional services [b]	**1**	2
TOTAL PENSION ADMINISTRATIVE EXPENSES	**24**	23

a Includes corporate expenses.
b Total professional services include external audit expense of $411 thousand in 2018 (2017 – $405 thousand) and actuarial expense of $581 thousand in 2018 (2017– $317 thousand).

10. Guarantees, Commitments and Contingencies

In the normal course of business, certain OPTrust subsidiaries may, from time to time, provide guarantees to various counterparties. As at December 31, 2018 these guarantees totalled $28 million (2017 – $27 million).

OPTrust has committed to fund certain investments over the next several years in accordance with the terms and conditions agreed to, which may be considered material. As at December 31, 2018 these commitments totalled $2,464 million (2017 – $2,560 million).

As at December 31, 2018 OPTrust's future lease commitments for office premises totalled $11 million (2017 – $16 million).

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, 2018, 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, 2018, was $2,603 million (2017 – $2,136 million). Investment income recorded on the bonds amounted to $38 million for the year-ended December 31, 2018 (2017 – $47 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)	2018	2017
Salaries and short-term employee benefits	**5,590**	5,548
Post-employment benefits	**429**	650
Other long-term benefits	**4,791**	4,272
	10,810	10,470

Ten-Year Financial Review (Unaudited)

As at December 31 ($ millions)	**2018**	2017	2016	2015	2014	2013	2012	2011	2010*	2009
CHANGES IN NET ASSETS										
Changes due to investment activities	**145**	1,742	1,037	1,311	1,818	1,615	1,237	578	1,530	1,348
Changes due to pension activities	**(498)**	(497)	(391)	(393)	(289)	(368)	(235)	(192)	(202)	(346)
(DECREASE)/INCREASE IN NET ASSETS	**(353)**	1,245	646	918	1,529	1,247	1,002	386	1,328	1,002
NET ASSETS										
Investments										
Cash and short-term investments	**3,406**	3,332	2,417	1,460	2,750	2,275	2,251	2,296	1,395	2,149
Government and corporate bonds and debentures	**6,285**	5,573	4,227	3,854	2,001	1,629	1,887	2,201	2,282	2,242
Real return bonds	**866**	430	438	468	446	577	1,177	1,495	1,280	1,179
Bank loan notes	**—**	—	168	156	145	90	—	—	—	—
Public equity	**1,425**	2,318	3,422	5,497	5,738	5,749	4,664	4,213	5,731	5,051
Pooled and hedge funds	**5,863**	4,573	2,597	959	732	456	126	—	170	156
Real estate	**2,927**	2,823	2,884	2,857	2,394	2,167	2,148	1,802	1,419	1,582
Private equity and infrastructure	**4,764**	4,056	3,660	4,041	3,339	3,131	2,460	1,516	1,079	862
Investment-related assets	**324**	481	132	108	154	151	149	265	142	131
	25,860	23,586	19,945	19,400	17,699	16,225	14,862	13,788	13,498	13,352
Contributions receivable	**52**	48	53	51	52	58	56	50	44	39
Other assets	**11**	5	4	5	4	5	5	6	2	2
TOTAL ASSETS	**25,923**	23,639	20,002	19,456	17,755	16,288	14,923	13,844	13,544	13,393
Liabilities										
Accounts payable and accrued charges	**(39)**	(44)	(49)	(54)	(78)	(69)	(64)	(64)	(57)	(79)
Investment-related liabilities	**(5,947)**	(3,305)	(908)	(1,003)	(196)	(267)	(154)	(77)	(170)	(1,325)
TOTAL LIABILITIES	**(5,986)**	(3,349)	(957)	(1,057)	(274)	(336)	(218)	(141)	(227)	(1,404)
NET ASSETS AVAILABLE FOR BENEFITS	**19,937**	20,290	19,045	18,399	17,481	15,952	14,705	13,703	13,317	11,989
Pension obligations	**(18,453)**	(18,265)	(17,316)	(16,756)	(15,937)	(14,958)	(14,189)	(13,499)	(12,923)	(12,313)
Actuarial asset value adjustment	**—**	—	—	—	—	—	—	—	—	1,523
SURPLUS	**1,484**	2,025	1,729	1,643	1,544	994	516	204	394	1,199

* Starting in 2010, amounts are presented in accordance with s4600 and IFRS.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OPTrust
1 Adelaide Street East, Suite 1200
Toronto, ON M5C 3A7

Member Experience
Tel: **416 681-6100** in Toronto
1 800 637-0024 toll-free in Canada
Fax: 416 681-6175

General Information
Tel: **416 681-6161** in Toronto
1 800 906-7738 toll-free in Canada

optrust.com | **email@optrust.com**

OPTrust's publications and other information are available online at **optrust.com**.

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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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