HOOPP
Healthcare of Ontario
Pension Plan

2019 ANNUAL REPORT

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President & CEO's Message

Jim Keohane
PRESIDENT & CEO

At HOOPP, we continue to be inspired by our members. Beyond our fiduciary duty to do what's best for our 381,081 active, retired and deferred members, we operate with a mission to put our members first in every area of our organization, from investments to member services to communications.

That starts with having a financially strong Plan that allows us to deliver on our pension promise and provide our members with a solid foundation for their retirement. In 2019, our net assets grew to $94.1 billion, representing an investment return of 17.14%; this return is close to an all-time record for HOOPP. All of our investment classes performed well, with bonds, equities, real estate and private equity leading the way.

Prudent risk management

Our bond portfolio played a pivotal role in our rate of return. Our significant bond holdings served as a hedge to protect the Fund against one of the biggest risks that a pension plan can face – a decline in long-term interest rates. That's exactly what played out in 2019, as yields on long-term bonds fell to some of their lowest levels on record.

Our net assets grew to $94.1 billion, representing an investment return of 17.14%.

The prevailing market perspective is that holding bonds provides very little value because of their extremely low yields. But our approach to risk management, through our liability driven investing (LDI) strategy, kept us invested in bonds, and those holdings saw a substantial increase in value as interest rates declined. These investments also helped offset the increase in the value of our pension obligations that resulted from the fall in interest rates.

I am extremely pleased with our performance for the year, and I am very confident about our strategic position for the future.

We are pleased that our Plan remains more than fully funded as a result of our prudent risk management as well as the surplus in our Fund, built through many years of strong investment returns. As of the end of 2019, the Fund has $1.19 in assets for every $1 that we owe in pensions.

Keeping our focus squarely set on ensuring that we can pay pensions has again served our Plan and our members well. Our investment approach creates the right balance by earning enough return without taking too much risk to meet the obligation.

Though we are not intent on beating market indexes, we are pleased that our Fund's recent performance ranks among the best in the world. A report from CEM Benchmarking shows that HOOPP has the third-highest 10-year return and highest net value-add globally among 158 pension plans worldwide for 2018. The survey also found that our investment costs and asset risk compare favourably to those of our peer plans.

Solid footing for the future

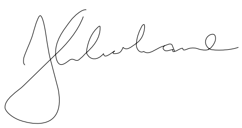
I am extremely pleased with our performance for the year, and I am very confident about our strategic position for the future. So it was with mixed emotions that in 2019 I announced my plans to retire in early 2020, after nearly 20 years at HOOPP. The last two decades have been a time of tremendous growth, with the Fund's assets increasing more than sixfold. Our organization, too, has grown significantly. We have moved away from a traditional approach to portfolio management toward using more sophisticated tools that integrate technology into our investment decision-making process. We have developed much of this technology in-house to meet our specific investment needs. It has taken many years and substantial financial investments to lay the groundwork for these changes, but without them, we would not be in a position to use the LDI approach that has served us so well. In addition, we made changes to our pension administration system that have enabled us to grow our membership and serve our members and employers in a better, more cost-efficient way.

Alongside these major changes in our technology and our systems, we have been able to maintain and enhance the culture of our organization. I'm proud to have led a workplace that is united in our drive to serve our members while staying true to our core values. I am confident that the leadership team we have in place will continue to foster a respectful and high-performance work environment.

I also take great pride in the positive impact we have had on public policy by raising awareness and being a vocal advocate for retirement security for all. Our research and opinion surveys have shed light on how difficult it is for Canadians to save for retirement on their own and how anxious Canadians feel about not saving enough. Our research has also shown Canada-model plans share five key drivers that make them the most efficient and affordable way to achieve a secure retirement. Our efforts in this area help our members understand the value of their HOOPP pension while highlighting what can be done to improve retirement security for all Canadians.

Considering all these factors, we expect to continue growing our assets significantly. Our 2019-2023 Strategic Plan lays out details on how we will support this growth over the next five years and beyond, particularly in our investment strategies and our systems. Our Board and my successor will stay focused on these areas.

In closing, I would like to thank the Board for their confidence and support. I would also like to thank HOOPP's leadership team and staff for their hard work and their unwavering commitment and dedication to doing what's best for Plan members. I am extremely proud of all we have accomplished together, and I look forward to watching that continued success going forward.



Jim Keohane
PRESIDENT & CEO

Chairs' Message

Adrian Foster
CHAIR

Dan Anderson
VICE CHAIR

HOOPP's pension promise is a constant. We know that all 381,081 of our members are counting on their pension, today and in the future, to help provide a secure income in retirement. Our Board of Trustees has a fiduciary responsibility to do what's best for our Plan members, most notably ensuring the Plan is equipped to pay pensions for decades to come regardless of the ups and downs of the markets.

In 2019, HOOPP posted an investment return of 17.14%, adding to our long track record of strong financial performance. In spite of record low interest rates that drove a significant increase on the liability side of our balance sheet, the Plan remains more than fully funded, with $1.19 in assets for every $1 that is owed in pensions.

As a result of our strong funded position, the Board once again approved the highest level of inflation protection offered by the Plan. Retired members saw their pensions increase by 2% on April 1, 2019. We are proud to be able to provide this valuable benefit to help HOOPP pensions keep up with the rising cost of living.

Again, based on the strength of the Plan, contribution rates will remain unchanged until at least the end of 2021. Contribution rates, which have not changed since 2004, are among the lowest of Canada's largest public sector pension plans – making HOOPP one of the best value propositions for our members and employers.

In 2019, we also began preparing for a significant change in leadership. President & CEO Jim Keohane announced in March 2019 that he would be retiring from HOOPP. In his time here, Jim has left a lasting mark on this organization. He joined HOOPP in 1999, bringing with him more than 25 years of institutional investing experience with several national firms and considerable expertise in derivatives. As he progressed to the role of Chief Investment Officer, he led the Fund's move from conventional pension fund investment practices to a liability driven investing (LDI) strategy. This risk management strategy seeks to match Plan liabilities and assets to counter market volatility and ensure that HOOPP has enough money to pay our members' pensions.

Since being appointed CEO in 2011, Jim has been steadfast in his commitment to members, insisting that we see ourselves not only as an organization that manages investment assets, but as one whose driving purpose is to deliver on the pension promise. Jim has ingrained this mission into the dynamic organization that he has helped shape, inspiring HOOPP's staff along the way. Now, as we prepare for Jim's departure, this team is well-positioned to carry that focus forward. A leader with the highest integrity, Jim has laid a solid foundation that will serve HOOPP well as it continues to meet its mandate of providing financial security to members. On behalf of the entire Board, we congratulate Jim on an outstanding career, thank him for his lasting contribution to HOOPP, and wish him all the best for the next chapter of his life.

Following Jim's announcement, the Board formed a search committee to conduct the critical work of finding his successor. Given the importance of the role to our members and our organization, this work began right away and progressed throughout the year. We are pleased to have appointed Jeff Wendling as HOOPP's new President & CEO as of April 1, 2020, and we look forward to working with him to continue our mission of delivering on the pension promise. Jeff has been with HOOPP for more than 20 years and currently serves as Executive Vice President & Chief Investment Officer. With his deep knowledge of HOOPP, pension plans and the global investment landscape, he is the right person to lead HOOPP into the future.

To continue our track record of success, HOOPP must always be looking ahead. With that in mind, the Board was closely involved in the development of our 2019-2023 Strategic Plan and, as we complete the first year of the plan, we are also involved in carefully reviewing our progress.

Fund growth and investment innovation are two of the cornerstones of our strategy through the next four years. With HOOPP's assets expected to grow significantly, we must increase the scale of our strategies where possible and deepen our investment expertise. In 2019, our Board approved several new investment strategies, including programs for infrastructure and insurance-linked securities. Adding these areas to broaden the scope of our investments will help build on the LDI strategy that has served our Plan so well.

Our strategic plan also calls for protecting and strengthening HOOPP's value proposition. In this area, it is critical that HOOPP maintains high service levels, including the availability of online service, for all members and employers. In 2019, we continued to build on the implementation of our new pension administration system, which was launched and integrated in 2018. Among other improvements, this robust system has made it possible to provide members with personal service, as well as expanded self-serve online options. Even better, independent third-party polling shows that our member satisfaction levels have remained high through these significant changes.

Protecting our value proposition extends beyond our membership. It includes making sure that governments, employers and other stakeholders are aware of the value of Canada-model pensions like HOOPP. More broadly, it means demonstrating how important it is to make a secure retirement more affordable for all Canadians.

As our organization grows, we will also continue our efforts to attract and retain the best employees and foster an environment that puts people first. Embracing a culture of diversity and inclusion not only makes HOOPP a great place to work, it supports our mission to deliver on the pension promise. Simply put, we know that employees who are engaged want to do what's best for our members.

As HOOPP continues to evolve through new investment demands and global strategies, the expectations on trustees and their responsibilities have grown considerably. We appreciate their hard work and dedication. In 2019, we welcomed Ian Matheson (Ontario Hospital Association appointee) to the Board. Ian brings expertise in enterprise risk management. We would also like to acknowledge and thank R. Wayne Gladstone and Linda Haslam-Stroud, who left the Board. Wayne served on the Board for 11 years and made a significant contribution, chairing the Audit & Finance committee for the last 10 years and leading our enterprise risk management project. Linda served on the Board for 8 years. She chaired the Plan committee for the last three years and was instrumental in spearheading the significant benefit improvements that took effect in 2018.

In closing, we feel confident that following another strong year at HOOPP we are well positioned for the future. We would like to thank HOOPP management and staff. Day after day, their hard work and dedication make it possible to deliver on our pension promise.

Adrian Foster
CHAIR

Dan Anderson
VICE CHAIR

Management's Discussion & Analysis

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In addition to historical information, the Management's Discussion and Analysis (MD&A) contains forward-looking statements regarding management's objectives, outlook and expectations. By their very nature, such statements are subject to risks and uncertainties, which may cause actual results to differ from those anticipated. This MD&A should be read in conjunction with the Plan's financial statements.

2019 Financial Highlights

119%
FUNDED STATUS

$94.1 BILLION
NET ASSETS

$13.7 BILLION
NET INVESTMENT INCOME

17.14%
2019 RATE OF RETURN*

11.38%
10-YEAR ANNUALIZED RETURN*

381,081
MEMBERS

* Registered pension plan

Plan Overview and Governance

The Healthcare of Ontario Pension Plan (HOOPP or "the Plan") has been serving Ontario healthcare workers and their employers since it was first formed in 1960. Across the province, 594 employers participate in HOOPP and offer the Plan to their employees. HOOPP now has over 381,000 members.

In 1994, HOOPP was settled as a trust with a jointly governed Board of Trustees ("the Board") by its original sponsor, the Ontario Hospital Association (OHA), and by four unions ("the Settlor Unions"):

- Ontario Nurses' Association (ONA);
- Canadian Union of Public Employees (CUPE);
- Ontario Public Service Employees Union (OPSEU); and
- Service Employees International Union (SEIU).

The Plan is a contributory, defined benefit, multi-employer pension plan registered under the *Pension Benefits Act* (Ontario) and the *Income Tax Act* (Canada). The Plan is regulated under the *Pension Benefits Act* as a jointly sponsored pension plan.

Mission

HOOPP's governance is based on its mission to deliver on the pension promise. The Board and HOOPP's management administer the Plan and manage and invest the trust fund ("the Fund") with a focus on and dedication to meeting this mission in the best interests of HOOPP members. This shared focus and dedication are also consistent with the fiduciary duties owed to all Plan beneficiaries by HOOPP Trustees and staff.

Agreement & Declaration of Trust (ADT)

The foundation for the governance of the HOOPP Plan and Fund is the ADT; it is the trust document entered into by the OHA, Settlor Unions and initial Board members that, among other things, constitutes and empowers the Board.

The Board

The Board's composition and its Committee structure can be found on hoopp.com. The mandates of the Board and each Committee set out their respective responsibilities. HOOPP maintains processes and protocols to ensure the Board and its Committees have access to accurate, complete and timely information and documentation to enable them to make decisions and fulfill their responsibilities effectively and efficiently.

Delegations of Authority

Authority for the day-to-day administration of the Plan and management of the Fund is delegated by the Board to the Plan Manager, who holds the title of President & Chief Executive Officer (President & CEO). This delegation is reviewed and approved by the Board at least once each year. In turn, HOOPP's President & CEO makes delegations of authority to select designated employee roles within HOOPP for a variety of investment and operational purposes. These CEO delegations are also regularly reviewed and kept current and appropriate.

In addition, the roles, responsibilities and accountabilities of HOOPP's agents, advisors and other service providers are set out in HOOPP agreements with each party. The Board's key agents and advisors include the Plan actuary, auditors, custodian, independent Board legal counsel, investment advisors and compensation advisor.

Governance Review Processes

HOOPP's commitment to good governance involves a dedication to continuous improvement. This dedication is particularly important in relation to organizational change management. Good governance requires periodic reviews of an organization's structures, mandates, policies, practices and procedures to determine whether they should be updated or changed. The Board and management both conduct such periodic reviews to ensure HOOPP policies, practices and procedures are kept up to date and responsive to organizational changes and HOOPP's operating environment.

State of the Plan

At the end of 2019, the Plan reported a surplus for the 10th consecutive year, as measured on a net assets basis. These results were driven largely by positive investment returns in the years following the 2008 financial crisis.

The Plan's funded ratio, the key measure of the current financial health of the Plan, was at 128% on a net assets basis at the end of 2019, up 7% from 121% at the end of 2018. While a 30-basis-point decrease in the Plan's liability discount rate assumption increased HOOPP's liabilities, HOOPP's 17.14% fund return drove a net increase to the funded ratio.

On a smoothed assets basis[1], for regulatory filing purposes, the ratio of smoothed assets to HOOPP's pension liabilities is down 2% from the prior year at 119%. Asset smoothing gradually recognizes investment returns from the last few years and only partially recognizes the 2019 return of 17.14%, deferring the rest to future years. The lower 2019 fund return on this basis, combined with the liability increase caused by the change in the discount rate assumption, resulted in a 2% decline in the funded ratio on a smoothed assets basis.

The table below shows the funded status of the Plan for 2019 and 2018, shown on both a net assets basis and on a smoothed asset value basis. The Investments section includes a graph on page 17 illustrates the Plan's net and smoothed assets against its liabilities over time.

	2019	2018	Year-Over-Year Change
Funded Status			
Net Assets to Regulatory Pension Obligations	**128%**	121%	7%
Smoothed Asset Value to Regulatory Pension Obligations	**119%**	121%	-2%

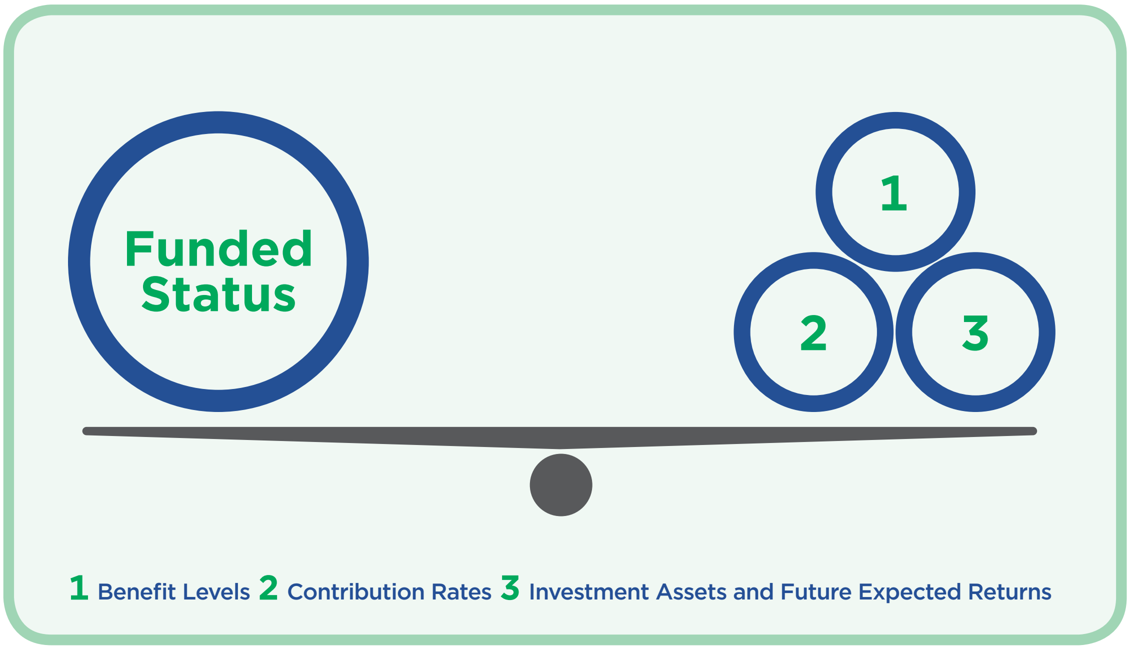
[1] *Actuarial technique that partially recognizes investment gains and losses over a defined length of time, rather than recognizing them as they occur.*

Pension Plan Funding Management

While the Plan remains in surplus, history has shown that the market environment can change rapidly as can the funded status of the Plan. Delivering on the pension promise is a complex challenge that involves prudently managing risks to avoid negative impacts on HOOPP's funded status.

In managing the Plan, there are three main components that management and the Board balance to meet the promise to members:

1. the level of pension benefits provided at retirement;
2. contribution rates from both Plan members and their employers; and
3. total investment assets and future expected investment returns and risk.



The objective in managing the first component is to provide a stable, predictable level of pension income to members in retirement. The Plan is designed to provide a level of benefits that, when combined with income from other sources, will help ensure members' retirement security.

Benefit levels are determined with thoughtful consideration of contribution rates, the second component. Contribution rate stability is one of the Board's objectives: HOOPP's contribution levels have remained the same since 2004 and the Board has committed to maintaining them at current levels until at least the end of 2021.

The third component is the combination of total available investment assets, current and future expected investment returns and investment risk. Investment returns play an essential role in HOOPP's mission to deliver on its pension promise, because approximately 80% of pension benefits paid are derived from investment returns. As such, HOOPP's approach to expected investment returns and risk is the component most actively managed by management and the Board.

Balancing these three components in a prudent and effective manner will ultimately ensure the long-term sustainability of the Plan.

Future Funding Sustainability

Funding risk poses the greatest threat to the Plan's sustainability and is the risk that the Plan constantly seeks to mitigate, primarily through the prudent management of investment risk. The Plan takes investment risk to earn returns sufficient to meet its pension obligations and to keep contribution rates stable, reasonable and affordable. The Board's risk tolerance is a key consideration in determining how much investment risk can be taken.

In general, the two broad categories of risks that contribute to total funding risk are (i) investment risk and (ii) demographic risk.

Investment Risk

Investment returns are the most significant source of funding for pension benefits paid to members and are a key determinant of how certain components of the funded status are managed (i.e., benefit levels and contribution rates). Positive and stable returns from Fund investment strategies are essential to the Plan's long-term sustainability. Investment returns that exceed expectations can provide flexibility in managing benefit levels and contribution rates, while returns below expectations may result in the need to make decisions to reduce benefits or increase contributions. In establishing an appropriate investment strategy, the Plan strives to generate sufficient returns to meet its pension obligations, while accepting a level of risk that does not jeopardize its ability to meet those obligations.

The three investment risks that have the greatest impact on the Plan are related to interest rates, inflation, and equities.

Interest rates affect the expected return on investments. Changes in interest rates can also have an impact on Plan liabilities, if they lead to a change in the discount rate assumption.

Unanticipated increases in inflation could lead to higher wages, which form the basis of the pension benefits paid to members. Moreover, because many members' accrued benefits include some cost-of-living enhancement, an increase in inflation will increase the Plan's pension obligations.

Lastly, investment returns may fall short of the levels necessary to pay future pension benefits if equities and other return seeking strategies fail to generate sufficient returns. In the case of extreme investment losses, the funded ratio may experience substantial declines, leading to adverse impacts on benefits and contributions.

Demographic Risk

Demographic risks to the Plan include the life expectancy of members (i.e., longevity risk), changing retirement trends (e.g., earlier retirements) and the natural aging of the Plan membership. Demographic risks are more difficult to anticipate and manage, because changes occur gradually over long periods of time. With demographic factors, both the longer-term trend and year-over-year changes must be thoughtfully considered. For large pension plans like HOOPP, these year-over-year changes are usually minor; however, consistent variances between actual experience and assumptions may indicate patterns where changes to existing assumptions may be warranted. An increase in members' life expectancy, for example, would increase the amount of pension benefits to be paid. For 2019, no changes were made to longevity assumptions.

Demographic trends are monitored diligently as part of the Board's annual review of all actuarial assumptions, with the support of the Plan's actuary. Additionally, detailed demographic experience studies are conducted from time to time to help ensure assumptions about future expectations remain accurate. In 2019, demographic studies were performed, resulting in minor changes to assumptions of the future incidence of retirement, termination and disability.

Plan Maturity

The proportion of active to retired members in a pension plan naturally changes over time, a process often referred to as plan maturity. This is an important factor to monitor because it can affect the Plan's ability to recover from a negative shock.

Newer plans have a greater proportion of working or active members relative to retired members. Among other factors, one key determinant of how quickly a plan matures is the rate at which new and younger members join the plan and replace newly retired members. Over longer periods of time, the average plan participant age can rise as can the number of retirees. With consistent membership growth, HOOPP continues to be a relatively young pension plan, and the average age of HOOPP's active participants is virtually unchanged from 20 years ago.

Plan maturity is measured by the ratio of active members to retirees. Below, the Plan's active to retiree ratio is shown to have declined from 3.7 in 1989 to 2.2 at the end of 2019, illustrating how the Plan is gradually maturing. This ratio is projected to decline further to 1.8 by 2029.

Ratio of Active Members to Retirees

	1989	2009	2019	2029 (projected)
Active to Retiree Ratio as of December 31	3.7	2.5	**2.2**	1.8

Another measure of the relative age of the Plan is net cash flow, which is the difference between contributions received and the pension benefits paid. More mature plans pay out much more in benefits to retirees than they receive in contributions from active members. This increases a plan's sensitivity to investment market declines, because the remaining asset base with which to recover from investment losses is further reduced. Moreover, any funding deficiencies are more difficult to address, because a smaller proportion of active members means that increases in contribution rates will have a diminished impact.

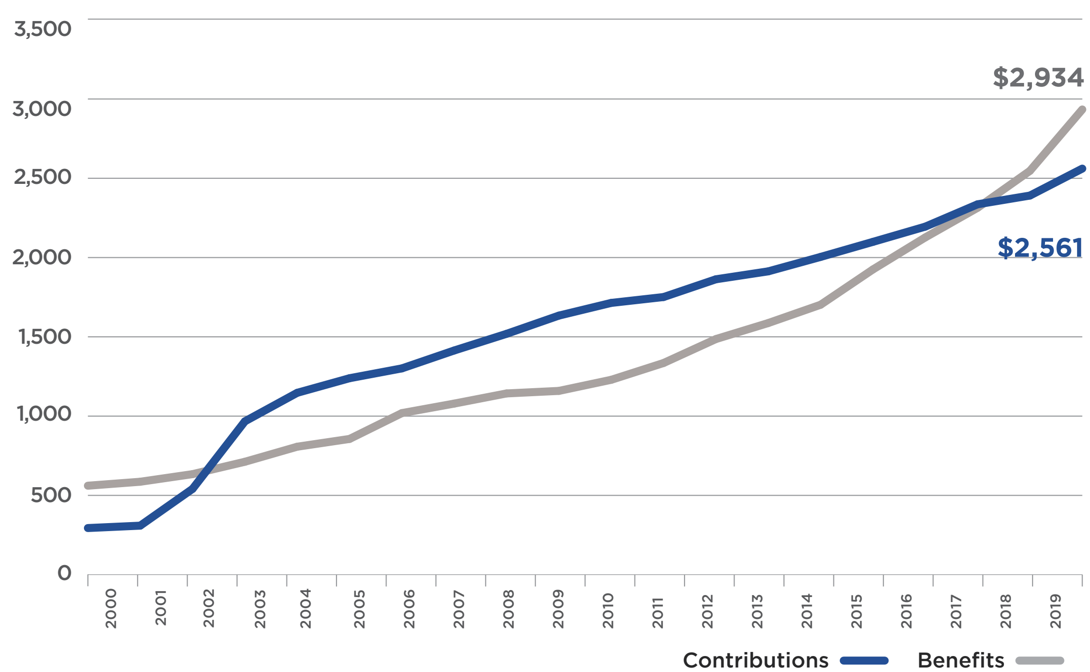
The chart below shows that HOOPP's net cash flow has decreased over the last 20 years. In 2018, total benefits paid exceeded total contributions into the Plan for the first time since 2002. (Note: The chart reflects a contribution rate reduction that was in place from 1999 to 2002 to help ensure compliance with legislation that limited the maximum surplus permitted for a registered pension plan.) Although this trend is likely to continue, it does not mean that HOOPP is unable to pay its promised benefits. As mentioned, it is estimated that contributions account for only approximately 20% of benefits. However, it is another aspect of plan maturity for which HOOPP must prepare, now and into the future.

Note that the net cash flow based on regular required member and employer contributions (i.e., excluding transfers from other plans and past service purchases) and regular monthly pensions paid to retirees and beneficiaries (i.e., excluding lump-sum transfers on termination or death and transfers to other plans) continues to be positive in 2019. The excluded amounts can fluctuate from year to year, and further details of these amounts can be found in notes 8 and 9 of the financial statements.

Contributions in the chart below represent total contributions received by the Plan and total benefits paid by the Plan (including these other aspects of Plan administration noted above). In 2019, HOOPP received $2,065 million in transferred assets from merged plans. Merger-related asset transfers have been excluded from the chart below because they are not regular contributions. Along with transferred assets, $1,964 million in transferred liabilities contributed to a growth in pension obligations, discussed in the Plan Liabilities section starting on page 29.

Contributions vs Benefits Paid

($ millions)

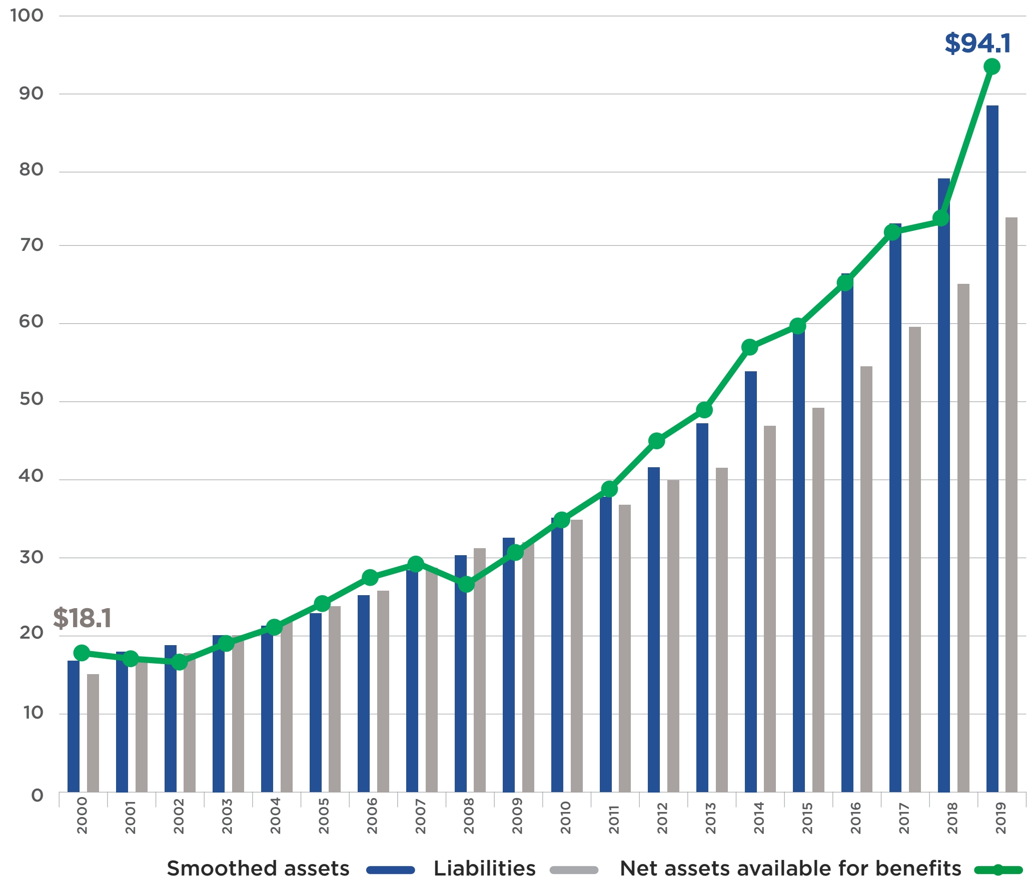


Investments

HOOPP's primary approach to managing funding risk differs from more traditional investment approaches, where success is primarily based on asset growth beating an asset-based benchmark. Instead, HOOPP employs a liability-driven investment (LDI) strategy, where the Plan's liabilities are closely considered when investing the Fund's assets. This approach focuses on ensuring that growth in the investment portfolio meets or exceeds the growth in the pension obligations owed to members. In the graph below, the Plan's net and smoothed assets have been charted against its pension liabilities over time.

20-Year History - Assets and Liablilities

($ billions)



LDI at HOOPP involves allocating the Fund's assets between the two broad portfolios: the Liability Hedge Portfolio and the Return Seeking Portfolio.

The Liability Hedge Portfolio is designed to offset the major risks that can increase the pension benefits paid to members; i.e., inflation and interest rates. It contains investment assets that perform in a manner similar to that of the Plan's liabilities.

The Return Seeking Portfolio is designed for controlled risk-taking in investment assets and strategies to generate incremental returns to the Fund to help ensure the Plan remains affordable, while providing diversification benefits for the entire portfolio.

Further detail on the performance and composition of these portfolios can be found later in this section.

2019 Results

The table below shows investment performance for 2019 and 2018, as well as the 10-year and 20-year performance of the Fund[1].

	2019	2018	10-Year	20-Year
Total Return	**17.14%**	2.17%	11.38%	8.55%
Benchmark*	**15.06%**	0.01%	8.85%	6.84%
Value-Added Return	**2.08%**	2.16%	2.53%	1.71 %

** Benchmarks are established to measure the performance of investment strategies relative to the risk taken. Some of these benchmarks are discussed below in the discussion of specific investment strategies.*

The following summarizes HOOPP's 2019 investment results:

- a net investment income of $13.7 billion (compared to $1.7 billion in 2018);
- an investment return of 17.14% (compared to 2.17% in 2018), of which 15.06% represented the benchmark return and 2.08% from active management strategies or value added; and
- a growth in net assets to $94.1 billion from $79.0 billion in 2018.

2019 Investment Environment

Capital markets delivered strong returns to investors in 2019, a welcome reversal from difficult conditions in the prior year. In stock markets, 2019 started with a sharp rally catalyzed by two factors. First, the U.S. Federal Reserve shifted to a more accommodative stance over 2019, lowering key short-term interest rates which offset some of the tightening implemented since 2015. Along with continued policy accommodation by other major global central banks, this fuelled a material lowering of monetary discount rates into the summer, lifting most assets, especially bonds and public equities. Secondly, investor sentiment had become very negative during the large stock market declines near the end of 2018. Combined, this set the stage for most major equity indices to post double-digit gains in 2019.

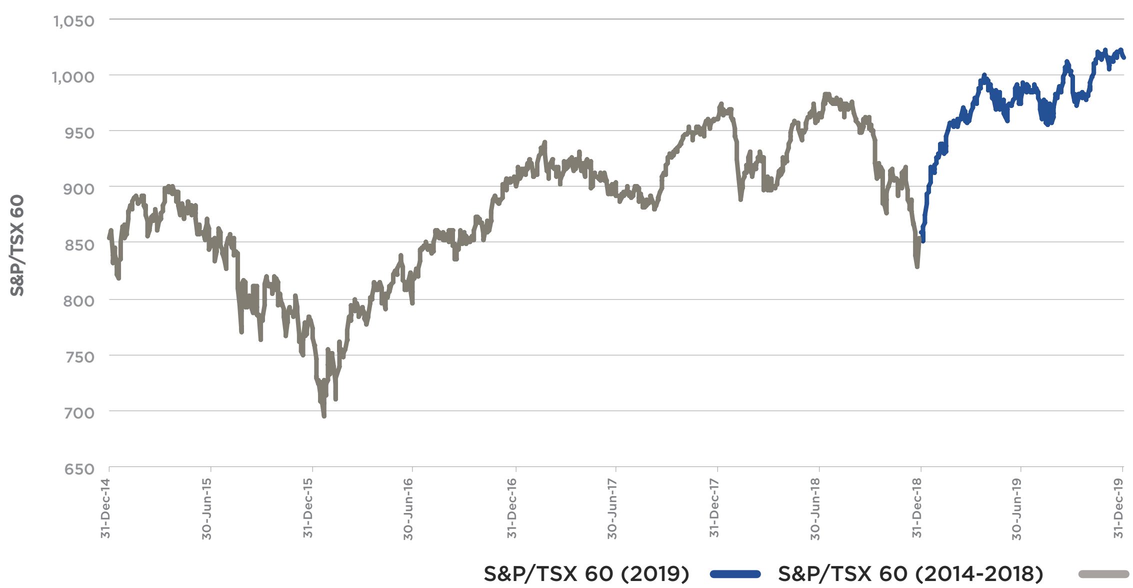
For the year, in Canada, the S&P/TSX 60 Index returned 21.9% on a total return basis (including dividends), while the U.S. S&P 500 total return was 31.5%[2]. The MSCI EAFE Total Return Index, which measures developed equity markets excluding the U.S. and Canada, delivered 22.8%[2]. The MSCI Emerging Markets Total Return Index returned 18.6%[2].

The Bank of Canada (BoC) was an outlier in terms of G7 central banks, keeping its policy rate stable at 1.75% throughout the year. Despite this policy decision, the 30-year Government of Canada bond yield was dragged lower by global markets and ended the year down 42 basis points at 1.76%, from 2.18% at the end of 2018. The 10-year Government of Canada bond yield fell 25 basis points to 1.70%, down from 1.95% at the end of 2018. In the U.S., the Federal Reserve's policy pivot - anchored by contained inflation expectations - led to a significant decrease in the 30-year Treasury bond yield. It ended the year down 62 basis points at 2.39%, from 3.01% at the end of 2018. The widely followed 10-year U.S. Treasury note yield decreased 76 basis points, ending the year at 1.92%, down from 2.68% at the end of 2018.

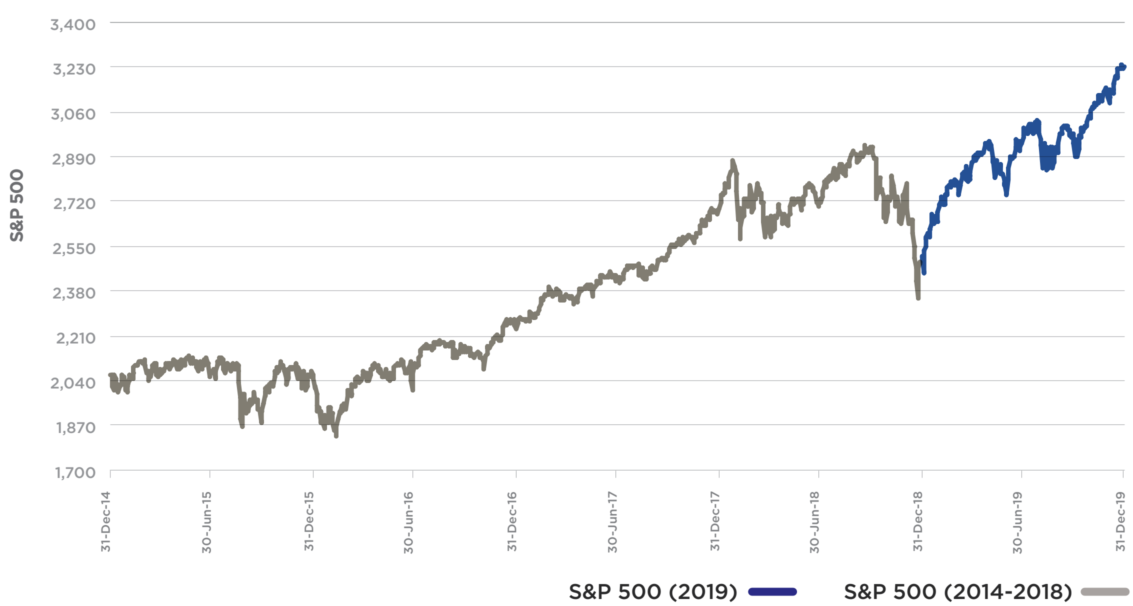
[1] Registered pension plan
[2] In U.S. dollars

Price levels of the Canadian S&P/TSX 60 and the U.S. S&P 500 indices are charted below. Precipitous declines seen in the fourth quarter of 2018 were followed by sharp rebounds and eventual record-highs in 2019.

S&P/TSX 60 (Canadian) 5-Year History

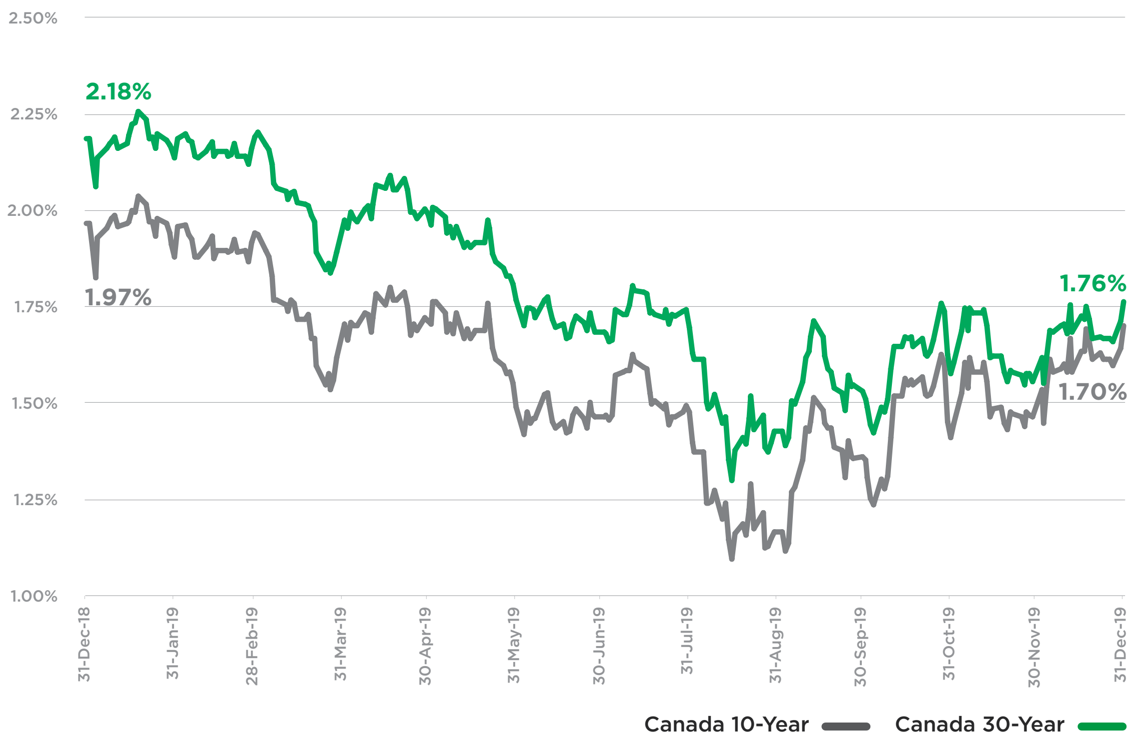


S&P 500 (U.S.) 5-Year History



The yields for 10-year and 30-year Government of Canada bonds are charted below for 2019. Rates fell for the first 8 months of the year, then rose somewhat towards the end of the year. The yield curve also flattened significantly in 2019, shown here in the narrowing gap between the two lines.

Canadian Interest Rates 1-Year (2019)



Looking over a longer period, the S&P 500 Total Return Index has posted gains of 13.5%[1] annually for the past 10 years, a strong rate of return by historical standards. Total returns for other equity markets have been more moderate, with the S&P/TSX 60 up 7.0%, MSCI EAFE up 6.1%[1] and Emerging Markets returning only 4.0%[1] annually over the same time. The more modest recent gains outside the U.S. may suggest better prospective returns from these markets in the years to come.

[1] *In U.S. dollars*

Major Drivers in the Change in Funded Position

The Liability Hedge Portfolio produced a return of $6,717 million in 2019, up from a return of $1,045 million in 2018, while the Return Seeking Portfolio posted a gain of $6,945 million in 2019, compared to $621 million in 2018. The Liability Hedge Portfolio generated approximately 49% of the investment income in 2019 compared to 63% in 2018, while the Return Seeking Portfolio provided 51% of the Fund's investment income in 2019 compared to 37% in 2018. Details of the performance of individual strategies within the Liability Hedge Portfolio and the Return Seeking Portfolio follow in subsequent sections.

The table below summarizes the change in HOOPP's funded status and provides details on changes in specific investment strategies and the Plan's liabilities.

($ millions)	2019	2018
Net investment income	**13,662**	1,666
Changes due to operations		
Contributions	**2,561**	2,391
Transfers from merged plans	**2,065**	-
Benefit payments	**(2,934)**	(2,547)
Operating expenses	**(271)**	(246)
Total changes due to operations	**1,421**	(402)
Total Change in Net Assets Available for Benefits	**15,083**	1,264
Change in Pension Obligation[1]	**(8,419)**	(5,526)
Net Change in Surplus on a Net Assets Basis	**6,664**	(4,262)
Funded Ratio on a Net Assets Basis	**128%**	121%
Change in Smoothing Adjustment[2]	**(6,524)**	4,555
Regulatory Funded Ratio	**119%**	121%

[1] The 2019 pension obligation increase includes $1,964 million in transferred liabilities from merged plans.
[2] Change in the average of the current net assets and the net assets for the four preceding years brought forward with interest at the asset valuation rate and adjusted for contributions, benefit payments and administrative expenses.

Net investment income is the largest driver in the change in net assets. The table below describes what investment strategies contributed to changes in net investment income.

($ millions)	Net Interest and Dividend Income	Net Gain (Loss)[1]	2019 Net Investment Income	2018 Net Investment Income
Liability Hedge Portfolio				
Short-Term	615	(484)	**131**	78
Nominal Bonds	1,594	3,168	**4,762**	342
Real Return Bonds	47	748	**795**	(264)
Real Estate	517	512	**1,029**	889
Total Liability Hedge Portfolio	2,773	3,944	**6,717**	1,045
Return Seeking Portfolio				
Public equities	314	5,454	**5,768**	(2,151)
Private equity	212	1,054	**1,266**	1,109
Infrastructure	(1)	(6)	**(7)**	-
Corporate credit	117	268	**385**	17
Long-term option strategy	254	(883)	**(629)**	1,187
Other return seeking strategies	123	39	**162**	459
Total Return Seeking Portfolio	1,019	5,926	**6,945**	621
Total	**3,792**	**9,870**	**13,662**	**1,666**

[1] Net of management fees and transaction costs.

Active Management and Relative Performance

The total Fund return of 17.14% exceeded the benchmark return of 15.06% by 2.08% or $1,652 million. This active management return, or value added, came from a variety of sources during the year within both the Liability Hedge Portfolio and Return Seeking Portfolio. The Liability Hedge Portfolio generated $516 million or 31% of the active management return, with a significant contribution coming from Short-Term, Nominal Bonds and Real Estate. The Return Seeking Portfolio generated the remaining 69%, a total of $1,136 million, with large contributions from private equity, credit and absolute return strategies.

Liability Hedge Portfolio Discussion

Short-Term

This portfolio provides general funding for investment strategies employed by the Fund. In 2019, the portfolio generated returns of $131 million, compared with $78 million in 2018.

The Short-Term Portfolio invests in highly rated liquid securities to maintain liquidity and enhance returns. Lower global rate expectations and the combined effect of three interest rate cuts by the U.S. Federal Reserve led to significantly lower three-month Canadian Dollar Offered Rate (CDOR) and interbank offered rate (IBOR) benchmark rates. Most of 2019's return was generated in the fourth quarter because marked-to-market spreads ended the year at particularly tight levels, which contributed to performance results. The portfolio is well-positioned to meet liquidity demands and to capitalize on market opportunities.

Nominal Bonds: Mid-Term and Long-Term Bonds

The U.S. Federal Reserve's turnaround in monetary policy – from a gradual tightening bias well into 2018 to a mid-cycle adjustment towards material easing throughout the summer of 2019 - contributed to a 36-basis-point decline in the average yield on the FTSE Russell All Government Universe Bond Index in 2019, falling from 2.44% to 2.08%. Aiding this decline was a general tightening in credit spreads, which meant that provincial and federal government-guaranteed agency bond yields fell more than Government of Canada bond yields over the course of the year.

The longer end of the bond market saw an even larger decline in rates as the Canadian yield curve flattened. The flatter curve was due in part to the BoC adopting a holding pattern (thus limiting declines in shorter maturity yields) and to LDI-related demand flows into long maturities in the face of limited long-duration supply. In addition, the longer end of the bond market participated more in the U.S. and global bond market rallies than the anchored-by-the-BoC front-end did. The average yield on the FTSE Russell All Government Long-Term Bond Index fell 54 basis points from 2.91% to 2.37%.

The Universe and Long-Term Bond mandates (comprising 18% and 23% of net assets, respectively) employ strategies that reflect the Fund's varying time horizon outlook on the direction of interest rates. HOOPP uses them to extend or shorten the duration of the portfolio and to over- or underweight certain maturity segments of the portfolio, depending on its outlook on the changing shape of the yield curve. Additionally, strategies may seek to capitalize on changing spread differentials between government fixed income products, such as over- or underweighting provincial and/or agency bonds and U.S. Treasury bonds versus Canadian federal bonds. Strategies may also seek to capitalize on changing inflation expectations by over- or underweighting inflation or real return bonds. Employing these strategies in the portfolio created over $177 million of value added during the year.

Real Return Bonds (RRB)

Real return bonds pay a rate of return equal to the rate of inflation plus a premium. For this reason, the real return bond portfolio provides a hedge against any inflation or interest rate-related increase in the Plan's pension liabilities. Real interest rates declined 36 basis points in Canada in 2019 on the back of lower nominal and real yields across global developed markets. The average yield on the FTSE Russell RRB Overall Index decreased from 0.79% to 0.43%. In the U.S., the real yield on 30-year Treasury Inflation-Protected Securities (TIPS) fell 63 basis points, from 1.21% to 0.58%.

Break-even inflation rates (BEIRs) are a market-based measure of expected inflation, the difference between the yields of a nominal bond and an inflation-linked bond (e.g., TIPS) of the same maturity. In terms of BEIRs, 30-year RRB break-evens fluctuated materially during the year but ended 2019 virtually unchanged from approximately 1.43% to 1.42%. This echoed U.S. inflation break-evens on 30-year TIPS, which closed unchanged year over year at 1.82% after also fluctuating materially during the year.

HOOPP added to its BEIR position during the latter half of the year at favourable levels, increasing its inflation-sensitive exposure within the asset class to approximately 5.5% of the Fund's net asset value.

Real Estate

In 2019, the HOOPP Real Estate portfolio produced a return of 8.35% on a currency hedged basis.

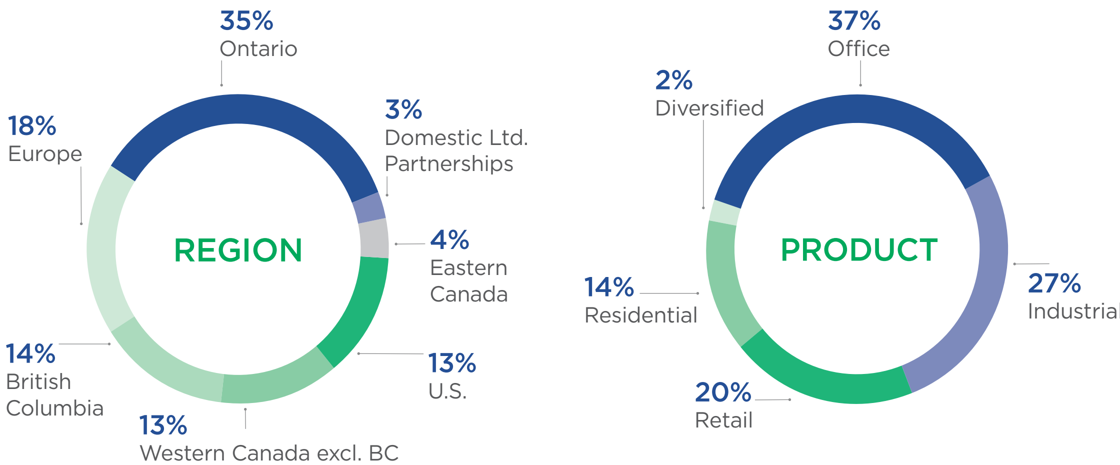
At year end, the portfolio was valued at $14.6 billion on a gross market value basis versus $14.3 billion at the end of 2018. Transaction activity during the year included approximately $877 million in new investments or investment commitments, offset by $680 million in property sales.

Recent activities position the Real Estate portfolio well for future positive returns, including:

- the continued growth of the residential property portfolio;
- the continued growth of the Canadian industrial portfolio, with 2.2 million square feet of industrial development underway;
- the sale of several non-core properties;
- substantial leasing of major North American office developments with our four key developments now over 60% preleased; and
- smoothing the portfolio's debt maturity profile and reducing the average interest rate by capitalizing on favourable credit markets by refinancing/renewing $400 million of debt.

The charts below illustrate the global diversification and property type mix of HOOPP's Real Estate Portfolio.

Real Estate Asset Mix by Region and Product



Return Seeking Portfolio Discussion

Public Equities

Most global stock markets posted strong gains by historical standards in 2019 following weak results in the previous year. The MSCI All Country World Index (ACWI) price return of 24.1%[1] was the third-highest of the last 20 years, and the S&P 500 return was the second-highest of the last 20 years. The U.S. equity market continued to beat most other markets, but strong gains were widespread with returns of about 20% from the broad European and Japanese benchmark indices. Most equity markets displayed a similar progression through the year.

One major catalyst behind 2019's stock market strength was a change towards easier central bank policies, especially from the U.S. Federal Reserve. In December 2018, the U.S. Federal Reserve raised short-term rates for the seventh time in two years; this was followed by a selloff in equity markets and a consequent increase in negative investor sentiment. The U.S. Federal Reserve pivoted to a more accommodative stance in the first quarter, signalling a lower likelihood of further interest rate increases, spurring strong gains in the first quarter. These gains were followed by consolidation in the middle of the year because economic data related to manufacturing weakened and trade tensions between the U.S. and China rose, and then strong gains in the fourth quarter.

HOOPP used market weakness in the fourth quarter of 2018 and first quarter of 2019 to increase its exposure to the U.S. equity market which helped fund returns as stocks rallied in 2019. Despite that tactical decision, equity market risks may rise somewhat, especially for the U.S. equity market, due to a historically high rate of return from the market lows in 2009, and due to the impact that very low interest rates have had on valuations for most risky assets including public equity markets.

[1] *In U.S. dollars*

Canadian Equities

The materials sector, one of the larger groups in the Canadian stock market, delivered strong returns in 2019. This was helped by particularly good gains from gold miners because the price of gold responded positively to more accommodative policies from many global central banks. In four of the five prior years, the energy sector, another large sector in Canada, had lagged the overall index, but in 2019 the price returns of Canadian energy stocks were comparable to the broader market index.

HOOPP's Canadian equity portfolios returned 21.4% in 2019, compared to a 2018 return of -6.6%.

U.S. Equities

Most sectors of the U.S. stock market posted double-digit gains. In contrast to its Canadian counterpart, the Energy sector was the weakest in the U.S. stock market. Technology was the strongest sector with a price return of 48%[1]. Large-cap stocks posted somewhat stronger returns than smaller or mid-cap stocks.

HOOPP's U.S. equity portfolios posted a return of 30.3%[1] in 2019, versus -5.2%[1] in 2018.

International Equities

Most developed markets delivered strong price gains, with the broad European equity index up 21%[1] and the Japanese stock markets up 19%[1]. The Spanish and Hong Kong markets were relative laggards, with price returns of 8%[1] and 10%[1] respectively. Emerging markets, while still strong, lagged developed markets, with price returns around 15%[1] on average, though Chinese stock market gains were higher.

The 2019 return for HOOPP's International Equity Portfolio was 21.7%, compared to -14.2% for 2018.

Private Equity

HOOPP Capital Partners (HCP) selectively invests globally in: (i) privately-held businesses that offer the potential for equity returns, (ii) private equity funds and (iii) other private capital opportunities that may offer near equity returns, including structured equity and private debt investments. Private capital can provide an opportunity for HOOPP to earn attractive risk-adjusted returns due to the nature of the investment process involving detailed due diligence of the underlying companies, better alignment of management teams to investment outcomes and the ability to create securities with features not available in the public markets, including protections mitigating downside risk and providing for asset management rights in certain circumstances.

At the end of 2019, HCP had $9.6 billion invested, with a further $6.6 billion committed to private investments. The portfolio generated a currency-hedged return of 14.0% for the year compared to 13.7% in 2018 (the return on an unhedged basis was 9.3% in 2019 compared to 20.8% in 2018), exceeding its benchmark by $738 million. HCP's invested capital has increased by over $7 billion since 2012 and now includes a larger proportion of direct and co-investments as well as credit and structured investments with lower risk/return attributes.

The fair market value of the invested portfolio represents 10.0% of the total Fund.

[1] *In U.S. dollars*

Infrastructure

HOOPP Infrastructure (HI) was recently created to evolve and execute HOOPP's infrastructure investing strategy. HI will invest globally in: (i) privately-held infrastructure assets that offer the potential for strong risk-adjusted returns, (ii) a small number of private infrastructure funds and (iii) other opportunities in infrastructure such as preferred equity and private debt. HI is executing its mandate through a combination of funds, co-investments and direct deals.

At the end of 2019, HI had $909 million of capital invested in or committed to private infrastructure investment funds.

Corporate Credit

The Fund gains exposure to corporate credit through a combination of corporate bonds, structured products and derivatives. In 2019, credit spreads, like all other risk assets, experienced a strong rally because of rate cuts by the U.S. Federal Reserve and increased liquidity provided by other major central banks.

The Barclays Aggregate U.S. Credit Index Options Adjusted Spread for corporate bonds rallied from 143 basis points at the start of the year to 93 basis points at year end. The five-year maturity investment-grade credit derivative index (CDX IG) rallied from 88 basis points at the start of the year to 45 basis points at year end.

Credit portfolios outperformed their benchmarks and met their objective for the year. Credit portfolios were positioned defensively for the second half of the year, led by hedges in the general credit portfolio. All other risk-taking portfolios had strong outperformance for 2019.

Overall, the credit portfolio had a benchmark return of $279 million and a value-add of $106 million, for a net total return of $385 million for the asset class.

Long-Term Option Strategy

The Long-Term Option Strategy combines equity index exposure with equity index options and was positioned defensively during 2019 to reduce HOOPP's aggregate equity exposure. This portfolio had a loss of $629 million during the year, compared to a gain of $1.2 billion in 2018.

Other Return Seeking Strategies

Asset Allocation Strategies

HOOPP engages in the strategic reweighting of major asset class risks (equities, fixed income and corporate credit) to manage the risk and return of the Fund. In 2019, this program generated a loss of $158 million because it was positioned defensively to reduce overall equity risk during the year, compared to a gain of $285 million in 2018.

Absolute Return Strategies

Absolute return strategies are designed to earn positive returns with minimal sensitivities to interest rates, credit or equities. These strategies contributed $233 million in investment returns in 2019, the same as in 2018.

Responsible Investing

Responsible investing means investing in a way that leverages insights from environmental, social and governance (ESG) factors to enhance investment performance. ESG factors can take the form of risks or opportunities and can be relevant to an individual investment or the broader investment strategy throughout the investment life cycle.

While HOOPP has invested this way for years, responsible investing is a growing area of focus. In 2019, the Plan established a dedicated Responsible Investing function that will advance and further refine its responsible investing approach and activities.

When HOOPP evaluates new investment opportunities, its investment team integrates ESG factors in its analysis and decision-making. This integration helps broaden the investment team's view of the risks and opportunities inherent in each investment. Once an investment is made, the investment team continues its responsible investment approach through stewardship activities that include proxy voting, engagements with companies and asset management activities.

Proxy voting and engagement

As an investor in public companies, HOOPP has the right to vote on certain company matters, such as the election of directors. As an active steward, HOOPP designed its own custom Proxy Voting Guidelines to promote long-term shareholder value, which helps generate the investment returns needed to pay pensions. These Proxy Voting Guidelines are available on hoopp.com.

Beyond voting proxies, HOOPP's investment team also meets with companies to encourage positive change on ESG matters. Companies are engaged on a one-to-one basis, as well as collaboratively with other like-minded investors. The Plan also participates in organizations such as the Canadian Coalition for Good Governance (CCGG), which promotes strong governance practices in Canadian companies, and the 30% Club Canadian Investor Group, which promotes greater diversity on company boards and management teams. HOOPP typically engages with public companies, but may also engage private companies that may pursue initial public offerings.

ESG considerations in asset management

ESG considerations are embedded into asset management activities for private investments. For example, the Plan's Real Estate group has developed an industry-leading sustainability program that is a core part of its portfolio management activities. The Real Estate team works closely with its partners to advance sustainability across the Real Estate portfolio. The Real Estate sustainability program has also received multiple awards, including the 2019 Investment and Pensions Europe (IPE) Real Estate Sustainability Strategy Award.

Climate change

Our changing climate may alter risks and opportunities facing the Plan through both physical impacts and social, technological, economic, legal and policy responses to climate change. Managing climate-related risks to the investment portfolio is part of the Plan's risk-based approach to investing. For example, HOOPP conducted a climate risk assessment of its Real Estate portfolio and, after identifying flooding as the top risk, shared best practices for flood resilience with its property managers. The Plan will continue to deepen its focus on climate change as investors, governments, companies and society work to address the climate crisis.

The ESG landscape continues to change and new risks and opportunities emerge. Responsible investing will continue to be an integral part of how the Plan invests and HOOPP is excited to evolve its approach in a way that delivers value to its members.

Risk Management and Internal Controls

HOOPP must manage several risks well to achieve its objectives. HOOPP's paramount risk is funding risk, which is the risk that future returns and asset growth will be insufficient to fund Plan liabilities. A failure to manage funding risk effectively could prevent HOOPP from paying its promised pension benefits to its beneficiaries. This risk, therefore, gets the most time and attention from the HOOPP investment management team and the Board.

HOOPP is a large and growing financial institution and as such, it faces many other risks in addition to funding risk. All HOOPP risks are identified and managed within the firm-wide Enterprise Risk Management (ERM) policy and procedures. Within this framework, HOOPP sets out the roles and responsibilities for risk identification, mitigation, reporting and oversight. HOOPP management regularly assesses entity-level risks. The results of these assessments are shared with all Board members.

To manage the risks affecting the Plan and the Fund, HOOPP maintains governance and risk management programs and processes, which include:

- programs and processes for managing the recruitment, retention, performance and development of HOOPP staff, its most critical resource;
- a Code of Business Conduct, Respect in the Workplace (Harassment and Violence) Policy and supporting policies that emphasize:
  - HOOPP's commitment to members and other beneficiaries,
  - the roles and responsibilities of Board members, staff and HOOPP's agents and advisors in helping to fulfill the commitment, and
  - the responsibilities and core values expected of HOOPP staff in the workplace;
- an efficient and effective Board and Committee reporting and decision-making process;
- robust stress testing tools custom-designed to measure the impact of potential future economic scenarios on both Fund assets and Plan liabilities to best manage the risks relating to investment assets, and to pension obligations payable in the future, as well as the investment strategies employed to achieve the required risk-adjusted returns;
- an internal audit team that provides independent assurance to management, the Audit & Finance Committee and the Board relating to the effectiveness of operational controls;
- a Privacy Office that works with other responsible HOOPP staff members to develop and maintain appropriate policies and procedures to protect the personal information of members and HOOPP staff;
- data security and ongoing maintenance of records and data retention schedules in accordance with both Board and organization-level policies; and
- disaster recovery and business continuity programs that are mature and tested to help maintain and, where needed, improve the resiliency of HOOPP's core operations and processes in the event of disruption.

Internal Controls over Financial Reporting

As part of its commitment to good governance, HOOPP follows the standards outlined in National Instrument 52-109 published by the Canadian Securities Administrators for reporting issuers, though these rules and policies are not binding on HOOPP.

HOOPP's President & CEO and its Senior Vice President, Finance & Chief Financial Officer are responsible for ensuring that procedures are in place to maintain appropriate internal controls over financial reporting (ICFR) and financial statement note disclosures. These controls are designed to provide reasonable assurance regarding the reliability of financial reporting, including the preparation of financial statements for external purposes in accordance with Canadian generally accepted accounting principles (GAAP).

During the past year, HOOPP leveraged the framework and criteria set out in the Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) to conduct a comprehensive evaluation of its internal controls over financial reporting.

The results of HOOPP's evaluation of the effectiveness of its ICFR confirm they are properly designed and operating effectively to provide reasonable assurance regarding the reliability of financial reporting as of December 31, 2019.

Plan Liabilities

The estimation of the Plan's pension liabilities (i.e., pension obligation) is based on current and future benefit payments and relies on the establishment of several economic and demographic assumptions. Economic assumptions include inflation expectations, the future growth rate of employee wages and the future expected rate of return of HOOPP's investment strategies. Key demographic assumptions include the retirement age of HOOPP's members and their life expectancy.

In estimating the Plan's total pension obligation, all assumptions are made based on the principle that the Plan will operate for the foreseeable future as a going concern. Using these and other assumptions, together with actual member data, the benefits owed to Plan members are projected for each future year, out over almost 100 years.

The valuation of these future pension benefits depends on the assumed future expected return of HOOPP's investment portfolio, also known as the discount rate assumption. To calculate the total value of these future pension benefits today, these estimated future payments are discounted by the expected return of HOOPP's investment portfolio. This value is referred to as the Plan's liabilities or pension obligation.

Actual future economic and demographic outcomes will almost certainly differ from the assumptions made. The difference between the actual outcomes and the assumptions made is a source of funding risk, as discussed in the Future Funding Sustainability section under the State of the Plan.

The total estimated pension obligation as of December 31, 2019 and 2018 is presented below. The 2019 pension obligation includes $1,964 million in transferred liabilities from merged plans.

	2019	2018	% Change
($ millions)			
Pension Obligation	73,547	65,128	12.9%

The Plan's pension liabilities change for a number of reasons.

First, as members contribute to the Plan throughout the year, they "earn" future benefits, also called "benefit accrual." Additionally, the value of previously earned benefits grows at the expected return of the Fund. Offsetting this growth are the pension benefits that were paid out during the year, which reduces the total pension obligation.

Secondly, changes in economic or demographic assumptions, such as changes in the future expected inflation rate, estimated life expectancy or retirement age, will have an impact on the pension obligation calculation. In 2019, several changes were made to these assumptions that collectively resulted in a $802 million decrease in the Plan's pension obligation.

Of all the assumptions underlying the estimation of the Plan's pension liabilities, one of the most important is the Fund's long-term expected return (i.e., the discount rate assumption). The expected return is significantly affected by interest rates. Expected returns fall and rise with interest rates, because expected returns are composed of a theoretical risk-free interest rate and risk premiums (i.e., incremental returns in addition to the risk-free rate). A decrease (increase) in the discount rate assumption causes a corresponding increase (decrease) in the pension liability value. This volatility in the discount rate assumption and the sensitivity of the Plan's pension obligations to changes in the discount rate assumption were a primary reason for HOOPP's adoption of a liability-driven investment approach.

At the end of 2019, the discount rate assumption was decreased to 5.00% from 5.30% at the end of 2018, in part due to a decline in long-term interest rates. This 30-basis-point decrease in the discount rate assumption resulted in a $3,644 million increase in the estimated pension obligation.

The table below shows the high-level change in the Plan's pension obligation from the end of 2018 to the end of 2019.

($ millions)	
Pension Obligation at December 31, 2018	**65,128**
Increases in benefits due to members[1]	5,577
Changes in assumptions	(802)
Change in discount rate assumption (expected return)	3,644
Pension Obligation at December 31, 2019	**73,547**

[1] *Includes $1,964 million in pension obligations from merged plans*

Key Economic Assumptions

The sum of the inflation assumption and the real discount rate assumption is the discount rate assumption.

Assumption	2019	2018
Inflation Rate	**2.00%**	2.00%
Real Discount Rate	**3.00%**	3.30%
Discount Rate	**5.00%**	5.30%

Given the nature of assumptions, it is important to be aware of the sensitivity of financial results to changes in assumptions. A 1% increase (or decrease) in the discount rate assumption may be considered substantial, but as indicated below, even with this level of change to the assumption, HOOPP would be fully funded at the end of 2019.

The table below highlights the sensitivity of the pension obligation to changes in the discount rate assumption

Change in Assumption	Discount Rate Assumption	Pension Obligation ($ millions)	Change in Pension Obligation (as a %)
+1.00%	6.00%	63,972	-13%
	5.00%	**73,547**	
-1.00%	4.00%	85,709	17%

Operating Expenses

HOOPP continued to invest in its people and technology to grow and support the Fund and service its members and employers in 2019. HOOPP's 2019 operating expenses were $271 million and included a planned increase of $25 million over 2018 operating expenses, most of which related to staffing to support organizational growth and advancements in technology. HOOPP's operating expenses represented 0.29% of net assets, compared to 0.31% in 2018.

The table below shows 2019 and 2018 operating expenses. Further details can be found in note 10 in the notes to the financial statements.

($ millions)	2019	2018
Investment Expenses	**172**	146
Plan Administration Expenses	**99**	100
Total	**271**	246
Total Expenses as % of Net Assets	**0.29%**	0.31%

Member and Employer Services

TOTAL MEMBERS
381,081

Plan Demographics

238,537 Active members

109,244 Retired members

33,300 Deferred members

67% of active members work full-time

33% of active members work part-time

Average New Annual Pension in 2019

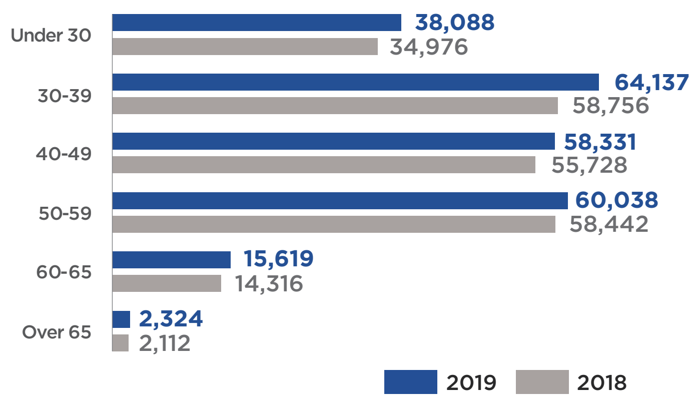
$28,000

HOOPP Employers

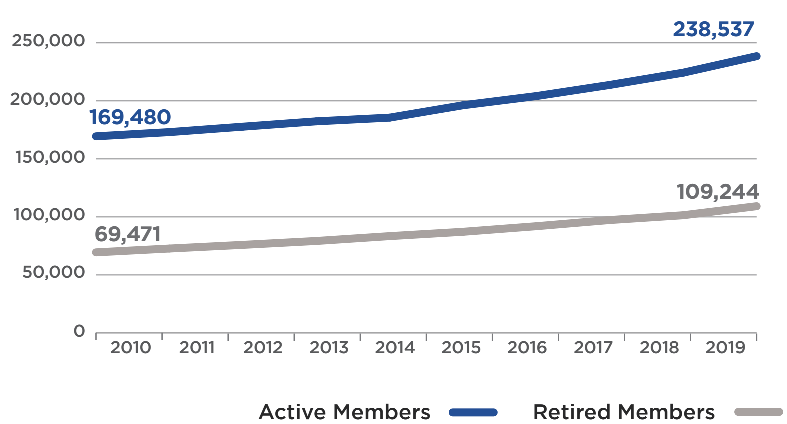
594 TOTAL HOOPP EMPLOYERS

158	Small Healthcare Organizations
141	Hospitals
83	Service Providers
68	Foundations
65	Community Health Centres
79	Family Health Teams

Active Members



Active and Retired Member Growth



2019 Highlights

In 2019, HOOPP experienced growth in many areas, including technology, staff, and member and employer services. This growth was supported by strategic initiatives that were implemented to ensure that the Plan can continue to provide the highest level of service expected by members and employers.

HOOPP completed mergers with five healthcare pension plans, broadening the Plan's reach in the sector and welcoming approximately 10,000 new members to the Plan. (A sixth healthcare organization informed HOOPP it would not be able to complete its planned merger.) It is worth noting that this increase accounted for less than half of the Plan's overall membership growth for the year. Approximately 23,800 net new members were added to the Plan in 2019 – most were active members working at the province's largest hospitals. HOOPP also added 20 net new employers, for a total of 594 Ontario employers that now offer the Plan to their staff. There has been significant growth since 2010. As of the end of 2019, total membership stood at 381,081 members – an increase of 48% over the last decade. The number of HOOPP employers has grown by 71% in that time.

This growth benefits the Plan and members in several ways. Adding new employers to the Plan helps provide members with greater flexibility to build their pension at different healthcare organizations during their working years. Adding active members helps replace newly retired members, effectively helping to slow Plan maturity. The average age of all active members is 43 years old, which has remained the same for almost a decade. A pension plan with a younger population has more cash flow from contributions and, as a result, more flexibility in its investment approach and less sensitivity to declines in the financial markets. In short, this growth helps ensure that HOOPP can continue to deliver on its pension promise.

HOOPP's financial strength, especially in relation to the Fund's surplus, has benefited members in other tangible ways. For example, the Board has been able to keep contribution rates, which have been in place since 2004, unchanged until at least the end of 2021. In addition, in 2019 the Board approved 100% inflation protection to retired members and deferred members, as it has done for many years.

Serving HOOPP members

The Plan has been able to successfully accommodate continued growth because it was anticipated and planned. This includes steps that were taken to modernize the pension administration system. This undertaking has helped HOOPP become more cost efficient, allowing the Plan to continue to provide improved service at a lower cost.

HOOPP strives to ensure that communication with members is clear, consistent and easy to understand. For many members, the starting point is their pension information on HOOPP Connect, the Plan's secure online site for members. Making this information easily accessible helps support invaluable one-on-one interactions.

Modernizing the pension administration system has been a catalyst for building on this personal service. It has facilitated an enhanced approach and ability to guide and inform members who are going through a life event such as retirement or a change in employment. Dedicated service specialists now guide members with education and information to help them make decisions about their pension. Though HOOPP has been moving in this direction for several years, 2019 marked an important milestone: the formal implementation of a stronger service model that reinforces accountability while building personal relationships with members.

Member satisfaction levels, which have held steady for the past several years, saw a marked uptick in 2019. Through a quarterly survey conducted by an independent third party, a record number of Plan members indicated that they are satisfied with the accuracy, consistency and timeliness of the service they received from HOOPP.

In 2019, members' online experience was enhanced by the addition of features to HOOPP Connect. These enhancements made it even easier for members to access their pension information from their cellphones and other mobile devices. HOOPP will continue to enhance the system in the coming years as the Plan keeps abreast of changing technology and the expectations of members.

HOOPP also uses member feedback to continue enhancing print and digital communications. Throughout 2019, improvements were made to HOOPP's website, including an enhanced Member News section that separates member-focused news from corporate press releases and industry news. Members and employers were also able to stay up to date through regular newsletters, webcasts and social media. Finally, HOOPP continued to host information sessions, onsite employer meetings, and presentations across the province to engage with members and provide them with in-person opportunities to ask questions and learn more about their pension. Through member information events, HOOPP met with over 18,000 people in their communities.

Engaging with HOOPP employers

Employers play an integral role in the pension administration process. Their feedback has helped in making ongoing improvements to both the system and processes. For example, in early 2019, the member data collection (MDC) process was updated with several features designed to create a more efficient and streamlined process. HOOPP also enhanced the online Learning Centre and increased the frequency of webcasts to facilitate access to key resources that assist with administration.

The result was a marked improvement to the 2018 MDC process, which enabled HOOPP to provide members with updated benefit information on HOOPP Connect earlier than ever before. These advances were made possible with the cooperation and excellent work of HOOPP employers.

Following the improvements related to the recalibration of the pension administration system, HOOPP also saw a significant improvement in satisfaction levels among employers' administrative staff. Senior leaders at HOOPP employers continue to report high levels of satisfaction.

Financial Statements & Notes to Financial Statements

Management's Responsibility for Financial Reporting

The financial statements of the Healthcare of Ontario Pension Plan (the Plan) and the accompanying notes, which are an integral part of the financial statements, have been prepared by management and approved by the Board of Trustees (the Board).

Management is responsible for the integrity and fairness of the information presented, including amounts that are based on best estimates and judgments. These financial statements have been prepared in accordance with the Canadian accounting standards for pension plans and are compliant with the requirements of Part IV of the CPA Canada Handbook – Accounting, specifically Section 4600, *Pension Plans,* and the relevant sections of the Canadian accounting standards for private enterprises (ASPE) in Part II of the CPA Canada Handbook - Accounting. The financial statements also comply with the financial reporting requirements of the *Pension Benefits Act* (Ontario) and *Regulations* (PBA). The significant accounting policies are disclosed in note 1 to the financial statements and the financial information presented throughout the annual report is consistent with that found in the financial statements.

Systems of internal control and supporting procedures have been established and maintained to provide assurance that transactions are authorized, assets safeguarded and proper records maintained. These controls include an organizational structure that provides a well-defined division of responsibilities, a corporate code of conduct, accountability for performance and the timely communication of policies and guidelines throughout the organization.

Ultimate responsibility for the financial statements rests with the members of the Board. The Audit & Finance Committee, consisting of four members who are not officers or employees of the Plan, reviews the financial statements and recommends them to the Board for approval. The Audit & Finance Committee also assists the Board in its responsibilities by reviewing recommendations from the external and internal auditors, and management's action plans to respond to recommendations for improvements in internal control over financial reporting arising from their audits. The Audit & Finance Committee meets regularly with management and the external and internal auditors to review the scope and timing of their audits, findings, and recommendations for improvement, and to satisfy itself that it has appropriately discharged its responsibilities.

The Plan's external auditor, PricewaterhouseCoopers LLP, was appointed by the Board and is directly responsible to the Audit & Finance Committee. The Plan's external auditor has conducted an independent examination of the financial statements in accordance with Canadian generally accepted auditing standards, performing such tests and procedures as they consider necessary to express an opinion in their Independent Auditor's Report. The external auditor has full and unrestricted access to management and the Audit & Finance Committee to discuss their audit approach and any findings arising from their audits of the financial statements that relate to the integrity of the Plan's financial reporting and the adequacy of the systems of internal control.

Jim Keohane
President &
Chief Executive
Officer

Barbara Thomson
Senior Vice President,
Finance & Chief Financial
Officer

March 11, 2020

Actuaries' Opinion

Mercer (Canada) Limited (Mercer) was retained by the Board of Trustees of the Healthcare of Ontario Pension Plan (the Board) to perform an actuarial valuation of the Plan as at December 31, 2019. The purpose of this valuation is to determine pension obligations of the Plan as at December 31, 2019, for inclusion in the Plan's financial statements in accordance with Section 4600, *Pension Plans*, of the Chartered Professional Accountants of Canada (CPA Canada) Handbook – Accounting.

We have undertaken such a valuation and provided the Board with our related report. As this valuation was undertaken for purposes of the Plan's financial statements under the CPA Canada Handbook Section 4600, *Pension Plans*, 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 $73,547 million in respect of service accrued to December 31, 2019 and a smoothed value of net assets of $87,181 million determined at the same date.

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

- members' demographic data provided by HOOPP management as at October 1, 2019 and members' pay data provided as at December 31, 2018, all of which was projected to December 31, 2019, using management's estimates of experience for the intervening periods;
- the benefits specified by the terms of the Plan including an estimate of the 2019 CPI adjustment which will become effective April 1, 2020 in respect of all pensioners' and deferred vested members' benefits; and
- 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 Plan management in consultation with Mercer and have been adopted by Plan management and approved by the Board

Changes have been made to the actuarial assumptions affecting the pension obligations since the previous valuation for the purpose of the Plan's financial statements at December 31, 2019, as described in the notes to the financial statements.

The smoothed value of the Plan's net assets was based on financial information provided by HOOPP management and the asset smoothing method adopted by Plan management which smoothes out short-term market fluctuations.

We have reviewed the data used for the valuation and have performed tests of reasonableness and consistency.

In our opinion,

- *the membership data are sufficient and reliable for the purpose of the valuation;*
- *the assumptions adopted are appropriate for the purpose of the valuation;*
- *the methods employed in the valuation are appropriate for the purpose of the valuation; and*
- *this valuation has been completed in accordance with our understanding of the requirements of the Chartered Professional Accountants of Canada (CPA Canada) Handbook Section 4600, Pension Plans.*

Nonetheless, differences between future experience and our assumptions about such future events will result in gains or losses which will be revealed in future valuations.

Our valuation was prepared and our opinions given in accordance with accepted actuarial practice in Canada.

Mercer (Canada) Limited

Scott Clausen

Scott Clausen
Fellow, Canadian Institute of Actuaries

Andrew Whale
Fellow, Canadian Institute of Actuaries

March 11, 2020

Independent Auditor's Report

To the Board of Trustees of
Healthcare of Ontario Pension Plan

Our opinion

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of Healthcare of Ontario Pension Plan (HOOPP) as at December 31, 2019 and 2018, and the changes in 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

HOOPP's financial statements comprise:

- the statements of financial position as at December 31, 2019 and 2018;
- the statements of changes in net assets available for benefits for the years then ended;
- the statements of changes in pension obligations for the years then ended; and
- the notes to the financial statements, which include a summary of significant accounting policies.

Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of our report.

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

Independence

We are independent of HOOPP 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, in the annual report.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

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 HOOPP'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 HOOPP or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing HOOPP'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 HOOPP'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 HOOPP'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 HOOPP 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 11, 2020

Statements of Financial Position

As at December 31		2019		2018
($ millions)				
Assets				
Investment assets (note 2)	**$**	**180,438**	$	172,487
Contributions receivable				
Employers		**109**		97
Members		**87**		76
Other assets (note 7)		**192**		196
		180,826		172,856
Liabilities				
Investment liabilities (note 2)		**86,581**		93,701
Other liabilities		**143**		136
		86,724		93,837
Net assets available for benefits		**94,102**		79,019
Pension obligations (note 11)		**73,547**		65,128
Surplus (note 11)	**$**	**20,555**	$	13,891

See Description of Plan and accompanying Notes to Financial Statements.

ON BEHALF OF THE BOARD OF TRUSTEES

Adrian Foster
Chair of the Board

Dan Anderson
Vice Chair of the Board

Jim Flett
Chair, Audit
& Finance Committee (2020)

Statements of Changes in Net Assets Available for Benefits

For the years ended December 31	2019	2018
($ millions)		
Net assets available for benefits, beginning of year	**$ 79,019**	$ 77,755
Investment operations		
Net investment income[1] (note 4)	**13,662**	1,666
Investment operating expenses (note 10)	**(172)**	(146)
	13,490	1,520
Plan operations		
Contributions (note 8)		
Employers	**1,371**	1,285
Members	**1,190**	1,106
Transfer of assets from merged pension plans (note 18)	**2,065**	-
Benefit payments (note 9)	**(2,737)**	(2,383)
Refunds and transfers (note 9)	**(197)**	(164)
Plan operating expenses (note 10)	**(99)**	(100)
	1,593	(256)
Change in net assets available for benefits	**15,083**	1,264
Net assets available for benefits, end of year	**$ 94,102**	$ 79,019

See Description of Plan and accompanying Notes to Financial Statements.

[1] The comparative amount has been reclassified to conform to the current year's presentation.

Statements of Changes in Pension Obligations

For the years ended December 31	2019	2018
($ millions)		
Pension obligations, beginning of year	**$ 65,128**	$ 59,602
Changes in pension obligations		
Interest accrued on benefits	**3,490**	3,291
Benefits accrued	**2,868**	2,537
Amendments to the plan (note 11)	**253**	228
Changes in actuarial assumptions (note 11)	**2,842**	1,675
Estimated experience (gains) losses (note 11)	**(64)**	342
Assumption of pension obligations from merged pension plans (note 18)	**1,964**	-
Benefits paid (note 9)	**(2,934)**	(2,547)
	8,419	5,526
Pension obligations, end of year	**$ 73,547**	$ 65,128

See Description of Plan and accompanying Notes to Financial Statements.

Notes to Financial Statements

For the years ended December 31, 2019 and 2018

Description of Plan

The following description of the Healthcare of Ontario Pension Plan Trust Fund (HOOPP or the Plan) is a summary only. A complete description of the Plan provisions can be found in the *HOOPP Plan Text*, the official Plan document.

General

The Plan is a contributory defined benefit jointly sponsored pension plan, where factors, such as earnings and years of service, define members' benefits. The Plan was established under an *Agreement and Declaration of Trust* (as amended) for the benefit of eligible employees of participating employers.

The Board, consisting of 16 voting members, governs HOOPP. The Ontario Hospital Association (OHA) appoints eight Trustees, while four unions, namely the Ontario Nurses' Association (ONA), the Canadian Union of Public Employees (CUPE), the Ontario Public Service Employees Union (OPSEU) and the Service Employees International Union (SEIU), each appoint two Trustees. Each Trustee has a legal obligation to administer the Plan in the best interests of all its members, regardless of their union or other affiliation.

HOOPP is registered with the Financial Services Regulatory Authority of Ontario[1] (FSRA), and with the Canada Revenue Agency (CRA) under Registration Number 0346007. HOOPP is a Registered Pension Plan (RPP), which is generally exempt from income taxes for contributions and investment income earned in Canada. The Plan may be subject to taxes on income earned in other jurisdictions.

The Board is responsible for administering the Plan in accordance with the PBA, the *Income Tax Act* (Canada) and *Regulations* (ITA), *the Plan Text* and HOOPP's policies and procedures.

Funding

Plan benefits are funded by contributions and investment earnings. The Board's Funding Decision Framework aims to secure the pension promise and achieve long-term stability in contribution rates for both employers and members. Actuarial funding valuations are conducted annually to determine pension obligations, the funded position, and contribution requirements of the Plan.

Under the terms of the Plan, contributions are set by the Board to cover the total annual cost of benefits. This includes the current service cost of benefits (with recognition of HOOPP's administrative expenses), plus special payments required to amortize unfunded pension obligations less any surplus amortization amounts, if applicable.

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[1] *Prior to June 8, 2019, HOOPP was registered with the Financial Services Commission of Ontario (FSCO). This change is a result of the Ontario Minister of Finance decision to establish a new regulatory body, namely the Financial Services Regulatory Authority of Ontario (FSRA). FSRA has assumed the regulatory duties of FSCO and the Deposit Insurance Corporation of Ontario (DICO) and oversees regulation of both pensions and other non-securities financial services in Ontario.*

Retirement Pensions

A retirement pension is based on the member's contributory service, the highest average annualized earnings during any consecutive five-year period, and the most recent five-year average year's maximum pensionable earnings (YMPE).

Members can receive an unreduced pension at the earlier of age 60 or as soon as they have completed 30 years of eligibility service, provided they have attained at least 55 years of age. Members are eligible to retire at age 55, usually with a reduced pension.

Members who retire early will receive a bridge benefit until age 65 or death, whichever occurs first. The bridge benefit supplements a member's basic HOOPP pension until age 65 when Canada Pension Plan benefits normally begin.

Members who choose to work beyond age 65 can continue to earn benefits until November 30 of the calendar year in which the member turns age 71, when they must begin to receive their pension.

Disability Benefits

A disability pension is available to disabled members who meet the eligibility requirements. A disability pension is based on the member's contributory service and average annualized earnings earned to the date of disability retirement with no reduction for early pension commencement and no entitlement to a bridge benefit.

Alternatively, disabled members who may not qualify for an immediate disability pension may instead be eligible for a waiver of contributions and continuation of service accrual until the earlier of age 65 or 35 years of contributory service.

Death Benefits

A death benefit may be available to a surviving spouse or designated beneficiary upon the death of a member. Depending on eligibility requirements, the benefit may be paid in the form of a survivor pension or lump-sum payment.

Portability

Members who terminate employment shall be entitled to receive a deferred pension. They may also opt to transfer the commuted value of the benefit out of HOOPP to another pension plan or registered retirement vehicle, subject to locking-in provisions and certain age restrictions.

Members wanting to transfer their contributions or the value of their benefits from another registered pension plan to HOOPP can do so, provided the transfer meets all eligibility requirements and the other plan agrees to transfer the funds.

Inflation Protection

Retirement pensions and deferred pensions are adjusted annually by an amount equal to 75% of the previous year's increase in the Canadian Consumer Price Index (CPI) for all contributory service earned through to the end of 2005. Depending on the Plan's financial status and other factors, the Board can approve an annual increase above the guaranteed level up to 100% of the increase in the previous year's CPI.

For retirements and deferred retirements occurring after 2005, the Board may approve an annual increase of up to 100% of the increase in CPI in respect of pensions earned for service after 2005. In all cases, the increases in CPI are limited to an annual maximum of 10%.

Retirement Compensation Arrangement

In conjunction with its RPP, HOOPP operates a Retirement Compensation Arrangement (RCA). The RCA is administered as part of the overall Plan; however, its assets are held in a segregated account. The RCA provides supplementary pension benefits to members whose earnings result in a pension that exceeds the maximum pension permitted under the ITA for RPPs. Additional information on the RCA is disclosed in note 13. Contributions received and income earned in the RCA are taxable. Depending on the contributions received, benefit payments made, and investment income earned through the RCA, a portion of taxes may be refundable and is disclosed in note 7 as refundable withholding tax on contributions.

Note 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation

The financial statements of the RPP and RCA plans are combined for purposes of presenting HOOPP's financial statements. These financial statements have been prepared in accordance with the Canadian accounting standards for pension plans and are compliant with the requirements of Part IV of the CPA Canada Handbook - Accounting (referred to herein as the "Handbook"), specifically Section 4600, *Pension Plans*, and the relevant sections of the Canadian accounting standards for private enterprises (ASPE) in Part II of the Handbook.

The financial statements comply with the financial reporting requirements of the PBA and address certain disclosure requirements issued by FSCO[1] in 2013 and amended in 2014. The requirements are addressed by disclosures within certain notes to the financial statements.

The significant accounting policies used in the preparation of these financial statements are summarized below.

Investments

Valuation

All investment transactions are recorded when the risks and rewards of ownership are transferred. Investment transactions relating to marketable securities and derivatives are recorded as of the trade date. Investments are recorded at fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the principal (or most advantageous) market between market participants at the measurement date under current market conditions, regardless of whether that price is directly observable or estimated using another valuation technique.

The quoted market price, when available, is used to measure fair value. When the quoted market price is not available, management uses appropriate valuation techniques to determine fair value. The valuation techniques include discounted cash flows, earnings multiples, prevailing market rates for comparable instruments with similar characteristics and/or in similar industries, pricing models and management's best estimates. Inputs used to determine fair values include contractual cash flows and interest rates, interest rate discount curves, credit spreads and volatilities. The output of any pricing model is an approximation of a fair value that cannot be determined with certainty and valuation techniques employed may not fully reflect all factors relevant to the investments held.

[1] *Until FSRA issues new regulatory direction, all existing regulatory guidance issued by FSCO remains in force.*

The fair values of investments are determined as follows:

i. Cash and cash collateral pledged or received are recorded at cost, which is equivalent to their fair value.

ii. Short-term securities are generally valued at quoted market prices if they exist. Otherwise, they are recorded at cost or amortized cost, which together with accrued interest approximates fair value due to their short-term nature.

iii. Securities purchased under resell agreements and securities sold under repurchase agreements are accounted for as collateralized lending and collateralized borrowing transactions, respectively, and are recorded at cost, which together with accrued interest approximates fair value due to their short-term nature.

iv. Bonds are generally valued based on quoted mid-market prices obtained from independent, multi-contributor third party pricing sources. Where quoted prices are not available, fair values are calculated using either discounted cash flows based on current market yields on comparable securities, or prices provided by independent third parties.

v. Commercial loans are valued using discounted cash flows based on current market yields on comparable securities.

vi. Public equities are valued at quoted closing market prices. When quoted closing market prices are not available, appropriate valuation techniques and pricing models are used to estimate fair value.

vii. Investments in private equities and special situations include investments held directly and through ownership in limited partnership funds. Directly held equity investments are valued at estimated fair value using appropriate valuation techniques such as capitalized earnings or discounted cash flow methodologies, or based on information provided by external fund managers. In the year of acquisition, cost is used as an approximation for fair value, unless there is evidence of a significant change in value. Investments in limited partnership funds are valued based on financial information provided by the funds' General Partners under limited partnership agreements (unless a specific and conclusive reason exists to vary from the value provided by the General Partners). Debt investments are valued using discounted cash flows based on current market yields on comparable securities.

viii. Investments in real estate include investments held directly and through ownership in limited partnership funds. Direct investments in income-producing properties are valued at estimated fair values based on external appraisals completed by independent appraisers accredited under the locally prevailing professional governing bodies. HOOPP's semi-annual appraisal policy takes place once at mid-year (with June 30 effective date) and again at year-end (with October 31, November 30 and December 31 effective dates). HOOPP requires the external appraiser to provide a December value re-affirmation letter for any year-end appraisal with a non-December effective date. The re-affirmation letter will either confirm that the value has not changed or provide an updated value at December 31. In the year of acquisition, cost is used as an approximation for fair value, unless there is evidence of a significant change in value. Properties under development are recorded at cost. Investments in limited partnership funds are valued based on financial information provided by the funds' General Partners under limited partnership agreements (unless a specific and conclusive reason exists to vary from the value provided by the General Partners). Mortgages held on real estate investments are valued using discounted cash flows based on current market yields on comparable securities.

ix. Investments in infrastructure are held through ownership in limited partnership funds. Investments in limited partnership funds are valued based on financial information provided by the funds' General Partners under limited partnership agreements (unless a specific and conclusive reason exists to vary from the value provided by the General Partners).

x. Alternative investments include investments in hedge funds, insurance and reinsurance funds, which are recorded at fair value based on net asset values reported by the fund administrators.

xi. Exchange-traded derivatives are valued based on quoted closing market prices. For over-the-counter derivatives, where quoted closing prices are not available, appropriate valuation techniques, primarily pricing models, are used to estimate fair value. These pricing models are based on generally accepted valuation models, use readily observable market prices and inputs that are actively quoted and can be validated with external sources, including industry data and pricing services. Depending on the types and contractual terms of derivatives, fair value can be modeled using a series of techniques that are consistently applied. The valuation techniques used by HOOPP require one or more of the following key inputs:

- bond prices – quoted prices are generally available from pricing services for government bonds and most corporate bonds;
- credit spreads – obtained from independent pricing services or derived based on other credit-based instruments;
- foreign currency exchange rates – forward and spot exchange rates are obtained from an independent data service;
- implied volatilities – obtained or derived from independent data services;
- interest rates – quoted rates obtained from central banks and from swap, bond and futures markets; and,
- public equity and equity indices prices – based on quoted closing market prices.

xii. Investments also include pending trades, accrued investment income and accrued investment liabilities. These investments are recorded at amortized cost, which approximates fair value due to their short-term nature.

Net Investment Income (Loss)

Investment income (loss) generally consists of net interest and net dividend income, which includes net operating income (loss) from investments in real estate, private equity and special situations and infrastructure, as well as realized gains (losses) and cash settlements on investments, and unrealized gains (losses) resulting from changes in fair value.

Net interest income is recognized on an accrual basis and net dividend income is recognized on the ex-dividend date. Realized gains and losses on investments are recognized upon disposition and are calculated based on average cost. The change in unrealized gains and losses on investments represents the year-over-year change in the difference between the cost and the fair value of investments.

Management Fees and Performance Fees

Management fees and performance fees related to investments in alternative investments, real estate, private equity and infrastructure are expensed as incurred and reported as a component of net investment income.

Transaction Costs

Transaction costs, which are incremental costs directly attributable to the acquisition, issue or disposal of investments are expensed as incurred and reported as a component of net investment income.

Foreign Currency Translation

Investment assets and investment liabilities denominated in foreign currencies are translated into Canadian dollars at the rate of exchange prevailing at the year-end date. Investment income and expenses are translated into Canadian dollars at the rate of exchange prevailing on the date of the transaction. The realized gains and losses arising from these investment transactions are included in realized gains and losses on the sale and settlement of investments. Unrealized gains and losses on translation of investment assets and investment liabilities are included in the change in unrealized gains and losses on investments.

Pension Obligations

Pension obligations are determined based on an actuarial valuation prepared by an independent actuarial consulting firm. These pension obligations are measured in accordance with accepted actuarial practice using actuarial assumptions and methods adopted by HOOPP for the purpose of establishing the long-term funding requirements of the Plan. The year-end valuation of pension obligations is based on data extrapolated to the current valuation date of December 31. The valuation uses the projected accrued benefit actuarial cost method and management's estimate of certain future events.

The pension obligations included in these financial statements are consistent with the results that would be used for a December 31 regulatory filing valuation if one were to be completed.

Contributions

Contributions from members and employers are recorded on an accrual basis. Contributions for past service purchases and transfers from other plans are recorded when received.

Benefit Payments

Benefit payments to members and pensioners, commuted value transfers, refunds to former members, and transfers to other pension plans are recorded in the period in which they are paid. Any benefit payment amounts accrued and not yet paid are reflected in the pension obligations.

Fixed Assets and Intangible Assets

Fixed assets and intangible assets are recorded at cost and amortized on a straight-line basis over their estimated useful lives, as disclosed in Note 7.

Use of Estimates

The preparation of the financial statements requires management to make estimates and assumptions based on information available as at the date of the financial statements. Such estimates and assumptions may affect the reported amounts of assets and liabilities, income and expenses, pension obligations and related disclosures. Significant estimates are used primarily in the determination of pension obligations (note 11) and the fair value of certain investments (note 2). Actual results could differ from those estimates.

Related Party Transactions

HOOPP's Board, management, and unconsolidated subsidiaries are considered related parties according to the Handbook. Any transactions between these related parties and HOOPP are not significant for the purposes of these financial statements, except for those disclosed in note 14.

Note 2 – INVESTMENTS

a. Investment fair value and cost

The Plan's investment assets and investment liabilities are presented in the table below.

		2019		2018[1]
($ millions)	Fair Value	Cost	Fair Value	Cost
INVESTMENT ASSETS				
Cash	**$ 94**	**$ 94**	$ 8	$ 8
Securities purchased under resell agreements (note 5)	**2,179**	**2,191**	10,871	10,573
Fixed income				
Short-term securities	**5,378**	**5,381**	1,203	1,203
Bonds				
Canadian	**94,139**	**90,300**	89,836	88,624
Non-Canadian	**10,194**	**9,228**	13,257	12,204
Commercial loans				
Non-Canadian	**388**	**397**	49	48
	110,099	**105,306**	104,345	102,079
Equities				
Public equities				
Canadian	**1,512**	**1,447**	1,729	1,822
Non-Canadian	**29,859**	**28,966**	22,622	23,578
Private equities and special situations				
Canadian	**1,237**	**476**	1,227	482
Non-Canadian	**9,576**	**7,539**	8,899	6,838
	42,184	**38,428**	34,477	32,720
Real assets				
Real estate	**13,601**	**10,382**	13,255	10,045
Infrastructure	**114**	**114**	-	-
	13,715	**10,496**	13,255	10,045
Alternative investments	**753**	**758**	-	-
Derivative instruments (notes 3 & 5)	**9,642**	**1,514**	8,479	2,333
Investment receivables				
Cash collateral pledged (note 5)	**156**	**156**	-	-
Pending trades	**963**	**968**	257	254
Accrued investment income	**653**	**653**	795	795
	1,772	**1,777**	1,052	1,049
Total investment assets	**180,438**	**160,564**	172,487	158,807
INVESTMENT LIABILITIES				
Cash overdraft	**-**	**-**	(9)	(9)
Securities sold under repurchase agreements (note 5)	**(18,018)**	**(18,183)**	(26,155)	(25,594)
Bonds sold short (note 5)	**(8,695)**	**(8,628)**	(15,058)	(14,717)
Equities sold short (note 5)	**(19,992)**	**(16,780)**	(19,232)	(18,918)
Derivative instruments (notes 3 & 5)	**(22,353)**	**(6,331)**	(21,254)	(7,906)
Investment payables				
Cash collateral received (note 5)	**(16,269)**	**(16,269)**	(11,531)	(11,531)
Pending trades	**(1,173)**	**(1,177)**	(305)	(303)
Accrued investment liabilities	**(81)**	**(81)**	(157)	(157)
	(17,523)	**(17,527)**	(11,993)	(11,991)
Total investment liabilities	**(86,581)**	**(67,449)**	(93,701)	(79,135)
NET INVESTMENTS	**$ 93,857**	**$ 93,115**	$ 78,786	$ 79,672

[1] *The fair value hierarchy was previously disclosed as part of this table and is now separately presented in Note 2b.*

b. Fair value hierarchy

Investment assets and investment liabilities are measured at fair value and classified using a fair value hierarchy that is based on the methods and assumptions used to determine their fair values. The fair value hierarchy gives highest priority to unadjusted quoted prices in active markets for identical assets or liabilities and lowest priority to unobservable inputs. The fair value hierarchy has the following three levels:

- *Level 1* – unadjusted quoted prices in active markets for identical assets or liabilities;
- *Level 2* – inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices); and,
- *Level 3* – inputs for the asset or liability that are not based on observable market data (i.e., unobservable inputs).

In some cases the inputs used to measure the fair value of an investment asset or investment liability might be categorized within different levels of the fair value hierarchy. In those cases, the classification for each asset or liability is determined based on the lowest level input that is significant to the entire assessment. For this purpose, the significance of an input is assessed against the fair value measurement in its entirety. Assessing the significance of a particular input to the fair value measurement requires judgment and evaluation of factors specific to the investment asset or investment liability being considered. Determining whether an input is observable also requires considerable judgment. Observable data is considered to be market data that is readily available, regularly distributed and updated, easily corroborated and obtained from independent sources that are actively involved in that particular market.

Investments that are classified as Level 1 include actively traded equity investments and exchange traded derivatives. These investments are valued at quoted, unadjusted, closing market prices. Cash and cash collateral are also included as Level 1.

Investments that are classified as Level 2 include short-term securities, securities purchased under resell agreements, securities sold under repurchase agreements, most government and corporate bonds, over-the-counter derivatives, investment receivables and investment payables. For most of these investments, fair values are either derived from a number of prices that are provided by independent price sources or from pricing models that use observable market data such as swap curves, credit spreads and volatilities.

There were no significant transfers between Level 1 and Level 2 during 2019 or 2018.

Investments that are classified as Level 3 include investments in alternative investments, real estate, private equity and special situations, infrastructure, commercial loans, some over-the-counter derivatives and some marketable securities. For these investments, trading activity is infrequent and fair values are derived using valuation techniques. The significant inputs used in the pricing models are either not observable or assumptions are made about significant inputs.

Transfers from Level 2 to Level 3 occur when an investment asset's or investment liability's fair value, which was determined previously through the use of a valuation technique with significant observable inputs, is now determined using a valuation technique with significant unobservable inputs. Transfers from Level 3 to Level 2 occur when techniques used for valuing the investment involve significant observable inputs that were previously unobservable.

Transfers between Level 2 and Level 3 are disclosed in Note 2c.

The table below presents the Plan's investment assets and investment liabilities within the fair value hierarchy described in Note 2a:

2019				
($ millions)	Level 1	Level 2	Level 3	Total Fair Value
Investment Assets				
Cash	$ 94	$ -	$ -	**$ 94**
Securities purchased under resell agreements	-	2,179	-	**2,179**
Short-term securities	-	5,378	-	**5,378**
Bonds	-	103,957	376	**104,333**
Commercial loans	-	-	388	**388**
Public equities	30,751	17	603	**31,371**
Private equities and special situations	-	-	10,813	**10,813**
Real estate	-	-	13,601	**13,601**
Infrastructure	-	-	114	**114**
Alternative investments	-	-	753	**753**
Derivative instruments	43	9,539	60	**9,642**
Investment receivables	156	1,616	-	**1,772**
	31,044	122,686	26,708	**180,438**
Investment Liabilities				
Cash overdraft	-	-	-	**-**
Securities sold under repurchase agreements	-	(18,018)	-	**(18,018)**
Bonds sold short	-	(8,695)	-	**(8,695)**
Equities sold short	(19,992)	-	-	**(19,992)**
Derivative instruments	(21)	(22,310)	(22)	**(22,353)**
Investment payables	(16,269)	(1,254)	-	**(17,523)**
	(36,282)	(50,277)	(22)	**(86,581)**
Net Investments	**$ (5,238)**	**$ 72,409**	**$ 26,686**	**$ 93,857**

2018[1]				
($ millions)	Level 1	Level 2	Level 3	Total Fair Value
Investment Assets				
Cash	$ 8	$ -	$ -	$ 8
Securities purchased under resell agreements	-	10,871	-	10,871
Short-term securities	-	1,203	-	1,203
Bonds	-	101,744	1,349	103,093
Commercial loans	-	-	49	49
Public equities	23,734	14	603	24,351
Private equities and special situations	-	-	10,126	10,126
Real estate	-	-	13,255	13,255
Infrastructure	-	-	-	-
Alternative investments	-	-	-	-
Derivative instruments	36	8,427	16	8,479
Investment receivables[2]	-	1,052	-	1,052
	23,778	123,311	25,398	172,487
Investment Liabilities				
Cash overdraft	(9)	-	-	(9)
Securities sold under repurchase agreements	-	(26,155)	-	(26,155)
Bonds sold short	-	(15,058)	-	(15,058)
Equities sold short	(19,232)	-	-	(19,232)
Derivative instruments	(10)	(21,241)	(3)	(21,254)
Investment payables[2]	(11,531)	(462)	-	(11,993)
	(30,782)	(62,916)	(3)	(93,701)
Net Investments	$ (7,004)	$ 60,395	$ 25,395	$ 78,786

[1] The fair value hierarchy was previously disclosed in Note 2a and as a result, the 2018 amounts have been reclassified to conform to the current year's presentation.

[2] Pending trades and accrued investment income/liabilities were previously classified as "No Level" and are now included in Level 2.

c. Changes in fair value measurement for investments in Level 3

The following table presents the changes in fair value measurement for investments included in Level 3 during the years ended December 31.

2019							
($ millions)	Fair Value Dec 31, 2018	Total Gains (Losses) Included in Net Income[1]	Purchases and Issues	Sales and Settlements	Transfers In[2]	Transfers Out[2]	Fair Value Dec 31, 2019
Bonds	$ 1,349	$ (46)	$ -	$ (927)	$ -	$ -	**$ 376**
Commercial loans	49	(9)	370	(22)	-	-	**388**
Public equities	603	-	-	-	-	-	**603**
Private equities and special situations	10,126	781	2,080	(2,174)	-	-	**10,813**
Real estate[3]	13,255	426	360	(440)	-	-	**13,601**
Infrastructure	-	-	115	(1)	-	-	**114**
Alternative investments	-	(5)	758	-	-	-	**753**
Derivative instruments – assets	16	139	(39)	(56)	-	-	**60**
Derivative instruments – liabilities	(3)	(25)	(4)	10	-	-	**(22)**
Total	**$ 25,395**	**$ 1,261**	**$ 3,640**	**$ (3,610)**	**$ -**	**$ -**	**$26,686**

[1] For those investment assets and investment liabilities held at the end of the year, the total gains were $258 million.
[2] Transfers into and transfers out of Level 3 are assumed to occur at the end of the year.
[3] For real estate, additional mortgage debt borrowings of $324 million are netted in Purchases and Issues and mortgage debt repayments of $382 million are netted in Sales and Settlements.

2018							
($ millions)	Fair Value Dec 31, 2017	Total Gains (Losses) Included in Net Income[1]	Purchases and Issues	Sales and Settlements	Transfers In[2]	Transfers Out[2]	Fair Value Dec 31, 2018
Bonds	$ 786	$ 83	$ 828	$ (348)	$ -	$ -	$ 1,349
Commercial loans	20	2	27	-	-	-	49
Public equities	603	-	-	-	-	-	603
Private equities and special situations	7,220	1,496	3,236	(1,769)	-	(57)	10,126
Real estate[3]	11,952	673	802	(172)	-	-	13,255
Infrastructure	-	-	-	-	-	-	-
Alternative investments	-	-	-	-	-	-	-
Derivative instruments – assets	21	(19)	(22)	33	3	-	16
Derivative instruments – liabilities	(10)	(1)	29	(20)	(1)	-	(3)
Total	$ 20,592	$ 2,234	$ 4,900	$ (2,276)	$ 2	$ (57)	$ 25,395

[1] For those investment assets and investment liabilities held at the end of the year, the total gains were $1,549 million.
[2] Transfers into and transfers out of Level 3 are assumed to occur at the end of the year.
[3] For real estate, additional mortgage debt borrowings of $100 million are netted in Purchases and Issues and mortgage debt repayments of $482 million are netted in Sales and Settlements.

d. Sensitivity to changes in assumptions for investments in Level 3

The following table illustrates the impact to fair value for certain investments in Level 3 when changing the significant inputs to reasonable alternative assumptions.

		2019		2018	
($ millions)	Significant Inputs	Change in Significant Inputs	Increase (Decrease) to Fair Value	Change in Significant Inputs	Increase (Decrease) to Fair Value
Private equity	**EBITDA multiple**	**+/- 10%**	**$ 171/(171)**	+/- 10%	$ 144/(144)
Private debt	**Discount rate**	**+/- 1%**	**(13)/13**	+/- 1%	(21)/17
Real estate	**Capitalization rate**	**+/- 0.25%**	**(484)/538**	+/- 0.25%	(472)/522

The above sensitivity analysis excludes investments where cost is used as an approximation for fair value (e.g., newly acquired real estate properties and private equity investments). In addition, it excludes investments where fair values are based on information provided by the general partners or the external fund administrators as the Plan does not have access to the assumptions and methodologies used to determine the fair value of the underlying investments. For other investments included in Level 3, management's judgment is that changing one or more of the inputs to a reasonable alternative assumption would not change the fair value of the Plan significantly.

e. Offsetting financial assets and financial liabilities

The following financial instruments are subject to enforceable master netting arrangements or similar agreements and/or may require the transfer of collateral. HOOPP presents these financial instruments as gross amounts in the statements of financial position, since the netting provisions contained in the respective agreements apply in limited circumstances. However, where HOOPP has a legally enforceable right to set-off the recognized amounts and intends to settle on a net basis, HOOPP offsets financial assets and financial liabilities and presents the net amount in the statements of financial position. If the effect of these arrangements, together with the collateral pledged or received were taken into consideration, the potential impact on HOOPP's financial position would be as follows:

	2019					
($ millions)	Gross Amounts of Recognized Financial Instruments	Amounts Set Off in the Statements of Financial Position	Net Amounts of Financial Instruments Presented (note 2a)	Amounts Subject to Enforceable Master Netting Arrangements or Similar Agreements[1]	Cash and Securities Collateral Pledged (Received)[2]	Net Amount
Financial assets						
Securities purchased under resell agreements[3]	$ 2,979	$ (469)	$ 2,510	$ (2,508)	$ (2)	**$ -**
Securities on loan[4]	29,270	-	29,270	-	(29,248)	**22**
Derivative instruments[5]	9,884	-	9,884	(7,201)	(2,625)	**58**
Total financial assets	**42,133**	**(469)**	**41,664**	**(9,709)**	**(31,875)**	**80**
Financial liabilities						
Securities sold under repurchase agreements[3]	(18,576)	469	(18,107)	2,508	15,499	**(100)**
Derivative instruments[5]	(22,572)	-	(22,572)	7,201	15,322	**(49)**
Total financial liabilities	**$ (41,148)**	**$ 469**	**$ (40,679)**	**$ 9,709**	**$ 30,821**	**$ (149)**

(1) Refer to note 6 for additional information on master netting arrangements.
(2) Refer to note 5 for additional information on cash and securities collateral.
(3) Includes pending trade receivables and payables of $331 million and $89 million, respectively.
(4) Included within fixed income and public equity investment assets in Note 2a.
(5) Includes pending trade receivables and payables of $242 million and $219 million, respectively.

2018						
($ millions)	Gross Amounts of Recognized Financial Instruments	Amounts Set Off in the Statements of Financial Position	Net Amounts of Financial Instruments Presented (note 2a)	Amounts Subject to Enforceable Master Netting Arrangements or Similar Agreements[1]	Cash and Securities Collateral Pledged (Received)[2]	Net Amount
Financial assets						
Securities purchased under resell agreements[3]	$ 11,133	$ (258)	$ 10,875	$ (9,987)	$ (883)	$ 5
Securities on loan[4]	19,037	-	19,037	-	(18,968)	69
Derivative instruments[5]	8,712	-	8,712	(7,002)	(1,682)	28
Total financial assets	38,882	(258)	38,624	(16,989)	(21,533)	102
Financial liabilities						
Securities sold under repurchase agreements	(26,413)	258	(26,155)	9,987	16,076	(92)
Derivative instruments[5]	(21,496)	-	(21,496)	7,002	14,385	(109)
Total financial liabilities	$ (47,909)	$ 258	$ (47,651)	$ 16,989	$ 30,461	$ (201)

[1] Refer to note 6 for additional information on master netting arrangements.
[2] Refer to note 5 for additional information on cash and securities collateral.
[3] Includes pending trade receivables of $4 million.
[4] Included within fixed income and public equity investment assets in Note 2a.
[5] Includes pending trade receivables and payables of $233 million and $242 million, respectively.

f. Significant investments

Investments, excluding short sales and derivative exposures, where the cost or fair value exceeds 1% of the cost or fair value of the Fund, being approximately $930 million, as at December 31, 2019, are as follows:

($ millions)	Fair Value	Cost
Fixed income		
Canadian bonds[1]	**$ 22,388**	**$ 21,314**
Non-Canadian bonds[2]	**4,855**	**4,216**
Equities		
Non-Canadian public equities[3]	**9,430**	**8,908**
Non-Canadian private equity	**1,028**	**895**

[1] Includes Canadian government and real return bonds.
[2] Includes foreign government and real return bonds.
[3] Includes shares of exchange-traded funds.

Note 3 – DERIVATIVE FINANCIAL INSTRUMENTS

Derivatives are financial contracts, the value of which is derived from changes in the underlying asset, index of prices or rates, interest rate or foreign exchange rate.

The Plan's investment objectives for the use of derivatives are to enhance returns by facilitating changes in the investment asset mix, to enhance equity and fixed income portfolio returns, and to manage financial risk. Derivatives may be used in all of HOOPP's permitted asset classes. The Plan utilizes the following derivative financial instruments:

Foreign Exchange Forward Contracts

Foreign exchange forward contracts are customized agreements negotiated between two parties to buy or sell a specific amount of foreign currency at a price specified at origination of the contract with settlement at a specified future date. Forward contracts are used to modify the Plan's exposure to currency risk.

Futures Contracts

Futures contracts are standardized agreements, which can be purchased or sold on a futures exchange market at a predetermined future date and price, in accordance with terms specified by the regulated futures exchange, and they are subject to daily cash margining. HOOPP invests in equity futures and interest rate futures. Equity futures relate to a specific equity, a basket of equities or index of equities. Interest rate futures, including bond futures, relate to interest rate-sensitive instruments. These types of derivatives are used to modify exposures efficiently without actually purchasing or selling the underlying asset.

Options

Options are contractual agreements under which the seller grants the purchaser the right, but not the obligation, either to buy (call option) or sell (put option) a financial instrument at a predetermined price on or before a specified future date. The seller receives a premium from the purchaser for this right. HOOPP invests in interest rate options, swaptions, foreign currency options, equity options, and options on credit default swaps. Options are used to manage the exposures to market risks and to enhance returns.

Swaps

Swaps are contractual agreements between two counterparties to exchange a series of cash flows. HOOPP utilizes the following swap instruments:

- Equity swaps are agreements between two parties to exchange a series of cash flows based on the return of an equity, a basket of equities or an equity index. One party typically agrees to pay a floating interest rate in return for receiving the equity return. HOOPP also invests in equity-based swaps such as variance, volatility, and dividend swaps. These equity-based swaps are used for yield enhancement purposes and to adjust exposures to particular indices without directly purchasing or selling the securities that comprise the index.

- Interest rate swaps and cross-currency swaps are agreements between two parties to exchange a series of fixed or floating cash flows in the same currency or different currencies based on the notional amount. Interest rate swaps are used to manage interest rate exposures and cross-currency swaps are used to manage both interest rate and currency exposures.

- Credit default swaps are agreements between two parties where the buyer of the credit protection pays a premium to the seller in exchange for payment of the notional amount from the seller against delivery of the related/relevant debt securities if a credit event such as a default occurs. Instead of physical settlement, credit default swaps can also be cash settled. Credit default swaps are used to promote credit diversification and for risk mitigation.

Warrants

Warrant certificates give the holder the right, but not the obligation, to buy shares in a company at a certain price on or before a specified future date. The key difference between warrants and options is that warrants are issued by the company itself as a way to raise capital.

a. Derivative notional and fair values

The following table summarizes the notional and fair values of the Plan's derivative positions.

2019			
		Fair Value[2]	
($ millions)	Notional Value[1]	Assets	Liabilities
Credit derivatives			
Credit default swap options	$ 19,388	$ 4	$ (4)
Credit default swaps[3]	11,642	75	(234)
Currency derivatives			
Forwards	11,410	36	(104)
Options	834	32	(7)
Swaps	5,656	51	(611)
Equity derivatives			
Futures contracts	9,385	5	(20)
Options	67,300	8,332	(19,726)
Swaps	87,752	617	(647)
Warrants	330	42	-
Interest rate derivatives			
Futures contracts	20,364	1	-
Options	7,226	8	-
Swaps	23,445	346	(970)
Swaptions	4,066	93	(30)
Total	**$ 268,798**	**$ 9,642**	**$ (22,353)**

(1) Notional values represent the contractual amounts to which a rate or price is applied for computing the cash flows to be exchanged, and are therefore not recorded as assets or liabilities in these financial statements. Notional values are also the basis on which the fair values of the contracts and the returns are determined. Notional values do not necessarily represent the future cash flows to be exchanged, nor do they indicate the Plan's exposure to market or credit risk.

(2) Contracts with a positive fair value are recorded as investment assets while contracts with a negative fair value are recorded as investment liabilities in note 2.

(3) HOOPP, through the sale of credit protection, indirectly guarantees the underlying reference obligations. The notional amount and fair value of the credit protection sold are $6,704 million and $40 million, respectively. These contracts mature between 2020 and 2025.

2018			
		Fair Value[2]	
($ millions)	Notional Value[1]	Assets	Liabilities
Credit derivatives			
Credit default swap options	$ 20,541	$ 45	$ (38)
Credit default swaps[3]	15,491	66	(78)
Currency derivatives			
Forwards	15,647	242	(68)
Options	1,363	24	-
Swaps	9,888	195	(1,373)
Equity derivatives			
Futures contracts	11,669	35	(9)
Options	125,122	6,260	(16,748)
Swaps	76,834	1,071	(1,583)
Warrants	-	-	-
Interest rate derivatives			
Futures contracts	90	-	-
Options	8,495	14	-
Swaps	30,804	427	(1,338)
Swaptions	17,387	100	(19)
Total	$ 333,331	$ 8,479	$ (21,254)

(1) Notional values represent the contractual amounts to which a rate or price is applied for computing the cash flows to be exchanged, and are therefore not recorded as assets or liabilities in these financial statements. Notional values are also the basis on which the fair values of the contracts and the returns are determined. Notional values do not necessarily represent the future cash flows to be exchanged, nor do they indicate the Plan's exposure to market or credit risk.

(2) Contracts with a positive fair value are recorded as investment assets while contracts with a negative fair value are recorded as investment liabilities in note 2.

(3) HOOPP, through the sale of credit protection, indirectly guarantees the underlying reference obligations. The notional amount and fair value of the credit protection sold are $10,285 million and $6 million, respectively. These contracts mature between 2020 and 2025.

b. Derivative notional values by term to maturity

The following table summarizes the notional values for the Plan's derivative positions by term to maturity.

	2019			
($ millions)	Within 1 Year	1 to 5 Years	Over 5 years	Total
Credit derivatives				
Credit default swap options	$ 19,388	$ -	$ -	**$ 19,388**
Credit default swaps	1,099	10,367	176	**11,642**
Currency derivatives				
Forwards	11,410	-	-	**11,410**
Options	315	-	519	**834**
Swaps	4,773	883	-	**5,656**
Equity derivatives				
Futures contracts	9,385	-	-	**9,385**
Options	55,692	3,837	7,771	**67,300**
Swaps	78,743	9,009	-	**87,752**
Warrants	-	225	105	**330**
Interest rate derivatives				
Futures contracts	20,364	-	-	**20,364**
Options	1,732	5,494	-	**7,226**
Swaps	7,595	13,658	2,192	**23,445**
Swaptions	729	1,817	1,520	**4,066**
Total	**$ 211,225**	**$ 45,290**	**$ 12,283**	**$ 268,798**

	2018			
($ millions)	Within 1 Year	1 to 5 Years	Over 5 years	Total
Credit derivatives				
Credit default swap options	$ 20,541	$ -	$ -	$ 20,541
Credit default swaps	236	13,243	2,012	15,491
Currency derivatives				
Forwards	15,647	-	-	15,647
Options	716	170	477	1,363
Swaps	5,456	4,432	-	9,888
Equity derivatives				
Futures contracts	11,669	-	-	11,669
Options	72,456	45,518	7,148	125,122
Swaps	60,699	16,135	-	76,834
Warrants	-	-	-	-
Interest rate derivatives				
Futures contracts	90	-	-	90
Options	1,364	7,131	-	8,495
Swaps	6,382	21,672	2,750	30,804
Swaptions	13,778	2,492	1,117	17,387
Total	$ 209,034	$ 110,793	$ 13,504	$ 333,331

Note 4 – NET INVESTMENT INCOME

a. Net investment income based on investment assets and investment liabilities

The Plan's net investment income for the years ended December 31, presented by investment assets and investment liabilities, is as follows:

	2019					
($ millions)	Net Interest and Dividend Income[1]	Net Gain (Loss) on Investments[2][3]	Investment Income[4]	Management Fees	Transaction Costs	Net Investment Income
Cash and pending trades	$ (39)	$ 376	**$ 337**	$ -	$ -	**$ 337**
Net repurchase agreements	(323)	377	**54**	-	-	**54**
Fixed income						
Short-term securities	74	(3)	**71**	-	-	**71**
Bonds						
Canadian	2,926	2,322	**5,248**	-	-	**5,248**
Non-Canadian	299	808	**1,107**	-	-	**1,107**
Commercial loans						
Non-Canadian	8	(9)	**(1)**	-	-	**(1)**
	3,307	3,118	**6,425**	-	-	**6,425**
Equities						
Public equities						
Canadian	9	(313)	**(304)**	-	(2)	**(306)**
Non-Canadian	88	(1,203)	**(1,115)**	-	(7)	**(1,122)**
Private equities and special situations						
Canadian	12	51	**63**	(2)	-	**61**
Non-Canadian	193	730	**923**	(102)	(1)	**820**
	302	(735)	**(433)**	(104)	(10)	**(547)**
Real assets						
Real estate	546	426	**972**	(18)	(1)	**953**
Infrastructure	(1)	-	**(1)**	(3)	-	**(4)**
	545	426	**971**	(21)	(1)	**949**
Alternative investments	-	(1)	**(1)**	(5)	-	**(6)**
Derivative instruments	-	6,455	**6,455**	-	(5)	**6,450**
Total	**$ 3,792**	**$ 10,016**	**$ 13,808**	**$ (130)**	**$ (16)**	**$ 13,662**

[1] Includes net operating income (loss) from investments in real estate and private equity.
[2] Includes realized gains from investments of $8,383 million and change in unrealized gains from investments of $1,633 million.
[3] Includes gain (loss) from foreign exchange.
[4] Net of certain performance fees.

($ millions)	Net Interest and Dividend Income[1]	Net Gain (Loss) on Investments[2][3]	Investment Income[4]	Management Fees[5]	Transaction Costs[5]	Net Investment Income
	2018					
Cash and pending trades	$ (141)	$ (766)	$ (907)	$ -	$ -	$ (907)
Net repurchase agreements	(288)	(804)	(1,092)	-	-	(1,092)
Fixed income						
Short-term securities	33	(14)	19	-	-	19
Bonds						
Canadian	2,949	(1,824)	1,125	-	-	1,125
Non-Canadian	239	(20)	219	-	-	219
Commercial loans						
Non-Canadian	1	2	3	-	-	3
	3,222	(1,856)	1,366	-	-	1,366
Equities						
Public equities						
Canadian	(117)	(200)	(317)	-	(3)	(320)
Non-Canadian	3,150	(4,081)	(931)	-	(11)	(942)
Private equities and special situations						
Canadian	55	83	138	(1)	(6)	131
Non-Canadian	134	1,452	1,586	(74)	-	1,512
	3,222	(2,746)	476	(75)	(20)	381
Real assets						
Real estate	481	673	1,154	(36)	(3)	1,115
Infrastructure	-	-	-	-	-	-
	481	673	1,154	(36)	(3)	1,115
Alternative investments	-	-	-	-	-	-
Derivative instruments	-	808	808	-	(5)	803
Total	$ 6,496	$ (4,691)	$ 1,805	$ (111)	$ (28)	$ 1,666

[1] Includes net operating income (loss) from investments in real estate and private equity
[2] Includes realized losses from investments of $3,407 million and change in unrealized losses from investments of $1,284 million.
[3] Includes gain (loss) from foreign exchange.
[4] Net of certain performance fees
[5] Management fees and transaction costs were previously disclosed on a total basis and as a result, the 2018 amounts have been reclassified to conform to the current year's presentation.

b. Real estate income

The Plan's net real estate operating income for the years ended December 31 is as follows:

($ millions)	2019	2018
Rental revenue	**$ 909**	$ 885
Other revenue	**77**	-
Property operating and other expenses[1]	**(421)**	(400)
Operating income	**565**	485
Mortgage interest	**(37)**	(40)
Net real estate operating income[1]	**$ 528**	$ 445

[1] Net of management fees of $18 million (2018: $36 million).

Note 5 – TRANSFERS OF FINANCIAL ASSETS

Financial assets transferred to HOOPP's counterparties

Transfers of financial assets result from HOOPP's arrangements with its counterparties, whereby the Plan:

- transfers the contractual rights to receive the cash flows of the financial assets; or
- retains the contractual rights to receive the cash flows of the financial assets, but assumes a contractual obligation to pay the cash flows to one or more recipients in an arrangement.

For HOOPP, transfers of financial assets to counterparties occur directly through securities lending arrangements. HOOPP also transfers financial assets indirectly through collateral pledged to counterparties as a result of investment strategies such as repurchase agreements, securities borrowing arrangements and derivatives. Transferred financial assets continue to be recognized as HOOPP's assets on the statements of financial position if the risks and rewards of ownership remain with HOOPP.

The following describes HOOPP's transactions that may result in the direct or indirect transfer of financial assets:

Securities lending program and other transfers of financial assets (direct)

The Plan participates in a securities lending program where it lends securities that it owns directly to third parties in exchange for a fee. The borrower provides cash or marketable securities of higher value as collateral which mitigates the credit risk associated with the program. The Plan also lends securities through a third party, in accordance with a securities lending agreement, in exchange for a fee.

The Plan also transfers financial assets received from HOOPP's counterparties as a result of various transactions. These financial assets have not been recognized on HOOPP's statements of financial position as the risks and rewards remain with the counterparty.

Collateral pledged (indirect)

i. Repurchase agreements

The Plan enters into repurchase agreements, which are economically similar to collateralized loans. Under these agreements, the Plan effectively sells securities and simultaneously agrees to buy them back at a specified price at a future date. The net position represents the fair value of collateral pledged, as a result of the change in value of the securities sold under repurchase agreements.

ii. Securities borrowing arrangements

The Plan enters into short positions, where it agrees to sell securities that it does not already own, to reduce or eliminate economic exposures as part of certain active management strategies and as an offset to long positions in some derivative strategies. The Plan borrows securities, or uses securities received through other strategies, to facilitate the taking of short positions. For securities borrowed, the Plan is required to pledge cash or marketable securities of higher value as collateral, which mitigates the counterparty's credit risk associated with the program.

iii. Derivatives

A transfer of financial assets only occurs when the Plan pledges collateral, typically in the form of cash, fixed income or equities, for obligations incurred in the ordinary course of trading in derivatives.

When the Plan pledges cash collateral for any of the above investment strategies, this cash is derecognized from the statements of financial position. A receivable for the equivalent amount is then recognized to reflect this cash collateral due from the Plan's counterparties.

For any collateral pledged, the counterparty has the right to re-pledge, loan or use it under repurchase agreements in the absence of default by the owner of the collateral.

Financial assets received from HOOPP's counterparties

Securities are received from HOOPP's counterparties directly through securities borrowing arrangements, or indirectly through investment strategies such as securities lending arrangements, resell agreements, and derivatives, which give rise to the counterparty transferring or pledging collateral with HOOPP. These securities are only recognized as HOOPP's assets on the statements of financial position if the risks and rewards of ownership are transferred to HOOPP.

The following describes HOOPP's transactions that may result in financial assets received from its counterparties:

Securities borrowing arrangements (direct)

The Plan borrows securities, or uses securities received through other strategies, to facilitate the taking of short positions. For securities borrowed, the Plan is required to pledge cash or marketable securities of higher value as collateral which mitigates the counterparty's credit risk associated with the program.

Collateral received (indirect)

i. Resell agreements

The Plan enters into resell agreements, which are economically similar to collateralized loans. Under these agreements, the Plan effectively purchases securities and simultaneously agrees to sell them back at a specified price at a future date. The net position represents the fair value of collateral received, as a result of the change in value of the securities under resell agreements.

ii. Securities lending program

For securities lent, the borrower provides cash or marketable securities of higher value as collateral which mitigates the credit risk to the Plan, associated with the program.

iii. Derivatives

The Plan receives collateral, typically in the form of cash, fixed income or equities, for receivables recognized in the ordinary course of trading in derivatives.

When the Plan receives cash collateral for any of the above investment strategies, this cash is recognized on the statements of financial position. A liability for the equivalent amount is recognized to reflect this cash collateral due to the Plan's counterparties.

For any collateral received, the Plan has the right to re-pledge, loan or use it under repurchase agreements in the absence of default by the owner of the collateral. On termination of the agreement, the Plan is obligated to return the collateral received to the owner. As at December 31, 2019, the fair value of total collateral rehypothecated by the Plan is $1,078 million (2018: $674 million).

Net position of financial assets transferred to and received from HOOPP's counterparties

As at December 31, the fair values and carrying amounts of HOOPP's direct and indirect transferred financial assets, their associated liabilities and receivables and the financial assets received from counterparties were as follows:

	2019		
($ millions)	Repurchase Agreements	Securities Lending/Borrowing and Other Transfers	Derivatives
Fair value/carrying amount of financial assets transferred out[1]	$ -	$ 34,347	$ -
Fair value/carrying amount of collateral pledged[2]	18,403	33,740	17,215
Fair value/carrying amount of financial assets received[3]	-	(18,212)	-
Fair value/carrying amount of collateral received[4]	(2,608)	(20,402)	(2,866)
Fair value/carrying amount of associated receivables (note 2)	2,179	-	9,642
Fair value/carrying amount of associated liabilities[5]	(18,018)	(28,726)	(22,353)
Net position	**$ (44)**	**$ 747**	**$ 1,638**

[1] *Includes securities lent, both directly and through a third party, of $29,270 million, which have not been derecognized from HOOPP's statements of financial position as the risks and rewards remain with HOOPP. The remaining amount of $5,077 million represents other transfers of financial assets received from various transactions, which have not been recognized on HOOPP's statements of financial position as the risks and rewards remain with the counterparty.*
[2] *Includes cash collateral pledged of $156 million. The remaining amount represents securities that have not been derecognized from HOOPP's statements of financial position, as the risks and rewards remain with HOOPP.*
[3] *These securities have not been recognized on HOOPP's statements of financial position as the risks and rewards remain with the counterparty.*
[4] *Includes cash collateral received of $16,269 million. The remaining amount represents securities that have not been recognized on HOOPP's statements of financial position, as the risks and rewards remain with HOOPP's counterparty, or the third party's counterparty in accordance with the securities lending agreement.*
[5] *Includes $39 million of accrued investment liabilities relating to investments sold short. Amounts for repurchase agreements and derivatives are presented in note 2.*

	2018		
($ millions)	Repurchase Agreements	Securities Lending/Borrowing and Other Transfers	Derivatives
Fair value/carrying amount of financial assets transferred out[1]	$ -	$ 32,178	$ -
Fair value/carrying amount of collateral pledged[2]	27,024	41,328	16,483
Fair value/carrying amount of financial assets received[3]	-	(22,035)	-
Fair value/carrying amount of collateral received[4]	(11,707)	(15,873)	(2,320)
Fair value/carrying amount of associated receivables (note 2)	10,871	-	8,479
Fair value/carrying amount of associated liabilities[5]	(26,155)	(34,390)	(21,254)
Net position	$ 33	$ 1,208	$ 1,388

[1] *Includes securities lent, both directly and through a third party, of $19,037 million, which have not been derecognized from HOOPP's statements of financial position as the risks and rewards remain with HOOPP. The remaining amount of $13,141 million represents other transfers of financial assets received from various transactions, which have not been recognized on HOOPP's statements of financial position as the risks and rewards remain with the counterparty.*
[2] *Includes cash collateral pledged of $nil. The full amount represents securities that have not been derecognized from HOOPP's statements of financial position, as the risks and rewards remain with HOOPP.*
[3] *These securities have not been recognized on HOOPP's statements of financial position as the risks and rewards remain with the counterparty.*
[4] *Includes cash collateral received of $11,531 million. The remaining amount represents securities that have not been recognized on HOOPP's statements of financial position, as the risks and rewards remain with HOOPP's counterparty, or the third party's counterparty in accordance with the securities lending agreement.*
[5] *Includes $100 million of accrued investment liabilities relating to investments sold short. Amounts for repurchase agreements and derivatives are presented in note 2.*

Note 6 – RISK MANAGEMENT

HOOPP's primary mission is to secure the pension promise for all of its members, pensioners and beneficiaries (HOOPP members). In order to accomplish this, the Plan must actively manage its net funded position (i.e., surplus or deficit). There are two major components to the net funded position - the Plan's going concern pension obligations and net investments - which HOOPP manages and measures in concert. The risk that the imbalance between the net investments and pension obligations becomes a deficit is referred to as funding risk.

The Plan's investments are exposed to financial risks (i.e., market risk, credit risk and liquidity risk) through its investment activities.

HOOPP's Board is responsible, with the assistance of staff, agents and advisors, for prudently managing, investing and administering the Plan in order to secure the pension promise for HOOPP's members. This requires Board oversight of the investments and pension obligations to ensure they are being managed in the best interests of HOOPP members. The Board has established a policy framework, which outlines the Board's risk tolerances, and which guides the development of investment strategies to meet HOOPP's overall objectives.

The cornerstone of the policy framework is the Funding Decision Framework. The Funding Decision Framework sets out criteria to be considered when contemplating changes to contribution rates and/or benefits levels, and establishes a target range for the Plan's funded ratio, which is the ratio of the Plan's net investments to its pension obligations. HOOPP's investment policy and strategic asset mix will also impact the Plan's funded ratio and can be altered to support the management of HOOPP's funded position.

Broadly, the Plan manages funding risk by:

- utilizing a liability driven investment (LDI) approach, an investment strategy that aligns the Plan's investments to the Plan's pension obligations, which helps determine appropriate investments and reduces funding risk;
- setting and managing to a minimum and a target expected range for the Plan's funded ratio;
- annually reviewing the actuarial assumptions underlying the Plan's pension obligations to ensure continued appropriateness; and
- complying with the PBA, the ITA, the Plan's *Agreement and Declaration of Trust*, and the *Plan Text*.

The Board provides a framework for the investment of the Plan's investments through the following key documents, which collectively form HOOPP's policy framework, and which the Board reviews and approves at least annually:

- Investment Risk Framework – the Board's view of the Plan's risk tolerance;
- Statement of Investment Policies and Procedures (SIP&P) – investment guidelines for the management of the Plan, including objectives and how they will be reached; and
- Investment Policies and Guidelines (IP&G) – the Plan's policy benchmark, policy asset mix and detailed investment limits.

The Investment Management Division provides advice and recommendations to the Board about the investing of Plan investments to meet the Plan's target funding ratio and they design and execute investment strategies, in compliance with HOOPP's policy framework. The Finance Division, which is independent from the Investment Management Division, monitors the limits set out in the IP&G. Compliance reporting is provided quarterly to the Board's Asset Liability Management Committee (ALM Committee) and the Board.

The Board's ALM Committee oversees the management and investment of the Plan's investments and pension obligations. It monitors and evaluates the investment management process and performance of the Plan and reviews and recommends to the Board asset liability management policies. The ALM Committee also reviews, monitors and makes recommendations to the Board on matters such as actuarial valuations and the appointment and performance of the Board's external actuarial advisors.

The Board's Plan Committee (Plan Committee) oversees the Plan's benefits design and administration. It reviews, monitors and makes recommendations to the Board on matters such as proposed changes to benefits, Plan amendments, and contribution rates, as well as benefit administration. The Plan Committee also monitors compliance with legislative and regulatory requirements and the Board's policies.

Funding Risk

The primary risk that HOOPP faces is funding risk - the risk that the Plan's net investment growth and contribution rates will not be sufficient to cover the Plan's pension obligations resulting in an unfunded liability (i.e., a funding deficit). If the funding deficit reaches a certain level, or persists, it may need to be eliminated by reducing benefits, raising contributions, or a combination of both.

The Plan's net funded position can change relatively quickly if there are changes in the value of the Plan's net investments or pension obligations, which may result in a mismatch between the Plan's net investments and its pension obligations. The most significant economic contributors to funding risk are as follows:

- declines in interest rates;
- equity markets failing to achieve expected returns; and
- unexpected increases in inflation.

In addition to the economic contributors to funding risk listed above and further described in the Financial Risk Management section below, the Plan's pension obligations are also affected by non-economic factors such as changes in member demographics.

As at December 31, 2019, the Plan had a surplus for financial statement purposes of $20,555 million (2018: $13,891 million) based on the difference between the fair value of net assets available for benefits and the pension obligations. On a regulatory filing basis at December 31, 2019, the Plan had a regulatory filing surplus of $13,634 million, compared to $13,494 million as at December 31, 2018 (based on the smoothed asset value of net assets described in note 11).

The Board manages funding risk by monitoring and reviewing the funded ratio on an ongoing basis, relying on the results of various scenarios, to ensure it remains in the targeted range. If and when the future funded ratio falls outside the range, the Board determines whether changes to the investment policy, strategic asset mix, and contribution rates and/or benefits may be required.

When formulating the investment policy to effectively manage both risk and the net funded position, HOOPP must consider investment strategies that are suitable for the Plan's pension obligations. Failing to do this would result in greater volatility in the Plan's funded status, leading to a greater risk of making changes to benefits and/or contribution rates.

The Board's external actuary performs an annual valuation to determine the Plan's funded status and also forecasts future results.

HOOPP is registered with FSRA and is required to file a regulatory filing valuation periodically. It last filed a regulatory filing valuation for the year ended December 31, 2018. See note 12 for more information on HOOPP's regulatory filing valuation.

Financial Risk Management

The Plan's investment activities expose it to financial risks, which include:

- market risk (including interest rate risk, foreign currency risk and other price risk);
- credit risk; and
- liquidity risk.

Market risk

Market risk is the risk that the fair value of a financial instrument will fluctuate due to changes in market prices, whether those changes are caused by factors specific to the individual investment or its issuer or factors affecting all securities traded in the market.

i. Interest rate risk

Interest rate risk is the risk that the fair value of a financial instrument will fluctuate because of changes in market interest rates.

The Plan is exposed to interest rate risk as a result of the policy decision to invest in interest rate sensitive instruments as part of the LDI approach to investing. The Plan's interest rate sensitive instruments and the remaining term to maturity or repricing dates, whichever is earlier as at December 31, are summarized below by class of financial instrument.

	2019				
($ millions)	Within 1 Year	1 to 5 Years	5 to 10 Years	Over 10 Years	Total
Short-term securities	$ 5,378	$ -	$ -	$ -	**$ 5,378**
Canadian bonds[1][2]	20,300	23,271	9,008	33,785	**86,364**
Non-Canadian bonds[1][2]	1,365	116	316	8,027	**9,824**
Non-Canadian commercial loans[3]	312	-	78	-	**390**
Canadian public equities	-	603	-	-	**603**
Non-Canadian public equities	-	17	-	-	**17**
Non-Canadian bond exchange-traded funds	-	1,982	684	1,496	**4,162**
Derivative instruments	(22,012)	(14,778)	(727)	(702)	**(38,219)**
Net repurchase agreements	(15,839)	-	-	-	**(15,839)**
Total	**$ (10,496)**	**$ 11,211**	**$ 9,359**	**$ 42,606**	**$ 52,680**

[1] Net of Canadian bonds sold short of $8,259 million and non-Canadian bonds sold short of $436 million.
[2] Includes accrued interest of $484 million on Canadian bonds and $66 million on non-Canadian bonds.
[3] Includes accrued interest of $2 million on non-Canadian commercial loans.

	2018				
($ millions)	Within 1 Year	1 to 5 Years	5 to 10 Years	Over 10 Years	Total
Short-term securities	$ 1,203	$ -	$ -	$ -	$ 1,203
Canadian bonds[1][2][3]	19,900	23,633	9,292	30,578	83,403
Non-Canadian bonds[1][2]	(5,375)	145	927	9,546	5,243
Non-Canadian commercial loans	-	27	22	-	49
Canadian public equities[3]	-	603	-	-	603
Non-Canadian public equities[3]	-	14	-	-	14
Non-Canadian bond exchange-traded funds	-	-	-	-	-
Derivative instruments	(6,918)	(26,731)	(423)	188	(33,884)
Net repurchase agreements	(15,284)	-	-	-	(15,284)
Total	$ (6,474)	$ (2,309)	$ 9,818	$ 40,312	$ 41,347

[1] Net of Canadian bonds sold short of $6,972 million and non-Canadian bonds sold short of $8,086 million.
[2] Includes accrued interest of $539 million on Canadian bonds and $72 million on non-Canadian bonds.
[3] Amounts have been reclassified to conform to the current year's presentation.

Risk measurement

The Plan's interest rate sensitive portfolio is reviewed to ensure compliance to policy. The ALM Committee receives quarterly reports, which include interest rate exposure for the interest rate sensitive portfolio. As at December 31, 2019, a 1% increase/decrease in interest rates would have decreased/increased the Plan's net assets available for benefits by $7,647 million (2018: $7,322 million). While the increase/decrease in interest rates would have decreased/increased the value of the Plan's assets, longer-term trends in increases/decreases in interest rates would have also decreased/increased the value of the Plan's pension obligations.

Risk management

While the Plan's interest rate sensitive products are exposed to interest rate risk, this risk has been assumed purposefully as part of the LDI approach to offset the interest rate risk inherent in the Plan's pension obligations. HOOPP uses duration to measure the sensitivity of the fair value of fixed income investments to changes in market interest rates. HOOPP manages its exposure to investment interest rate risk by ensuring the modified duration of the fixed income mandates remains within the approved ranges of the respective benchmarks as stipulated in the IP&G and the overall asset mix remains within the approved policy weights specified in the IP&G. This is accomplished by rebalancing the portfolio on a regular basis and through the use of derivatives, including interest rate swaps, cross-currency swaps and interest rate futures.

ii. Foreign currency risk

Foreign currency risk is the risk that the fair value of a financial instrument denominated in a foreign currency will fluctuate due to changes in applicable foreign exchange rates. While HOOPP pension benefits are paid in Canadian dollars, some of the Plan's financial instruments are denominated in other currencies. The Plan's significant foreign currency exposure (including through derivatives) as at December 31 is presented below. The table also includes the Canadian dollar equivalent impact of a 5% increase/decrease in the applicable foreign exchange rate on the Plan's net assets available for benefits.

	2019			2018		
($ millions)	Local Currency	Canadian Dollar Equivalent	Impact of +/- 5% Change	Local Currency	Canadian Dollar Equivalent	Impact of +/- 5% Change
Chinese Yuan	**2**	**$ -**	**$ -**	555	$ 110	$ 6/(6)
Euros	**218**	**319**	**16/(16)**	105	162	8/(8)
United States Dollars	**452**	**588**	**29/(29)**	260	355	18/(18)

Risk measurement

The exposures to foreign currency are measured daily and reported monthly for compliance purposes. Each quarter, management provides the Board with reports and analysis, illustrating the impact on assets of foreign currency rate changes. As at December 31, 2019, a strengthening/weakening in the Canadian dollar of 1% against other currencies would result in a decrease/increase to the Plan's net assets available for benefits of approximately $9.7 million (2018: decrease/increase of approximately $6.4 million).

Risk management

While certain limited risk-taking activities are permitted, HOOPP manages its exposure to foreign currency risk by ensuring the exposures are effectively hedged in accordance with the limits stipulated in the IP&G. These limits generally require the Plan's foreign currency exposure to be hedged within a 5% tolerance of the Fund's net asset value. This is accomplished through the use of derivatives, which include foreign exchange forward contracts and cross-currency swaps.

iii. Other price risk

The Plan is also exposed to other price risk, which is the risk that the fair value of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate risk or currency risk). HOOPP is exposed to other price risk, which includes primarily equity price risk through its investment in public equities and derivative instruments. In addition, HOOPP has exposure to other equity-based price risk of $2,195 million (2018: $2,197 million) through its investments in dividend derivatives. The 1% increase/decrease in the dividends would have resulted in an increase/decrease in the Plan's net assets available for benefits of $22 million (2018: $22 million).

The Plan's total exposure to equity price risk (including through derivatives) as at December 31 is presented below. The table also includes the impact of a 10% increase/decrease in the equity markets benchmark price index on the Plan's net assets available for benefits.

2019				
($ millions)	**Effective Equity Exposure**	**% of Net Assets Available for Benefits**	**Benchmark**	**Impact of a 10% Increase/ (Decrease)**
Canadian	$ 3,745	4.0%	S&P/TSX 60 Total Return Index	$ 375/(374)
United States				
Equities	9,668		S&P 500 Total Return Index	980/(959)
Long option strategy	124		S&P 500 Futures with 10-Year Options	(95)/(86)
	9,792	10.4%		885/(1,045)
International	11,544	12.3%	Blend of International Indices[1]	1,173/(1,178)
	$ 25,081			**$2,433/(2,597)**

[1] *The blended benchmark is composed of the following international stock market indices: Dow Jones Euro Stoxx 50 Index, Tokyo Stock Price Index (Topix), FTSE 100, Swiss Market Index (SMI), Hang Seng Index, Australian Securities Exchange (ASX) 200.*

2018				
($ millions)	**Effective Equity Exposure**	**% of Net Assets Available for Benefits**	**Benchmark**	**Impact of a 10% Increase/ (Decrease)**
Canadian	$ 4,067	5.1%	S&P/TSX 60 Total Return Index	$ 407/(407)
United States				
Equities	10,090		S&P 500 Total Return Index	1,087/(977)
Long option strategy	(4,632)		S&P 500 Futures with 10-Year Options	(387)/268
	5,458	6.9%		700/(709)
International	8,541	10.8%	Blend of International Indices[1]	907/(849)
	$ 18,066			$ 2,014/(1,965)

[1] *The blended benchmark is composed of the following international stock market indices: Dow Jones Euro Stoxx 50 Index, Tokyo Stock Price Index (Topix), FTSE 100, Swiss Market Index (SMI), Hang Seng Index, Australian Securities Exchange (ASX) 200.*

Risk measurement

HOOPP measures risk daily by monitoring exposure levels to Board approved limits, which include total equity exposure and single-name limits. Compliance limit reporting is provided to the Board on a quarterly basis. Sensitivity analysis is performed to measure the impact of public equity market changes, to quantify the underlying risk and to ensure risk mitigation strategies are effective.

As at December 31, 2019, a 1% increase/decrease in equity markets would have resulted in an increase/decrease in the Plan's net assets available for benefits of $251 million (2018: $181 million).

Risk management

HOOPP manages equity risk through diversification, by investing in major equity markets with benchmarks approved by the Board, and through physical and derivative markets in order to minimize non-systemic risk. Rebalancing occurs regularly to ensure the weighting of the equity investments, in respect to the overall value of the Plan, remains within the limits established by the Board.

Credit risk

Credit risk is the risk of loss associated with an obligor's potential inability or unwillingness to fulfill its contractual obligations.

Counterparty credit risk is the risk of loss in the event the counterparty (excluding clearing houses) defaults on a transaction, or otherwise fails to perform under the terms of a contract.

The Plan assumes credit risk exposure through its investment in fixed income instruments and the underlying reference bond of credit derivatives. Counterparty credit risk is introduced through the Plan's securities lent/borrowed, repurchase agreements and derivatives.

HOOPP has investment policies and procedures in place, which specify the requirements for using collateral to reduce the total net credit risk exposure to individual corporate entities. Only collateral of a certain quality is considered acceptable. Contracts with various counterparties are in place and define the terms under which collateral is transferred. Terms may include minimum transfer amounts or thresholds, eligible securities, and rules for the settlement of disputes. The collateral pledged and received is the only recourse available to the counterparties of these transactions.

The Plan's total credit risk exposure as at December 31 was as follows:

	2019		2018	
($ millions)	Total Credit Exposure	% of Total	Total Credit Exposure	% of Total
Sovereign securities AAA[1]	**$ 25,919**	**18.1%**	$ 20,568	16.4%
Fixed income instruments				
AAA	**23,008**	**16.1%**	20,821	16.6%
AA	**43,635**	**30.6%**	39,134	31.4%
A	**6,855**	**4.8%**	7,568	6.0%
BBB	**1,118**	**0.8%**	718	0.6%
BB or below	**1,779**	**1.2%**	1,618	1.3%
Credit derivatives	**16,500**	**11.6%**	14,915	11.9%
Counterparty credit risk exposure				
Derivative instruments	**2,692**	**1.9%**	1,737	1.4%
Repurchase agreements	**58**	**-**	1,063	0.8%
Securities lending program	**21,274**	**14.9%**	16,952	13.6%
Maximum credit risk exposure	**142,838**	**100%**	125,094	100%
Credit risk protection (credit derivatives)	**(15,284)**		(10,816)	
Collateral received	**(19,955)**		(16,164)	
Total	**$ 107,599**		$ 98,114	

[1] *As at December 31, 2019, includes securities issued by the governments of Canada, Germany and the United States (2018: Canada, Germany and the United States).*

Risk measurement

HOOPP measures the risk by monitoring the Plan's exposure each day to credit based on Board-approved credit limits, which include overall exposure limits, single-name limits, and counterparty exposure to determine whether collateral should be requested. Counterparty credit risk exposure for financial contracts 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. Compliance reporting is provided quarterly to the ALM Committee and the Board. Investments in any one issuer are limited to 5% of the total net assets of the Plan.

Risk management

HOOPP's policy is to manage credit risk by placing limits on investments in below-investment grade debt, diversifying credit holdings, and limiting investments based on single-name issuer limits as stipulated by the Board in the IP&G. HOOPP assigns credit ratings to its sovereign securities and fixed income instruments as determined by recognized credit rating agencies, where available. For fixed income instruments that are not rated by a recognized credit ratings agency, HOOPP assigns credit ratings based on an internal rating process. HOOPP will also employ the use of credit derivatives to achieve its objective of managing credit risk. HOOPP has a long-term focus on credit risk; therefore, changes in the market value of securities due to fluctuations in credit spreads are not of primary concern.

HOOPP mitigates counterparty credit risk by transacting exchange-traded derivative contracts and, when required, by dealing primarily with over-the-counter derivatives counterparties with a minimum credit rating of A, as determined by a recognized credit rating agency. HOOPP also uses an internal credit-limit monitoring process and has master netting arrangements in place and the right to obtain collateral, all of which mitigate counterparty credit risk. Exposure to any counterparty with whom the Plan has non-exchange traded derivative contracts shall not exceed the limits specified and approved by the Board in the IP&G. Counterparty exposure is determined daily and collateral is either requested or delivered in accordance with the agreements in place. Note 5 provides more information on collateral.

Liquidity risk

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

Risk measurement

On a daily basis, HOOPP forecasts cash flow requirements for up to one week to ensure sufficient cash is made available to meet short-term requirements.

Also, the ratio of assets available to cover potential margin calls is determined daily. When calculating the assets available for liquidity, factors such as market value, collateral pledged and received, securities purchased under resell agreements and securities sold under repurchase agreements, and securities lending and borrowing positions are considered. The potential margin call is based on the Plan's exposure to various derivatives and their potential daily market movement.

In addition, consideration is given to the Plan's financial liabilities, which include investment-related liabilities (note 2), accrued pension obligations (note 11), and contracts that give rise to commitments for future payments (notes 14 and 15).

Risk management

HOOPP manages liquidity risk by maintaining sufficient cash and cash equivalents, investing in highly liquid securities which can be easily converted to cash, and through the use of investment income and contributions received, to meet liquidity requirements. Highly liquid securities mainly consist of sovereign, supranational and provincial debt, as well as shares of corporations listed in major equity indices. These sources of funds are used to pay pension benefits, settle financial liabilities and pay for operating expenses.

The Plan's assets available for liquidity needs, as at December 31 are as follows:

($ millions)	2019	2018
Liquid securities	**$ 99,300**	$ 91,741
Less: net liquid securities transferred[1]	**(62,749)**	(56,001)
Securities available for liquidity needs	**$ 36,551**	$ 35,740

[1] *Includes securities purchased under resell agreements and securities sold under repurchase agreements, securities lent and borrowed, and collateral pledged and received.*

Note 7 – OTHER ASSETS

As at December 31, other assets consist of the following amounts:

($ millions)	2019	2018
Refundable withholding tax on contributions	**$ 144**	$ 130
Fixed assets and intangible assets	**46**	51
Other	**2**	15
Total	**$ 192**	$ 196

Note 8 – CONTRIBUTIONS

Contributions received are reconciled annually, within a year, to ensure the appropriate amounts have been remitted. To perform this reconciliation, HOOPP requires each employer to verify and update HOOPP's records for each of their member's service and contributions. With this information, HOOPP performs a reconciliation for each employer to determine if the correct amount of contributions has been remitted to HOOPP. Once this reconciliation is complete, HOOPP is able to calculate the amount of any differences related to contributions. Any shortfalls are recovered from the employer and any overpayments are refunded or credited towards future remittances.

Contributions received or receivable during the years ended December 31 were comprised of the following:

($ millions)	2019	2018
Employers		
Current service contributions	**$ 1,371**	$ 1,285
Members		
Current service contributions	**1,088**	1,020
Past service contributions from members	**54**	60
Transfers from other plans[1]	**48**	26
	1,190	1,106
Total	**$ 2,561**	$ 2,391

[1] *Excludes transfer of assets from merged pension plans, which are disclosed in Note 18.*

Note 9 – BENEFITS

Benefits paid during the years ended December 31 were comprised of the following:

($ millions)		2019		2018
Benefit payments				
Retirement pension and bridge benefits[1]	**$**	**2,205**	$	1,984
Commuted value transfers and death benefits		**532**		399
		2,737		2,383
Refunds and transfers				
Refunds		**162**		139
Transfers to other plans		**35**		25
		197		164
Total	**$**	**2,934**	$	2,547

[1] *Includes disability payments of $78 million (2018: $79 million).*

Note 10 – OPERATING EXPENSES

For the years ended December 31, HOOPP incurred operating expenses for Investment and Plan related activities as follows:

($ millions)		2019		2018
Investment[1]				
Administration	**$**	**161**	$	138
Legal, actuarial and other professional fees[2]		**9**		5
Custodial		**2**		3
		172		146
Plan[1]				
Administration		**88**		83
Legal, actuarial and other professional fees[2]		**11**		17
		99		100
Total	**$**	**271**	$	246

[1] *Based on an allocation of corporate expenses that includes direct and indirect expenses associated with Investment and Plan related activities. Costs are allocated using estimates of time associated with each activity.*

[2] *Includes amounts paid or payable to the auditors pertaining to statutory audit services of $816,000 (2018: $971,000), and non-audit services of $163,000 (2018: $245,000). Also includes amounts paid or payable to the actuary pertaining to actuarial services of $524,000 (2018: $489,000).*

Note 11 – PENSION OBLIGATIONS

Pension Obligations

The pension obligations are based on management's assumptions and include a provision for expenses. The Plan provisions considered in the valuations were those in effect at the valuation dates.

Estimates used for financial reporting purposes reflect management's expectations of long-term economic and demographic conditions. The primary economic assumptions include the discount rate, salary escalation rate and price inflation rate. The non-economic assumptions include considerations such as mortality, withdrawal and retirement rates.

The discount rate is based on the long-term expected Fund return and includes a margin for conservatism, as appropriate for a funding valuation. The price inflation rate is based on the expected CPI rate.

For the December 31, 2019 actuarial valuation, the Board approved a decrease to the discount rate and salary escalation rate as indicated below. The Board also approved changes to certain demographic assumptions based on recent experience as well as a change to reflect the allowance for plan expenses in the discount rate.

To determine the pension obligations as at December 31, 2019 and December 31, 2018, the following economic assumptions were analyzed and reviewed by management and the Plan's actuarial advisor for reasonableness and approved by the Board for financial reporting purposes:

	2019[3]	2018[3]
Discount rate[1]	**5.00%**	5.30%
Rate of price inflation	**2.00%**	2.00%
Real discount rate	**3.00%**	3.30%
Salary escalation rate[2]	**3.50%**	3.50%

(1) Net of allowance for investment and plan expenses of 0.40% (2018: 0.25% for investment expenses only).
(2) A two-tiered rate of 2.75% per annum for the first three years following the valuation date and 3.50% per annum thereafter is assumed (2018: single rate of 3.50% per annum).
(3) Net impact from changes to the discount rate, salary escalation rate, expense provision and all other assumptions resulted in an actuarial loss of $2,842 million (2018: Impact from change to the discount rate was an actuarial loss of $1,675 million).

Actuarial Methodology for Financial Reporting

For the determination of the actuarial present value of the pension obligations as at December 31, 2019, an actuarial valuation was conducted by Mercer (Canada) Limited. The valuation uses the projected accrued benefit actuarial cost method with respect to all benefits and assumes that the Plan will continue on a going concern basis. The data used in the valuation was based on members' demographic data provided by HOOPP staff as at October 1, 2019 and members' pay data provided as at December 31, 2018, all of which were projected to December 31, 2019 using management's estimates of experience for the intervening periods. The pensionable earnings estimates were determined based on 2018 experience and estimate assumptions.

Using this method and data, the pension obligations (or going concern actuarial pension obligations) as at December 31, 2019, were $73,547 million (2018: $65,128 million).

Estimated Experience Gains and Losses

Estimated experience gains and losses represent the change in the pension obligations due to the difference between actual economic and demographic experience and expected experience. During 2019, there was an estimated experience gain of $64 million (2018: loss of $342 million).

Plan Provisions

As discussed under the Description of the Plan, the Board has the authority to provide ad hoc inflation protection for retirees and deferred retirees. During 2018, the Board confirmed 100% of the 2018 CPI increase as an ad hoc increase effective April 1, 2019. As at December 31, 2018, the additional impact to the pension obligations for this ad hoc inflation protection adjustment is $228 million. During 2019, the Board confirmed 100% of the 2019 CPI increase as an ad hoc increase effective April 1, 2020. As at December 31, 2019, the additional impact to the pension obligations for this ad hoc inflation protection adjustment is $253 million.

Surplus

According to the Handbook, the surplus for financial statement presentation purposes is the difference between the market value of net assets available for benefits and the pension obligations. The surplus for financial statement purposes on December 31, 2019, was $20,555 million (2018: $13,891 million).

The net assets value used for regulatory filing purposes, referred to as the "smoothed" value of net assets, is determined in a manner that reflects long-term market trends consistent with assumptions underlying the actuarial present value of pension obligations. The smoothed value of net assets is determined by taking an average of the current market value of net assets and the market values for the four preceding years. The market values for the four preceding years are adjusted for contributions, benefit payments and operating expenses. They are also adjusted to include assumed investment return, which is based on long-term expected fund returns. The regulatory filing surplus on December 31, 2019, was $13,634 million (2018: $13,494 million).

The market value of net assets available for benefits exceeds the smoothed value of net assets, resulting in a difference between the surplus for financial statement purposes and that for regulatory filing purposes of $6,921 million at December 31, 2019 (2018: $397 million).

Note 12 - REGULATORY FILING VALUATION

In accordance with the PBA and the ITA, an actuarial valuation is required to be filed at least every three years to estimate the Plan's surplus or deficit, and to determine the Plan's minimum funding requirements. Mercer (Canada) Limited, prepared the last actuarial valuation for regulatory filing purposes, as at December 31, 2018, and a copy of that valuation was filed with FSRA and CRA. The effective date of the next required valuation is December 31, 2021.

The funding valuation method used to determine the pension obligations is the projected accrued benefit actuarial cost method. Under this method, the pension obligations are determined by calculating the actuarial present value of benefits based on service at the valuation date and projected final average earnings. The actuarial current service cost of benefits is determined based on benefits (with projected final average earnings) in respect of service in the year following the valuation date, a portion of which is covered by member contributions.

Mercer (Canada) Limited, in consultation with management, recommended the actuarial assumptions to be used for the regulatory filing valuation. The economic assumptions used for the December 31, 2018 regulatory filing valuation were as follows:

Economic Assumptions	Rates
Discount rate[1]	**5.30%**
Rate of price inflation	**2.00%**
Real discount rate	**3.30%**
Salary escalation rate	**3.50%**

[1] *Net of allowance for investment expenses of 0.25%.*

The most recent regulatory filing valuation conducted as at December 31, 2018, disclosed a smoothed value of net assets of $78,622 million with accrued going concern pension obligations of $65,128 million, resulting in a going concern regulatory filing surplus of $13,494 million. In accordance with the PBA, the solvency deficiency at December 31, 2018 was $nil.

Note 13 – RETIREMENT COMPENSATION ARRANGEMENT

The RCA is an arrangement that is funded by member and employer contributions as well as investment earnings and managed in accordance with the overall Plan. The RCA assets are segregated under a separate account from the assets of the RPP. The allocation of contributions to the RCA and RPP are driven by the requirements of the ITA in a manner that is expected to be sufficient to pay the benefits as they become due. Total pension benefits are calculated using the pension formula disclosed under the Description of the Plan based on a member's total pensionable earnings. Benefits payable from the RCA are then determined as those which exceed amounts permitted under the ITA for an RPP. The net asset value available for RCA benefits at December 31, 2019 was $207 million (2018: $229 million).

Note 14 – RELATED PARTY TRANSACTIONS

As at December 31, 2019, a wholly-owned subsidiary of the Plan held a significant ownership interest in a commercial office building. The Plan is also a tenant in this office building. The term of its lease is 15 years with two renewal options, each for 5 years. The lease payments are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties. The future minimum lease payments by year, and in aggregate, are as follows:

($ millions)	Minimum Lease Payments
2020	$ 6
2021	6
2022	6
2023	6
2024	6
Thereafter	78
Total minimum lease payments	**$ 108**

Note 15 – COMMITMENTS

As part of normal business operations, the Plan enters into commitments related to the funding of investments. The Plan or its subsidiaries have committed to either purchase limited partnership units, which fund real estate, private equity and infrastructure investments, or to directly invest in real estate, and private equity. These commitments will be funded over the next several years in accordance with agreed-on terms and conditions. As at December 31, 2019, these commitments totalled $1,603 million related to real estate investments, $6,703 million related to private equity investments and $794 million related to infrastructure investments (2018: $1,641 million, $6,592 million and $nil, respectively). Commitments that are deemed to be insignificant have not been disclosed.

Note 16 – CAPITAL

HOOPP defines its capital as the Plan's surplus or deficit. The objective of managing the Plan's capital is to ensure that the Plan is fully funded in order to meet the pension obligations over the long term. Refer to note 6 for further disclosure on HOOPP's capital.

Note 17 – GUARANTEES, INDEMNIFICATIONS AND CONTINGENCIES

Guarantees are contracts under which the guarantor is required to make payment to a third party where a principal obligor fails to pay or perform a stated obligation owed to that party. Indemnification agreements are similar to guarantees in that the indemnifying party may be required to make payments to the indemnified party in the event that the indemnified party incurs certain specified losses or expenses, often as a result of the act or omission of the indemnifying party.

Guarantees

The Plan indirectly guarantees the underlying reference obligations when it sells credit protection (i.e., it commits to compensate the counterparty in the event of a default in relation to the reference obligation). The maximum potential exposure is the notional amount of the credit protection sold. However, when carefully structured and coupled with other hedging instruments, the exposure can be limited with certainty. The notional amount, fair value and the term to maturity of the credit protection sold by the Plan are disclosed in note 3. The nature of any assets held as collateral is disclosed in note 5.

Indemnifications

According to the *Agreement and Declaration of Trust*, the Plan may indemnify its trustees and employees against certain claims that may be made against them. In addition, the Plan may in certain circumstances in the course of the Plan's investment activities and its normal course of operations, agree to indemnify a contractual counterparty. Under the terms of these various arrangements, the Plan may be required to compensate counterparties for costs incurred because of various contingencies such as legal claims or changes in laws and regulations. The number of such agreements, the range of indemnifications and the contingent nature of the liabilities in such agreements, prevent HOOPP from making a reasonable estimate of the maximum amount that would be required to pay all such indemnifications. As at December 31, 2019, the amount recorded as a liability for claims under these arrangements was $nil (2018: $nil).

Contingencies

As at December 31, 2019, the Plan was involved in defending against certain claims, such as tax claims, or asserting claims against third parties. The outcome and possible impact to the Plan of such litigation or claims is inherently difficult to predict. It is the opinion of management that any impact that may result would not have a significant adverse effect on the Plan's financial statements.

Note 18 – MERGED PENSION PLANS

Effective November 1, 2015, legislative changes permitting public sector single-employer pension plans (SEPPs) to merge into jointly-sponsored pension plans (JSPPs) came into force. As a result, non-HOOPP SEPPs are permitted to merge into HOOPP subject to certain conditions.

Effective January 1, 2019, two pension plans sponsored by Unity Health, namely St. Joseph's Health Centre Pension Plan and the Providence Healthcare Pension Plan, as well as two pension plans sponsored by the Sisters of St. Joseph for the Diocese of Toronto in Upper Canada, namely the Pension Plan for the Employees of the Sisters of St. Joseph for the Diocese of Toronto in Upper Canada and the Sisters of St. Joseph Pension Plan for Designated Employees, merged into HOOPP. As a result of these mergers, assets of $871 million have been transferred to the Plan during 2019 and have become part of the net assets available for benefits. As well, pension obligations of $813 million were assumed by the Plan as of April 30, 2019.

Effective July 1, 2019, the St. Michael's Hospital Pension Plan, sponsored by Unity Health, merged into HOOPP. As a result of this merger, assets of $1,194 million have been transferred to the Plan during 2019 and have become part of the net assets available for benefits. As well, pension obligations of $1,151 million were assumed by the Plan as of October 28, 2019.

Ten Year Review

(unaudited)
For the years ended December 31

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
($ millions)										
CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS										
Net assets available for benefits, beginning of the year	**$ 79,019**	$ 77,755	$ 70,359	$ 63,924	$ 60,848	$ 51,626	$ 47,414	$ 40,321	$ 35,717	$ 31,116
Change in net assets available for benefits										
Net investment income	**13,662**	1,666	7,598	6,579	3,103	9,105	4,046	6,857	4,327	4,245
Contributions										
Employers	**1,371**	1,285	1,224	1,173	1,108	1,075	1,033	1,003	954	921
Members	**1,190**	1,106	1,112	1,022	991	929	880	860	797	793
Transfer of assets from merged pension plans	**2,065**	-	-	-	-	-	-	-	-	-
Benefit payments, refunds and transfers	**(2,934)**	(2,547)	(2,314)	(2,127)	(1,925)	(1,702)	(1,587)	(1,486)	(1,335)	(1,229)
Operating expenses	**(271)**	(246)	(224)	(212)	(201)	(185)	(160)	(141)	(139)	(129)
Total change in net assets available for benefits	**15,083**	1,264	7,396	6,435	3,076	9,222	4,212	7,093	4,604	4,601
Net assets available for benefits, end of the year	**$ 94,102**	$ 79,019	$ 77,755	$ 70,359	$ 63,924	$ 60,848	$ 51,626	$ 47,414	$ 40,321	$ 35,717
NET ASSETS AVAILABLE FOR BENEFITS										
Assets										
Investment assets										
Cash	**$ 94**	$ 8	$ 21	$ 19	$ 57	$ 2	$ 8	$ (1)	$ 3	$ 14
Securities purchased under resell agreements	**2,179**	10,871	7,797	6,283	2,498	3,286	3,046	3,117	3,188	1,134
Fixed income	**110,099**	104,345	103,177	115,472	115,930	106,200	86,694	74,669	71,241	60,322
Public equities	**31,371**	24,351	36,326	16,106	9,150	2,182	4,596	1,705	931	773
Private equities and special situations	**10,813**	10,126	7,220	4,969	4,339	3,275	2,580	1,999	1,972	1,841
Real estate	**13,601**	13,255	11,952	10,053	9,063	7,717	7,008	5,854	4,924	4,100
Infrastructure	**114**	-	-	-	-	-	-	-	-	-
Alternative investments	**753**	-	-	-	-	-	-	-	-	-
Derivative instruments	**9,642**	8,479	8,714	7,252	5,236	5,808	5,053	1,624	3,041	1,831
Investment receivables	**1,772**	1,052	3,103	3,635	1,063	934	1,438	1,276	1,538	1,322
Contributions receivable	**196**	173	173	171	156	156	150	150	142	135
Other assets	**192**	196	207	205	165	151	146	150	148	142
Total assets	**180,826**	172,856	178,690	164,165	147,657	129,711	110,719	90,543	87,128	71,614
Liabilities										
Investment liabilities	**(86,581)**	(93,701)	(100,803)	(93,661)	(83,616)	(68,753)	(58,999)	(43,046)	(46,722)	(35,825)
Other liabilities	**(143)**	(136)	(132)	(145)	(117)	(110)	(94)	(83)	(85)	(72)
Total liabilities	**(86,724)**	(93,837)	(100,935)	(93,806)	(83,733)	(68,863)	(59,093)	(43,129)	(46,807)	(35,897)
Net assets available for benefits	**94,102**	79,019	77,755	70,359	63,924	60,848	51,626	47,414	40,321	35,717
Pension obligations	**73,547**	65,128	59,602	54,461	49,151	46,923	41,478	39,919	36,782	34,897
Surplus	**$ 20,555**	$ 13,891	$ 18,153	$ 15,898	$ 14,773	$ 13,925	$ 10,148	$ 7,495	$ 3,539	$ 820
Investment Performance										
Investment rate of return-net	**17.14%**	2.17%	10.88%	10.35%	5.12%	17.72%	8.55%	17.10%	12.19%	13.68%
Benchmark return	**15.06%**	0.01%	7.89%	6.12%	3.95%	15.62%	6.46%	14.29%	9.87%	10.31%
Value-Added return	**2.08%**	2.16%	2.99%	4.23%	1.17%	2.10%	2.09%	2.81%	2.32%	3.37%

Governance

Seated (left to right): Anthony Dale, Christine Chen, Barry Wainstein, Adrian Foster, Karli Farrow, Gerry Rocchi
Standing (left to right): Sandi Blancher, Jim Flett, Louis Rodrigues, Ian Matheson, Linda Haslam-Stroud, Dan Anderson, Sharon Richer, Jon Clark, J. Cameron Nelson, Linda Clayborne, R. Wayne Gladstone, Laura Dumoulin

In 1993, HOOPP's five Settlor organizations signed an Agreement & Declaration of Trust, creating a joint-governance structure that features equal representation from members and employers. As a result, HOOPP is governed by an independent Board of Trustees made up of 16 voting members; eight trustees are appointed by the Ontario Hospital Association (OHA) and eight are appointed by the four unions representing the majority of Plan members:

- Ontario Nurses' Association (ONA)
- Canadian Union of Public Employees (CUPE)
- Ontario Public Service Employees Union (OPSEU)
- Service Employees International Union (SEIU)

There are also two non-voting Board members. One observer representing pensioners is appointed by the OHA, and one is appointed by the Settlor Unions.

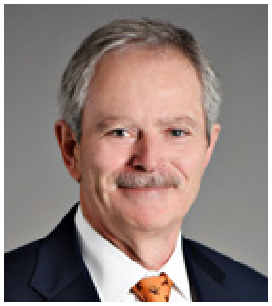
The Board is responsible for overseeing all aspects of the Plan and the HOOPP Trust Fund. Its duties include:

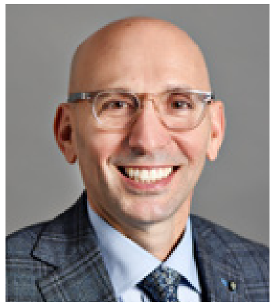
- approving changes to the Plan and benefits
- setting contribution levels
- establishing investment policy
- monitoring investment performance
- approving annual operating budgets

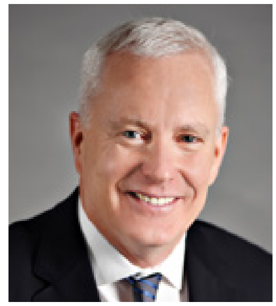
The Trustees have a fiduciary duty to act in the best interests of all members. The Board regularly reviews its approach to governance in order to remain current with best practices.

HOOPP's President & CEO assumes day-to-day responsibility for overall leadership and management of the Plan.

Executive Leadership

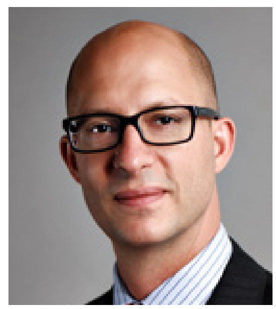

Jim Keohane


Reno Bugiardini


Steven McCormick

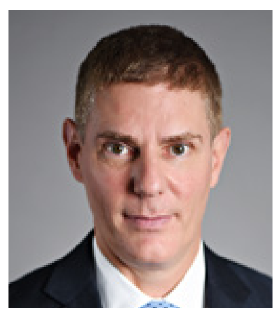

David L. Miller


Elena Palumbo-Sergnese


Tim Shortill


Barbara Thomson


Jeff Wendling


Michael Wissell

Led by President & CEO Jim Keohane, HOOPP's executive team is committed to the organization's mission in delivering on the pension promise and works in accordance with Board policy in the best interests of the Plan's members, pensioners and employees.

CHAIRS

Adrian Foster
Board Chair
OHA-appointed Trustee

Dan Anderson
Board Vice Chair,
Governance & HR
Committee Chair

Retired Director/Chief
Negotiator, Ontario Nurses'
Association (ONA)

TRUSTEES

Sandi Blancher
OPSEU-appointed Trustee
Vice President, OPSEU
Local 106

Christine Chen
OHA–appointed Trustee

Jon Clark
SEIU-appointed Trustee

Anthony Dale
OHA-appointed Trustee
President & CEO, Ontario
Hospital Association

Laura Dumoulin
OPSEU-appointed Trustee
OPSEU Local 675
Membership Secretary /
Communications Chairman

Linda Haslam-Stroud
Plan Committee Chair
ONA-appointed Trustee
Retired President, Ontario
Nurses' Association (ONA)

Jim Flett
OHA-appointed Trustee
Retired President & CEO,
Kingston General Hospital

R. Wayne Gladstone
Audit & Finance
Committee Chair
OHA-appointed Trustee
Past Board Chair, Central
East LHIN

Ian Matheson
OHA-appointed Trustee

Cam Nelson
SEIU–appointed Trustee

Sharon Richer
OCHU-appointed Trustee
Secretary-Treasurer,
Ontario Council of Hospital
Unions (OCHU)

Gerry Rocchi
OHA–appointed Trustee

Louis Rodrigues
OCHU-appointed Trustee
First Vice President,
Ontario Council of Hospital
Unions (OCHU)

Barry Wainstein
Asset-Liability Management
Committee Chair

OHA-appointed Trustee
Retired Vice-Chairman
and Deputy Head,
Global Capital Markets,
Scotiabank

OBSERVERS REPRESENTING PENSIONERS

Linda Clayborne
Observer OCHU

Karli Farrow
Observer OHA
SVP Strategy, People
& Corp. Affairs, Trillium
Health Partners,
Mississauga Hospital

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Jim Keohane
President & Chief
Executive Officer

Reno Bugiardini
Senior Vice President,
Information Technology
& Facilities Services

Steven McCormick
Senior Vice President,
Plan Operations

David L. Miller
General Counsel & Senior
Vice President, Governance

Elena Palumbo-Sergnese
Vice President,
Human Resources

Tim Shortill
Senior Vice President,
Strategy & Stakeholder
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Barbara Thomson
Senior Vice President,
Finance & Chief Financial
Officer

Jeff Wendling
Executive Vice President
& Chief Investment Officer

Michael Wissell
Senior Vice President,
Portfolio Construction
& Risk

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Equity Derivatives &
Collateral Management

Shrirang Apte
Vice President, Credit

Rachel Arbour
Vice President,
Plan & Policy Development

Albert Dieleman
Vice President,
Investment Solutions Group

Juan Jose Diz
Vice President,
Pension Solutions Group

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Vice President, Finance
Governance & Tax

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Vice President, Short Term
& Foreign Exchange

Adrian Mitchell
Vice President,
Public Equities

Christopher Poulo
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& Communications

Jeff Rabb
Vice President, Investment
Reporting, Valuation & Risk

Nan Samaroo
Vice President, Investment
Operations

Stephen Smith
Managing Partner, HOOPP
Infrastructure

Ray Tanveer
Vice President,
Interest Rates

Stephen Taylor
Vice President,
Real Estate

Silvano Trinca
Vice President,
Plan Operations

Jim Walker
Head of Private Markets,
Managing Partner, HOOPP
Capital Partners

Ivana Zanardo
Vice President,
Plan Operations

BOARD ADVISORS

Mercer (Canada) Limited
Actuary

PricewaterhouseCoopers LLP
External Auditor

Paul Litner, Osler, Hoskin & Harcourt LLP
Board Legal Counsel

Compensation Governance Partners
Board Compensation
Advisor

Bill Moriarty, Graham Pugh, Joanna Zapior
Investment Advisors

HOOPP
Healthcare of Ontario
Pension Plan

The HOOPP 2019 Annual Report was produced by the Healthcare of Ontario Pension Plan.

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