Advise and Protect. For Your Future.

OPB
Your Pension. Our Promise.

Ontario Pension Board
2016 Annual Report

Protecting your future guides everything we do – the way we invest, the funding recommendations we make and the in-house advisory services we offer members.

Table of Contents

About OPB

Who We Are

Ontario Pension Board (OPB) is the administrator of the Public Service Pension Plan (PSPP or the Plan) – a major defined benefit pension plan sponsored by the Government of Ontario. Our membership base is comprised of certain employees of the provincial government and its agencies, boards and commissions. Our commitment is to protect the long-term sustainability of the Plan, invest assets astutely and with discipline, keep contribution levels stable and affordable, and deliver exceptional service to our stakeholders.

With $24.4 billion in assets, 41,939 members, 37,985 retired members and 5,619 former members, the PSPP is one of Canada's largest pension plans. It is also one of the country's oldest pension plans, successfully delivering the pension promise since the early 1920s.

Who We Serve

OPB serves:

- PSPP members, retired members and employers ("clients"); and
- other key stakeholders (the Plan Sponsor, bargaining agents and the citizens of Ontario).

About Your Plan

The PSPP is a defined benefit pension plan designed to enhance the financial security of its members. Retired members receive a pension benefit based on a pre-set (defined) formula. That formula takes into account each member's earnings history and years of service with the Plan. To fund the pension promise, both members and employers make contributions to the Plan.

Our Promise

To use innovative solutions and strategies to:

- protect the long-term sustainability of the Plan;
- invest the Plan's assets to maximize returns within acceptable risk parameters;
- keep contribution levels reasonably stable and affordable; and
- deliver superior, cost-effective service to clients and stakeholders so that they can realize the full value of their participation in the Plan.

Chair's Message

Patti Croft, Acting Chair

2016 was a year of extraordinary change, challenge and opportunity for OPB. Our Investments team successfully navigated the world's volatile capital markets, which were rocked by the uncertainty of issues such as a slowing Chinese economy and the surprising outcomes of the Brexit vote in the U.K. and the U.S. presidential election. Our investments return of 8.1% was a sound result, handily outperforming our benchmark return of 6.6% and the actuarial rate of return in valuing the plan (5.70%). We successfully managed the funded status of the Plan, as we ended 2016 with an estimated funded status of 97% despite strengthening certain long-term actuarial assumptions as outlined in further detail below and throughout this annual report. We remain well on track to deliver the pension promise, to protect the PSPP for the long term and to continue to act as a trusted and expert advisor to PSPP beneficiaries and other stakeholders.

2016 was a year of change for our Board. As the term of former chair Vincenza Sera ended in June, I stepped in as Acting Chair during this time of transition. Through the appropriate governance process, the Board put forward Geri Markvoort as our candidate for Board Chair. This was approved by the Government of Ontario in early 2017. I would like to congratulate Geri and welcome her to the role of Board Chair. Three Board members stepped down in 2016, as their terms ended: Vincenza Sera, Hugh Mackenzie and Lisa Hillstrom. I would like to thank each of them for their years of service and significant contributions to the Board's oversight role. The Board also welcomed four new members: John T. Por, a pensions governance expert; Michael Briscoe, Chief Administrative Officer for OPP; Dave Bulmer, CEO of AMAPCEO; and Lynne Clark, a recently retired CPA® who will chair our Audit Committee. Together, they bring extensive experience to our Board on pension governance, accounting and finance, labour relations, and human resources. Our Board is now at full complement, and I am confident we have the appropriate skill set and diversity to fulfill our fiduciary responsibilities. I will continue to serve as Vice-Chair of the Board.

I am pleased to report that Hugh Mackenzie and Vincenza Sera were appointed to the newly established Investment Management Corporation of Ontario (IMCO) Board, and took up these responsibilities in July of 2016. As part of the governance plan for IMCO, the founding partners, OPB and WSIB, each have the right to nominate two of the seven initial IMCO Board members. Vin and Hugh bring a wealth of experience as seasoned OPB Board members, and we are confident that the PSPP expertise they bring to the IMCO Board will help ensure a smooth transition and positions them well to represent the interests of IMCO's members.

Key Successes

2016 marked a year of excellent achievement in our investment returns and managing the Plan's funded status. In 2016, we undertook a Long-Term Funding Study, to ensure the Plan's long-term sustainability as we expect investment returns going forward to be lower than in the past, while at the same time ensuring its affordability through maintaining reasonable contributions. Investment returns are key, as roughly 70% of the benefits paid out by pension plans are funded through investment returns alone. We opted to reduce our discount rate from 5.95% to 5.70%, reflecting our view that it will be more challenging to earn returns at the higher level for the foreseeable future, and will likely be recommending a small increase in contributions. This will help ensure the long-term viability of the Plan.

In 2016, we also undertook an asset/liability (A/L) study, in conjunction with outside consultants. The study helps us confirm whether we have the right asset mix in place to achieve the long-term rate of return required to pay the pension promise. We are pleased that the study confirmed we are on the right path and should continue to shift our Strategic Asset Allocation targets from public markets to private markets. It also supported our decision to lower our discount rate.

We continued to mature our responsible investing (RI) initiatives in 2016. We developed our first RI policy, an extensive document outlining our philosophy and guidelines with respect to RI. In August, we hired a Director of RI with considerable industry experience. She will guide our RI initiatives going forward.

IMCO

Numerous milestones were achieved in 2016 as we moved asset pooling forward in preparation for the launch of IMCO in 2017. After an extensive search OPB's senior executive participated in, a new CEO, Bert Clark, was announced in October of 2016. Staff and management from the founding partners, OPB and WSIB, are working together closely to prepare for the operational launch of IMCO.

OPB will continue to maintain its fiduciary responsibility to the Plan and control our Strategic Asset Allocation in alignment with governance best practices. Importantly, we will continue to own our assets and have full responsibility for our liabilities and only our liabilities. OPB will maintain a Head of Investments position to oversee IMCO and ensure IMCO is managing our assets in accordance with our investment policies and the Investment Management Agreement. We look forward to the challenge and opportunity this exciting new relationship between IMCO and OPB presents and are confident that pooling our assets under IMCO's management will benefit the financial status of the Plan and is in the best interests of Plan beneficiaries and stakeholders.

P. Croft

Patti Croft
Acting Chair

Structuring for Sustainability

Prudent recommendations. Promising opportunities. The steps we took this year further strengthened your Plan.

"Advise and Protect: At OPB, these words guide everything we do."

We are committed to providing our clients and stakeholders with tailored advice and counsel to enable them to make excellent decisions about the pension plan. OPB is equally committed to responsibly managing the long-term health of the Plan to protect the pension promise for today's and tomorrow's public servants.

8.5%[1] **long-term rate of return**
(return since inception)

41,939 active members

$24.4 billion
in assets under management

1 For 2016, the investment fees of external managers for private assets were deducted from the gross Total Plan return. Management did not adjust the gross returns for private asset fees for prior years as the information was not immediately available.

Funding the Promise with CEO Mark Fuller

Mark Fuller, President & CEO

Our Mission: Advise and Protect

OPB's mission in managing the PSPP is Advise and Protect. We are committed to providing our clients and stakeholders with tailored advice and counsel to enable them to make excellent decisions about the pension plan. OPB is equally committed to responsibly managing the long-term health of the Plan to protect the pension promise for today's and tomorrow's public servants. In last year's President's message, I reflected on our journey over the past 25 years as the Plan's administrator, and how very proud I am of our accomplishments. Over the past year, we spent significant time planning for changes that will help us ensure the next 25 years are just as successful, including the upcoming transition of our investment management to IMCO and modernizing our pension systems.

In 2015, we formally launched in-house Advisory Services for our members, and in 2016, we put our new services to the test, helping almost twice the normal number of members navigate the decision to retire and commence their pension. Not only did we experience a surge in retirements, but we also had increases in related services such as buybacks, enrolments and pension estimates. Our Advisors provided one-on-one, personalized counselling to help over 3,000 clients make critical pension decisions. OPB's advisory offering is truly unique and groundbreaking in the defined benefit pension industry. All our Advisors have pension expertise and hold or are in the process of obtaining a Certified Financial Planner® accreditation. This means they can help our members understand their pension decisions in the context of their broader financial and life circumstances.

Part of our effort to protect the strong financial position of the Plan is to carefully steward our expenses. In 2016, we delivered advisory services and managed the spike in service demand, at slightly lower pension administration expenses, than in 2015.

On the investments side of the business, we successfully navigated another year of volatile markets that were exacerbated by uncertainty over the direction of the Chinese economy, the Brexit vote in the U.K. and the U.S. presidential election.

I'm pleased to report that we ended 2016 with a strong overall return of 8.1%, which had a value-add of 1.5% (145 basis points) over our benchmark of 6.6%. As of December 31, 2016, we remain well funded at an estimated 97% on a going-concern basis.

Protecting the Financial Health of the Plan

Over the past few years, I have spoken about our commitment to protecting the long-term sustainability and affordability of the Plan. To help us manage both, we conduct Long-Term Funding Studies every three to five years in order to assess the health of the Plan, and whether our current contribution rates are sufficient to fund the pension promise.

While our 2014 study didn't show the need for us to make any immediate adjustments, it did alert us that some of the factors that affect the cost of providing pensions were under pressure. In particular, we were concerned about the impact of the continued low-interest-rate environment and continued increases in member lifespans. Given this, we decided to conduct a Long-Term Funding Study in 2016, ahead of schedule. Our preliminary analysis indicates that the long-term cost of providing benefits has, in fact, continued to increase since 2014.

The impact of lifespans is easy to understand, since the Plan pays pensions for the life of the retirees and their eligible survivors. So when lifespans increase, it means the Plan is paying pensions for longer than we expected when the contribution rates were set. Even a modest increase in lifespans across our more than 85,000 members and retired members has a material impact on the financial health of the Plan.

The low-interest-rate environment also has a significant impact. When we conduct valuations of the PSPP, our actuary assesses how much capital we need to set aside today to pay the future pensions for our members and retired members. To calculate the present value of the pool of capital, the actuary applies a discount rate (i.e., the rate of return the Plan expects to earn in the future) to the future payment stream (i.e., future pension obligations). The higher the discount rate, the less money needed to fund the cost of pensions and vice versa. It is critical that we set this discount rate with an eye to the investment return we can realistically expect to earn in the future because if our long-term average investment return is not at least equal to the discount rate, then the Plan's liabilities will grow faster than its assets and the financial health of the Plan will deteriorate. We concluded that in the continuing low-interest-rate environment, we needed to lower our expectation for the future long-term average investment returns from 5.95% to 5.70%. This has increased the liabilities of the Plan by approximately $500 million. However, this is part of our effort to protect the health of the Plan and the pension promise. Despite this change, due to strong investment returns in 2016, the Plan remains very well funded at an estimated 97%.

The reality is that the cost of providing the benefits in the Plan is increasing. As a result, it is likely that, in 2017, OPB will be recommending a modest contribution rate increase for both members and employers.

Investment Management Corporation of Ontario (IMCO)

For the last several years, I have spoken about OPB's effort and role in the initiative to create a new investment management entity with the scale to be a world-class global institutional investor. I regard this initiative as a central plank in our strategy to protect the long-term sustainability of the PSPP.

Therefore, it is with great pleasure I can advise you that, in 2016, the Government of Ontario formally established the Investment Management Corporation of Ontario (IMCO), which will be the investment manager for OPB upon the commencement of its operations in June of 2017.

We believe pooling our assets under IMCO's management will improve our risk-adjusted return through scale, which will enhance our access to a wider array of asset classes, among other advantages. IMCO is controlled by its members and is independent of government. We believe pooling our assets under IMCO's management is an eminently sensible approach to achieving excellence and efficiency in the management of the many medium-size and smaller asset portfolios across the Ontario public sector.

While IMCO will manage our current and future assets, OPB will continue to own the PSPP assets and set the Strategic Asset Allocation, or asset mix, that will govern how IMCO invests our assets. We will also establish key performance benchmarks and targets for IMCO and oversee its performance. As a member, OPB will continue to participate in the appointment of experts to the IMCO Board of Directors and influence the governance of IMCO.

From a human resource perspective, the talented investment and investment finance professionals from OPB and WSIB will move over to IMCO. I am delighted that Jill Pepall, our Chief Investment Officer, will be the first CIO for IMCO; Michel Paradis, our Chief Financial Officer, will be its first CFO; and Gayle Fisher, our Chief Administrative Officer, will be IMCO's first head of HR. I am confident that they will each make strong contributions to IMCO. This continuity of personnel is critical to ensuring a smooth transition to IMCO.

Looking Forward to 2017

In addition to managing the transition of our investment management to IMCO, we will be focusing on our Pension Modernization initiative.

Pension Modernization focuses on creating a pension administration system that will allow us to meet the evolving needs of our clients and stakeholders and ensure our technology remains current and our clients' personal information remains secure. Our Chief Pension Officer, Peter Shena, talks more about Pension Modernization and how it will benefit members in his Q&A.

I want to thank the Board – both our new members and past – the leadership team, and all our employees for their tremendous commitment, dedication and hard work over the past year. As we continue to evolve, I am confident that our outstanding pension administration team, investment management through IMCO, and commitment to putting members first will enhance our ability to advise our stakeholders and protect the Plan.

Mark J. Fuller
President & CEO

Pooling for Growth

Advantages offered by pooling our assets under IMCO's management: Economies of scale. Greater opportunities. Higher risk-adjusted returns.

"OPB made significant progress toward IMCO's 2017 launch."

In today's challenging investment environment, developing effective strategies to maximize returns is critical. IMCO provides OPB with immediate economies of scale and will enhance our ability to directly invest in a broader array of high-quality assets that we believe will deliver enhanced risk-adjusted returns.

8.1% **investment return** for 2016

Creation of **IMCO** – the Investment Management Corporation of Ontario

Added $832 million in **private markets investments**

Straight Talk with CIO Jill Pepall

Jill Pepall, Executive Vice-President & Chief Investment Officer

How will the Investment Management Corporation of Ontario (IMCO) benefit the Plan going forward?

In today's challenging investment environment, developing effective strategies to maximize returns is critical. IMCO provides OPB with immediate economies of scale and will enhance our ability to directly invest in a broader array of high-quality assets that we believe will deliver enhanced risk-adjusted returns. We expect that participation in IMCO will boost investment returns, and even a small increase could have a significant impact. For example, if OPB were able to increase its annual investment returns by 25 basis points (1/4 of 1%) above the Plan's discount rate, this would add approximately $2.0 billion to the funded status of the Plan at the end of 15 years. In addition, through IMCO, OPB will benefit from:

- the ability to retain superior leadership and investment management talent.
- the incorporation of a more robust risk management and monitoring system into its investment decisions and processes.
- cost advantages from the continued internalization of investment expertise for selective public and new private markets investments.
- access to greater research capabilities.
- lower relative costs.

What will or will not change once IMCO is managing OPB's investments?

First, let's look at what stays the same. OPB will continue to own its assets and maintain control over the strategic asset mix of the Plan and the policies governing our investment strategies such as the Plan's Statement of Investment Principles and Beliefs (SIP&B), Statement of Investment Policies and Procedures (SIP&P), and Strategic Asset Allocation. It is important for OPB to set its own SAA as it marries its asset strategy with the Plan's pension liabilities, which will remain at OPB and be separate from those of WSIB and all other IMCO members.

Once IMCO is operational, it will be responsible for managing our assets and will become OPB's sole and exclusive investment manager. As such, IMCO will be subject to the terms of an investment management agreement (IMA) and a service level agreement (SLA) between OPB and IMCO. The SLA will detail OPB's expectations of IMCO in terms of governance, record-keeping, performance measurement and reporting capabilities, and compliance requirements. Also, OPB's investment and investment finance staff will move from OPB to IMCO which means the Plan's assets will be managed initially by the very same experts who are managing them currently.

Furthermore, OPB will have its own Head of Investments to oversee IMCO's implementation of OPB's SAA and to manage the relationship with IMCO.

What were some of our key successes in 2016?

2016 was a successful year for OPB. The Plan generated a solid return in an increasingly challenging environment. The strong performance of both Private and Public Markets contributed to an 8.1% return, which exceeded the Plan benchmark of 6.6% by 1.5%.

OPB made substantial headway with its Internalization Program in 2016, and now internally manages the money markets mandate, a passive fixed income mandate and several absolute return strategies. Other key successes in 2016 include enhancing performance and risk reporting, improving OPB's ability to respond to market conditions and make timely investment decisions, and the hiring of a Director of Responsible Investing, improving OPB's capacity to assess and mitigate long-term environmental, social and governance risk.

How does OPB use Strategic Asset Allocation (SAA) and Tactical Asset Allocation (TAA) to its advantage?

The SAA is the optimal asset mix that reflects the Plan's long-term funding and cash flow needs. It is the most important factor in determining total returns of the Plan. Setting asset target allocations will remain an OPB responsibility once IMCO is operational and will be managed by the Head of Investments at OPB, supported by the investment professionals at IMCO.

TAA is a strategy used to enhance returns by altering the SAA over the short term to take advantage of financial market volatility. TAA can be used to preserve capital by reducing exposure to markets when a downturn is expected or by increasing exposure when it is expected that markets will perform well. This was the case in the last quarter of 2016 when the equity exposure of the Plan was increased to 5% overweight versus the SAA, in anticipation of stronger equity markets reflecting improved global growth. Once operational, IMCO will leverage TAA to effect short-term changes within the SAA guidelines as set by OPB.

How did the low level of interest rates impact the Plan's return in 2016?

Low interest rates provide both opportunities and challenges for the Plan. On the upside, low interest rates provide an opportunity to increase capital deployment into certain types of private debt investments, allowing the Plan to enhance returns with only a minimal increase in risk. Additionally, lower interest rates allowed OPB to acquire high-quality real estate assets at very low financing rates, providing the opportunity for OPB to borrow funds at a low cost via bond issues. Both private debt and real estate assets provide attractive returns and ongoing predictable cash flow – which is very important to paying out pension benefits.

On the downside, it is generally harder to earn high investment returns in a low-interest-rate environment over the long term. In 2016, the bond market in Canada returned only 1.7% as indicated by the FTSE TMX Universe Bond Index. Despite the challenges that low interest rates present for investment returns, OPB's fixed income portfolio earned 4.2% in 2016. OPB was able to generate better returns by diversifying strategies and overweighting credit exposure (which returned 9.8%) versus government bonds (which returned 0.9%) and adding to Private Debt (which returned 9.0%).

In addition, OPB's TAA strategy as it relates to fixed income helped preserve capital and enhance the return of the Total Fund. Capital was preserved by investing in bonds that have a shorter yield to maturity and thus tend to retain their value better when interest rates move up. The Total Plan return benefited from the decision to underweight the lower-yielding fixed income asset class and overweight the higher-return equity asset class.

What are the benefits of increasing our exposure to private markets?

Given OPB's long-term investment horizon, investing in private markets is a sensible way to enhance returns while adding diversification away from public markets. Private market investing provides a greater degree of transparency and access to the underlying investments' management teams, as well as increased governance and influence which creates the potential for generating higher overall returns. OPB has been very successful in implementing the private markets' infrastructure and private equity investment strategies since they were introduced to the SAA in 2011. We've been able to generate positive returns in those portfolios since day one by strategically investing in secondary funds and co-investing directly with partners.

How does the Internalization Program help position OPB for future success?

Implementing and supporting further internal asset management allowed OPB to agilely respond to market movements and opportunities and to cost-effectively generate incremental risk-adjusted returns. At IMCO, former OPB investment staff will continue to develop the Internalization Program by investigating, evaluating and implementing additional internal investment mandates that provide value-added portfolio management, while lowering costs over the longer term and providing greater control and transparency to IMCO's members.

What were your key challenges in 2016?

Economic and geopolitical factors in 2016 created one of the most challenging investment climates since the global financial crisis eight years ago. This investment environment was characterized by several key themes:

- Volatility of financial markets in response to Brexit/U.S. election;
- Low-interest-rate environment;
- Competition for private markets assets; and
- Rise of populism, which can mean real change for which the outcome and consequences to financial assets is very uncertain.

We managed the investment portfolio successfully through these challenges. I am very proud of the team's performance in the face of these headwinds.

What is the investment approach to ensure the long-term sustainability of the Plan?

The most critical step to ensuring the long-term sustainability of the Plan is the alignment between our pension obligations and our assets. The purpose of the triennial asset/liability (A/L) study is to determine if our assets are a good match for our liabilities based on up-to-date actuarial data. It is an opportunity to adjust the Strategic Asset Allocation, if needed, as market and economic conditions change. OPB initiated an asset/liability (A/L) study in 2016, which was completed in early 2017. We adjusted our SAA modestly to ensure the Plan is well positioned in advance of the operational launch of IMCO.

What is your 2017 investment outlook?

After years of quantitative easing and increasing monetary stimulus to encourage economic growth, central banks globally are starting to ease up on that strategy. Global economic growth is accelerating, signs of inflation are re-emerging and risk assets (equity and credit markets) are at the higher end of historical valuations. It is no wonder that central banks are making monetary accommodation decreasingly available – from the European Central Bank that has held stimulus flat for over a year, to the U.S. and China where the respective central banks have started to raise interest rates. In the U.S., consumer confidence is at a cycle peak, unemployment is at a cycle trough and, with the Trump presidency promising significant fiscal stimulus, public equity markets have surpassed all-time highs.

Strengthening global growth should continue to be positive for equity markets for the near term. This environment, however, is less attractive for fixed income markets due to the prospects of rising interest rates to curtail inflation.

While the investment environment will remain challenging, it will also provide investment opportunities. OPB is well positioned to manage through these challenges, and, more importantly, we have the strategies and expertise needed to generate value-added results in today's investment climate.

Jill Pepall

Jill Pepall
Executive Vice-President & Chief Investment Officer

Advising for Tomorrow

Providing you with the services and tools you need to make sound pension decisions.

"We're helping members understand how pension decisions can impact their financial health."

Over the past two years, our Advisors have met with more than 5,000 members one-on-one. Through those meetings, we've realized that we have an opportunity not just to help our members understand their pension and build their retirement literacy, but also to help them improve their overall financial literacy.

8.6/10 satisfaction rating with Client Service

8.4/10 satisfaction rating with Communications

Held **eight retirement planning advisory workshops**

Ranked **2nd out of 12 peer plans** in Canada by CEM, a leading benchmarking firm for pension plans

Delivered **131 information sessions** to educate members about their pension

Your Plan with CPO Peter Shena

Peter Shena, Executive Vice-President & Chief Pension Officer

From your perspective as Chief Pension Officer, what was OPB's most significant achievement in 2016? What event(s) had the greatest impact on the organization and its members?

At OPB, we believe that providing excellent client service goes beyond just processing transactions for members and responding to their questions. We believe it means protecting our members by helping them make sound decisions about their pension. To do that effectively, members need to understand how their pension decision fits into the broader financial plan. That's why we launched Advisory Services, which provides members with access to a team of in-house Advisors who are Certified Financial Planners®.

In 2016, we saw a record increase in service demand from our members from enrolments right through to retirements (with almost double the number of pensions we usually set up). I am extremely proud of how we rose to the challenge to meet our members' needs. Not only did we continue to provide our members with excellent service and transaction support, but our Advisors met one-on-one with just over 3,000 members to help them navigate critical pension decisions in the context of their broader financial and life circumstances.

For us, this year really demonstrated the value that our Advisory Services offer our members – a change to post-retirement insured benefits had many members wondering whether this was the right year for them to retire. Our Advisors met with every member who asked for help with that decision to review their retirement goals, their overall financial and health circumstances and the impact of retiring now versus later. Our goal is to help the member make the right decision for them.

How does financial literacy impact members' ability to make sound decisions about their pension?

When we first launched Advisory Services, we were driven by the belief that for our members to make informed decisions, they need to understand how their pension fits into their overall financial and life circumstances. To help members with this, we introduced in-house Advisors who are Certified Financial Planners®.

Over the past two years, our Advisors have met with more than 5,000 members one-on-one. Through those meetings, we've realized that we have an opportunity not just to help our members understand their pension and build their retirement literacy, but also to help them improve their overall financial literacy. Both are key to members being able to make sound decisions about their pension because they help members understand how their pension fits into their broader financial plan.

We're also working to help members understand that retirement planning shouldn't be left until their 40s or 50s. The earlier you start planning and setting retirement goals, the easier it is to achieve them and to identify if you're off track and need to make adjustments.

In 2016, we developed new pension education sessions for members in the early stages of their career that incorporated key financial planning concepts that were relevant to them and helped them understand how their PSPP pension fits into their broader financial plan. They were very well received and we are now looking to roll out these sessions more broadly. As we continue to evolve our Advisory Services, we will be expanding our client education and communication offerings to help our members build both their financial and pension literacy – helping protect their future.

In 2017, OPB will officially start Pension Modernization. What does this mean and how will it affect members?

Pension Modernization is the name of the project we are initiating to review, develop and implement a pension administration system for the future, one that will allow us to meet the evolving needs of our clients and stakeholders and ensure our technology remains current and secure. Our existing pension administration systems are nearing the end of their life cycle. Since they were put in place in the early 1990s, the Plan membership has grown, and we have introduced digital tools and services to better serve our members. This legacy system puts limits on how responsive OPB can be in providing service to our members, especially in terms of introducing new digital tools that can enhance the client experience.

Replacing our systems will take several years and will require a significant capital investment to ensure what we implement will meet our current needs and what we envision our members will need in the future. While we do not yet have a timeline we can share for this rollout, we want to ensure our members that much of this process will take place behind the scenes and will not affect our ability to continue providing the excellent client service our members expect from us.

This project is somewhat pressing, but because of other priorities we were not able to commit the people and capital resources we needed until this year. We have been working with our peers who have gone through similar projects over the last few years – they have been extremely helpful to us and have shared their learnings from this very complex undertaking.

How are OPB's systems and technology upgrades going to improve service for clients?

While we've already introduced a number of online services, modernizing our systems will allow us to improve the client experience by enhancing the online functions, tools and services we offer. Additionally, as part of our modernization process, we will be reviewing our business processes to identify where they can be re-engineered to be more efficient and to improve the client experience. The core pension systems are aged, inefficient and close to end-of-life, which means they cannot support new technologies being used to advance our digital strategy. If we are to continue to improve our members' experience we need to upgrade our systems.

Can you tell us about the preliminary findings of the long-term funding study, and what impact those findings may have on OPB and its members?

We are committed to protecting the pension promise for our members – maintaining benefits and affordable contribution rates. To do this, we need to closely monitor the cost of providing benefits to Plan members and whether the current contribution rates are adequate to fund the benefits the Plan provides. We regularly conduct a number of studies as part of our prudent management of the Plan, including a Long-Term Funding Study (LTFS), which helps us assess whether the economic and demographic assumptions we use to determine the contribution rates are still appropriate.

Typically we conduct this study every three to five years. However, since our 2014 LTFS started showing changes in our experience, we decided to conduct another LTFS in 2016. The preliminary results of the study confirm what we saw in our 2014 study – that the cost of benefits, has in fact, increased. The main factors driving the increased cost are the current economic environment in which we expect investment returns going forward to be lower on average than over the past 25 years, and the fact that pensioners are living longer, which means that we're paying out pensions for longer.

When benefits cost more to provide, there are two ways to fund that increase – investment returns or contributions. If investment returns are lower, then to ensure the long-term sustainability of the plan the Plan Sponsor needs to increase contributions to fund the pension promise. Given the economic and investment outlook, we believe returns are likely to be lower going forward; as a result, it's likely that OPB will be recommending that the Plan Sponsor make a modest contribution rate increase for both members and employers.

In 2016, OPB experienced a record number of retirements. How does this impact the Plan long term?

As expected, the PSPP experienced a record number of retirements in 2016 (85% higher than 2015). A large number of eligible plan members elected to retire in order to take advantage of the existing eligibility rules for retiree insured benefits before changes took effect in 2017. The accelerated retirements will have no material impact on the Plan long term.

One measure of the maturity of the Plan is the ratio of active contributing members to retired members. The PSPP currently has about one active contributing member for every retired member. While this ratio will have shifted slightly as a result of the 2016 retirements, we believe that for two reasons that will only be temporary. First, it is our understanding that the Government of Ontario intends to replace the vast majority of those who retired. Second, we expect that the number of retirements over the next couple of years will be lower than usual given that a lot of our members who were eligible to retire have now retired because of the retiree benefit changes.

Additionally, since we had anticipated that the higher number of retirements in 2016 could impact the Plan, we established a reserve in our last actuarial valuation based on an analysis of the likely impact on the Plan of the higher retirements. We are now in the process, as part of conducting our annual going-concern funding valuation, of determining the exact impact the increased retirements had on the Plan. However, given that we expect the vast number of members who retired to be replaced and lower retirement numbers over the next few years, we don't believe that this will have a long-term impact on the PSPP.

OPB has been a strong advocate for improving retirement security. What impact do you think the changes to the CPP will have on Canadians generally and on OPB members in particular?

We are strong advocates for retirement security for all Canadians. Over the years we have taken every opportunity to promote financial security for all Canadians. Our message has been focused on two key goals; first, having a retirement system that provides Canadians with meaningful income in retirement, and second, making it available to as many Canadians as possible. We believe the CPP changes go a long way to accomplishing these goals. The CPP is available to all working Canadians and the changes, when fully phased in, will increase the maximum CPP benefit to approximately $17,478 from the current $13,000. We applaud this expansion, which will help more Canadians achieve financial security in retirement.

As the enhanced CPP impacts all working Canadians, regardless of what other pension plan they participate in (such as the PSPP), our members and their employers will be required to contribute more to CPP once the changes start being phased in. We are assessing the impact on our members, and whether or not our current CPP integration formula will need to change to reflect this increase. The CPP enhancements don't begin to take effect until 2019 and will not be fully implemented until 2025. As such, we want to take this extra time to fully assess the impact of these changes for the PSPP before we make any recommendations to the Plan Sponsor.

Peter Shena
Executive Vice-President & Chief Pension Officer

Investments and Funding

In a year of global market volatility, we produced solid results for our members. Our Investments team delivered a return of 8.1%[1], which contributed to maintaining a strong estimated funded status of 97% as of December 31, 2016.

In 2016, we expanded in-house management capabilities, which will continue to reduce investment costs in the years ahead, while also providing us with greater control over the assets we invest in and increased transparency.

We also moved to strengthen our investment and risk reporting, enhancing our ability to respond to market conditions and to make informed, timely investment decisions to manage the risk-adjusted return of the fund. Additionally, we developed and implemented diversification benefit reporting to help us monitor and mitigate risk across a wide range of asset classes.

Conducted an asset/ liability (A/L) study to help optimize the Strategic Asset Allocation for liabilities/benefit structure of the Plan

Added **$250 million** to our bond program through a private bond financing in 2016

Hired a Director of **Responsible Investing**, improving our capacity to assess and mitigate long-term environmental, social and governance risk

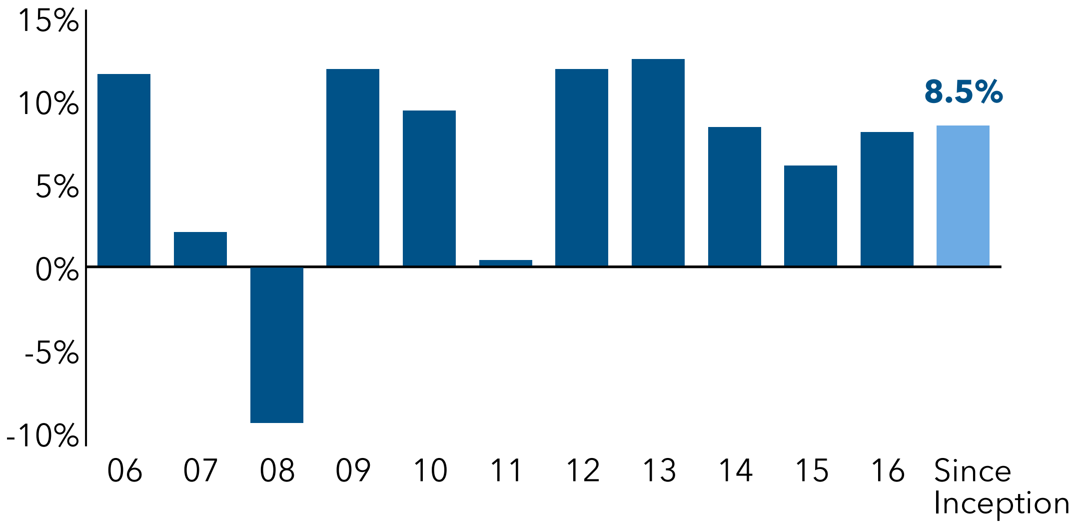
Brought **proxy voting** in-house, increasing our ability to positively influence companies we invest in

Lowered the discount rate from 5.95% to 5.70% to reflect our expectations of investment returns going forward

Confirmed **AA+** by Standard & Poor's Rating Service and **AA (high)** by Dominion Bond Rating Service

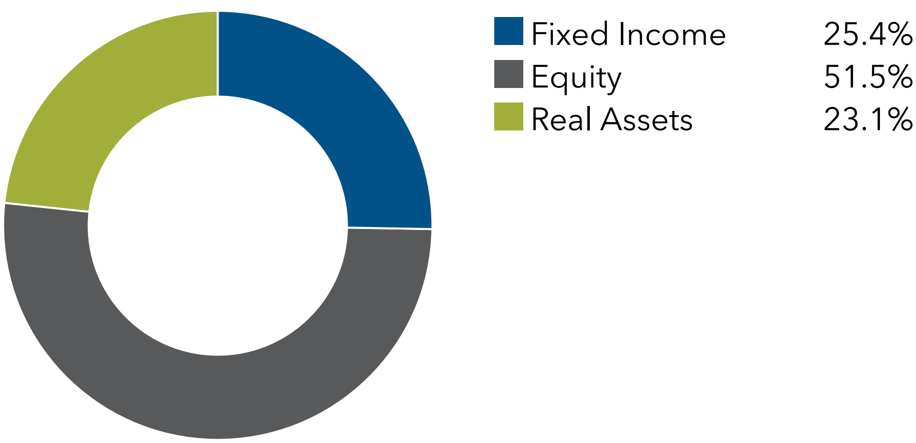
1 For 2016, the investment fees of external managers for private assets were deducted from the gross Total Plan return.

Total returns



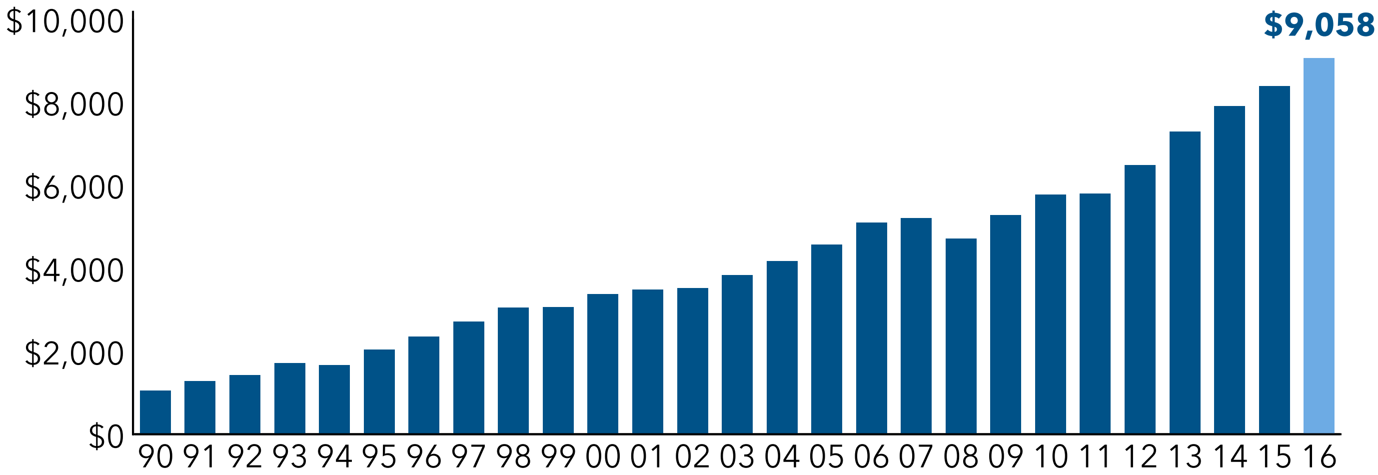
Asset mix

As at December 31, 2016



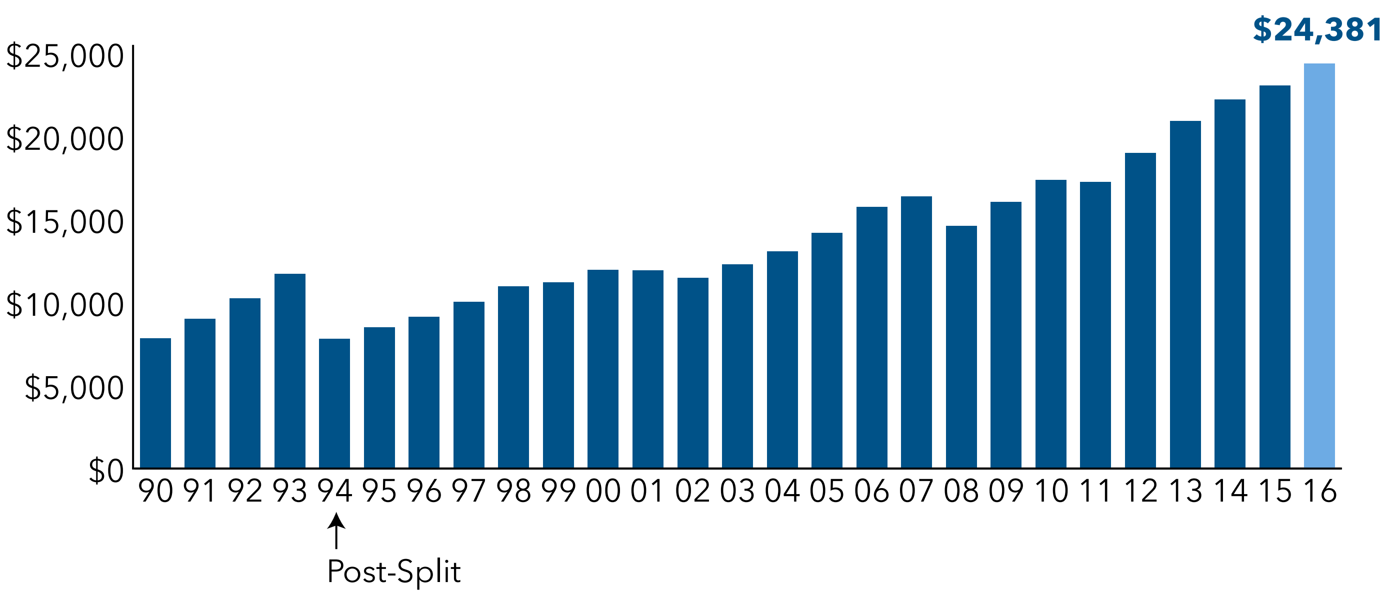
Growth of Plan assets

Growth of $1,000 since inception



Net assets since inception

(in millions of dollars)



Client Services

We strive to provide excellent service to our members, whether we're processing a simple transaction or providing them with Advisory Services to help them make a sound decision about their pension.

In 2016, we saw significant increase in demand for service from our members. Thanks to our people, we were able to meet the demand while maintaining our high standard for responsiveness and service, all without increasing our costs.

2016 also marked the second year of our ground-breaking Advisory Services program. To the best of our knowledge, OPB remains the only defined benefit pension plan anywhere to formally offer advisory services to members.

Our in-house Advisors met 1-on-1 with more than **3,000** clients to **help them navigate complex pension decisions**

49% of clients going through a buyback, retirement or termination **used our Advisory Services**

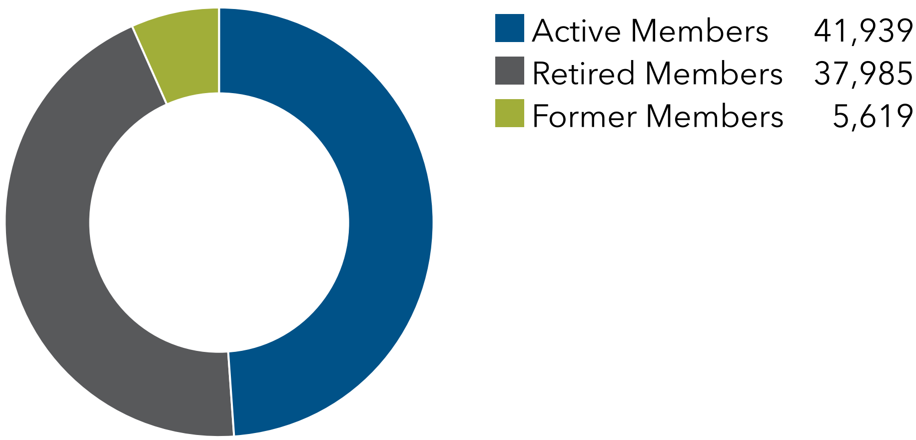
16,992 members used our suite of **online retirement planning tools** in e-services

Launched the ability for members to **initiate** and manage their **retirement** from the PSPP **online**

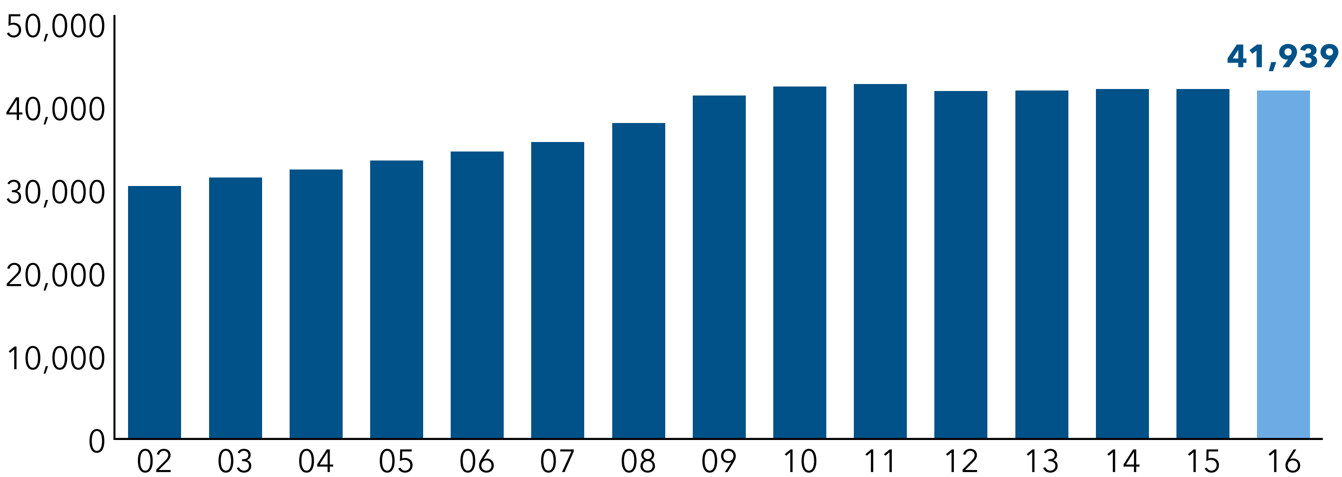
Most-used e-services included updating beneficiaries (48%), marital status (30%) and **address** information (21%)

Set up pensions for **3,027 members** – almost twice the number we set up in 2015

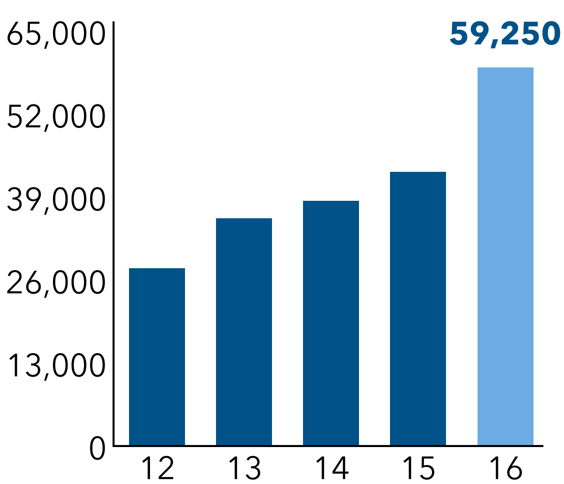
Membership breakdown



Number of active members



E-services logins



IMCO

On July 1, 2016, after many years of joint work between OPB, the Workplace Safety and Insurance Board (WSIB) and the Government of Ontario, the Province of Ontario established the Investment Management Corporation of Ontario (IMCO). A professional investment organization that will invest the pooled assets of its member organizations, it is a compelling example of OPB's commitment to protecting the long-term health of the Plan.

Through IMCO's scale, we will be more competitive and have greater access to investment and partnership opportunities, in a stronger position for negotiating terms and agreements and better able to attract and retain top-tier investment professionals. Simply, IMCO allows OPB to create more value for our members.

The initial pooling of assets from OPB and WSIB will provide IMCO with more than $50 billion of assets under its management. This initial pool of assets will continue growing with the growth of OPB's and WSIB's assets and as other Ontario public organizations, plans and funds choose to join IMCO. We believe asset pooling will boost investment returns compared to what we could earn on our own, and even a small increase could have a significant impact. For example, if OPB were able to increase its annual investment returns by 25 basis points (1/4 of 1%) above the Plan's discount rate, this would add approximately $2.0 billion to the funded status of the Plan at the end of 15 years.

It is important to keep in mind that OPB is still responsible for overseeing IMCO as the investment manager for its existing and future assets. We will continue to own our assets and will only be responsible for PSPP liabilities (i.e., we will not assume the liabilities of any other IMCO clients). Most importantly, we have policies and people in place to ensure our members' best interests are always effectively represented.

The OPB-IMCO relationship

What OPB is responsible for:

- Continuing to own its assets and be responsible for only the PSPP's liabilities
- Establishing the Plan's asset mix (such as private markets, public equities, etc.) through the Strategic Asset Allocation (SAA) so that IMCO can invest in accordance with it
- Conducting a triennial asset/liability (A/L) study to ensure the Plan's asset mix is keeping pace with the Plan's liabilities and is still the right blend of investments by asset class such as real estate, infrastructure or fixed income
- Overseeing IMCO's management of OPB assets by establishing IMCO performance benchmarks and targets
- Appointing a Head of Investments at OPB to oversee IMCO's management of our assets

What IMCO is responsible for:

- As OPB's investment manager, investing the Plan's assets in accordance with OPB's investment beliefs, policies and legislative requirements
- Investing and reinvesting OPB's assets by following the asset mix outlined in OPB's Strategic Asset Allocation (SAA) policy
- Acting honestly and in good faith in the best interest of IMCO members such as OPB
- Providing quarterly compliance certificates to OPB
- Building a strong relationship team to address the requirements and needs of IMCO members such as OPB

Bert Clark, former president of Infrastructure Ontario, has been named CEO of IMCO

The IMCO Board includes experts like Robert Bertram, the architect of the Ontario Teachers' Pension Plan's investment approach and success

Outstanding first Board is appointed for IMCO, including two of OPB's longest-serving Board members, Vincenza Sera and Hugh Mackenzie

IMCO is expected to become fully operational in June 2017

Management's Discussion & Analysis

Introduction

At the end of 2016, the Public Service Pension Plan (PSPP or the Plan) remains well funded at an estimated 97% on a going-concern basis. This success is a result of our Investments team's continued ability to deliver strong returns especially in a low-growth, low-interest-rate environment.

The sound performance from both private and public markets investments position us well to meet the long-term needs of the Plan to continue delivering on the pension promise to our members and stakeholders. Our 8.1%[1] return was an impressive result given the economic conditions and OPB's investment risk appetite, which has generally been on the conservative side given our current active-member-to-retired-member ratio.

At OPB, we understand that protecting members means that we must excel at both managing the Plan and meeting our members' needs. In 2016, we set up pensions for almost twice as many members as the year before and helped over 3,000 members navigate critical pension decisions, all while maintaining strong client service scores without increasing our pension administration costs.

Once again, OPB was widely recognized as a leader in the global pension landscape – continuing to rank second in pension administration among 12 Canadian plans, and seventh in the world out of 72 plans by CEM, a leading benchmarking firm.

In 2016, we implemented or advanced a number of initiatives to help protect the pension promise and to better serve our members. We:

- helped to establish the Investment Management Corporation of Ontario (IMCO), which will become OPB's investment manager beginning in June 2017, a move that we believe will help us earn higher risk-adjusted returns in the long term;
- continued to promote and enhance our Advisory Services program to provide members and retired members with the guidance they need to make informed pension decisions that align with their broader retirement plans and financial circumstances;

[1] For 2016, the investment fees of external managers for private assets were deducted from the gross Total Plan return.

- planned for the upcoming replacement of our pension IT systems and the re-engineering of our processes to provide an enhanced and more responsive client service experience to members;
- furthered the internalization of asset management (Internalization Program), which now includes management of the full money market mandate, a passive government fixed income mandate and a new absolute return strategy;
- enhanced our performance and risk reporting process, improving our ability to respond to shifting market conditions and make timely investment decisions;
- increased our gross exposure to private markets investments by approximately $832 million, including an almost 70% increase in private equity investments;
- pursued and nurtured key relationships with like-minded institutional investors, by seeking out new co-investment opportunities;
- enhanced our Responsible Investing (RI) capabilities by bringing proxy voting in-house and hiring a Director of Responsible Investing, together improving our capacity to assess and mitigate long-term environmental, social and governance risk;
- actively promoted the socio-economic value of the defined benefit (DB) model and demonstrated – by way of example – that DB plans are sustainable when well-managed; and
- continued to manage expenses strategically and responsibly so that we continue to meet and, ideally, exceed government expectations for fiscal restraint while improving our performance.

This section of the report expands on these and other important initiatives from 2016.

Funding

Our strong rate of return (8.1%[1]) contributed to the Plan maintaining its strong funded status, which is critical to delivering on the pension promise. At the end of 2016, we estimate the Plan was 97% funded on a going-concern basis. We maintained our funded ratio despite adjusting our inflation assumption and reducing our discount rate assumption to 5.7%, which added approximately $500 million to our liabilities.

The Plan's discount rate is a key assumption that is used in valuations and can influence contribution rates and benefits. It reflects what the Plan's assets can reasonably be expected to earn over the long term (less expenses and provisions for unanticipated events). Setting the discount rate is a rigorous process designed to ensure that the assumption is reasonable and aligns with the long-term investment returns OPB management believes can be achieved over the long term, based on the SAA asset mix targets. This is based on robust modelling that allows for a cushion. It was through this process that we determined that the discount rate should be reduced from 5.95% to 5.7% at the end of 2016.

Changes to the discount rate impact the Plan's projected liabilities (for example, a lower discount rate means higher plan liabilities) and, by extension, impacts the Plan's funded position.

1 For 2016, the investment fees of external managers for private assets were deducted from the gross Total Plan return.

As we look forward, we believe we are going to see a lower investment return environment. Given that, we believe adjusting the discount rate to reflect that long-term returns are likely to be lower is the prudent and responsible decision. Despite that reduction in the discount rate, the Plan remains well funded and well positioned to continue to meet the pension promise.

Effective pension plan management is not about short-term investment returns or performance in a given year. It is about the careful and prudent management of both our investment returns and the design and funding of the Plan (i.e., discount rate, contributions and benefit structure) over the long term. OPB continues to manage the sustainability of the Plan with care and prudence, including adhering to a robust funding policy. The Plan's current funding policy, developed with the Treasury Board Secretariat and approved by OPB's Board of Directors in 2014 and the President of Treasury Board, guides decisions around Plan design, funding and valuation assumptions.

For the financial statements, the Plan uses the actuarial valuation (effective as of December 31, 2015) and extrapolates the pension obligation forward to December 31, 2016. The extrapolated numbers are based on the assumption that the Plan's 2016 experience (for factors such as salary increases, retirement ages, terminations and mortality rates) match the Plan's actuarial assumptions. The extrapolation reflects indexing adjustments made to pensions as of January 1, 2016.

In 2016, OPB initiated a Long-Term Funding Study (LTFS) to ensure the sustainability of the Plan and to determine if the cost of providing the benefits under the Plan had increased as well as whether the current economic and demographic assumptions remain appropriate. The last LTFS, conducted in 2014, indicated there had been a slight increase in the cost of providing pensions. Conducting this study earlier than usual demonstrates OPB's prudent stewardship of the Plan.

Given the current economic environment and the continuing changes we're experiencing with members living longer, our preliminary analysis indicates that the long-term cost of providing benefits has, in fact, increased. As a result, it is likely that OPB will be recommending a modest contribution rate increase for both members and employers.

We are in a challenging environment for retirement plans in general and the work we are doing today will ensure the long-term sustainability of the Plan. Our actions in 2016 focused on positioning the Plan for success going forward – helping to protect the pension promise for today's and tomorrow's members.

Funding

What we did	Why it matters
Conducted an interim funding valuation	OPB is required to file a valuation with the Financial Services Commission of Ontario (FSCO) at least once every three years. However, OPB conducts interim valuations every year to ensure funding levels are tracking as expected. Our latest funding valuation measured the Plan's funding as of December 31, 2015. Our next funding valuation for December 31, 2016 must be filed with FSCO in 2017.

Managing funding

The funded status of a pension plan is, in simple terms, determined by the pension equation, which compares the value of pension assets on one side with the value of pension liabilities on the other. If assets exceed liabilities, the plan is said to be in a surplus position. If liabilities exceed assets, the plan is in a shortfall position.

During the 1990s, investment returns exceeded expectations, prompting many plans to focus more on assets than liabilities. At the same time, a number of factors, including declining interest rates and longer life expectancies, began to influence the long-term cost of the Plan's pension liabilities (obligations). The combined impact of higher pension costs and the onset of market volatility quickly eroded funding surpluses and left most plans facing funding shortfalls – in many cases, significant shortfalls.

At OPB, we pride ourselves on having always paid closer attention to the liability side of the pension equation. Our focus on liabilities and regularly updating our assumptions to reflect emerging experiences has significantly contributed to the Plan's continued financial health. Despite ongoing economic and financial market challenges, we've been able to progress along the path to full funding while keeping benefit levels stable and contribution rates affordable.

Our success in managing liabilities can be attributed to two key factors:

1. OPB and its stakeholders have, together, made informed and responsible decisions about the benefit levels promised by the Plan; and
2. OPB has done a good job of setting prudent and realistic demographic and economic assumptions, which are used to calculate the Plan's pension obligations, and has made contribution rate adjustments in a timely fashion when needed.

Financial position

OPB conducts actuarial valuations on a regular basis. The actuarial valuation for funding purposes is used to ensure there are sufficient assets to meet the Plan's pension obligations. It is also used to determine contributions to the Plan. In determining the surplus or deficit position of the Plan for reporting on our financial statements, OPB uses the latest actuarial valuation for funding purposes and extrapolates the pension obligations to the financial statement date.

The funding valuations provide a best estimate of the Plan's accrued pension liabilities and are performed by an independent actuary appointed by OPB's Board of Directors.

Valuation type	Purpose and description
Funding basis	Pension plans are legally required to file a funding valuation with the regulator, FSCO, once every three years. OPB filed its 2013 valuation in September 2014. The valuation indicated that the Plan was 96% funded and had a shortfall of $804 million. That compares to 94% funded with a shortfall of $1.2 billion at December 31, 2010 (the previous valuation filed with pension regulators).
For financial statements	For the purposes of the financial statements, the Plan's liabilities were calculated as of December 31, 2015, the date of the last funding valuation, and extrapolated to December 31, 2016. The extrapolated numbers are based on the assumption that the Plan's 2016 experience (for factors such as salary increases, retirement ages, and termination and mortality rates) match the Plan's actuarial assumptions. The extrapolation reflects indexing adjustments made to pensions as of January 1, 2016. For financial reporting purposes, we have calculated the Plan's 2016 year-end financial position by comparing the extrapolated liability with the actual market value of assets as of December 31, 2016. Based on this, the Plan had a deficit of $796 million.

Investments

Disciplined and astute investing

OPB's strategic long-term approach to investing is shaped by two key objectives:

1. securing and maintaining the pension benefits promised to members; and
2. maintaining relatively affordable contribution rates for members and participating employers.

To achieve these objectives, OPB has developed an investment approach that emphasizes capital preservation and seeks to generate strong, long-term investment returns within an acceptable risk framework by:

- minimizing unrewarded risk;
- reducing Total Risk;
- focusing on fundamental research and analysis to make investment decisions; and
- sourcing global investment opportunities that provide predictable cash flow.

During 2016, our Investments team focused on four key areas:

1. optimizing the implementation and management of the Strategic Asset Allocation (SAA);
2. continuing to build our in-house expertise and asset management capabilities;
3. enhancing our portfolio performance and risk reporting; and
4. providing implementation and advisory support to the Asset Pooling initiative.

These key areas of focus are discussed in more detail on the following pages.

Strategic Asset Allocation (SAA)

Managing the OPB portfolio according to the SAA (which is based on the actuarial liability profile of the Plan) continues to provide good diversification and enhance our risk-adjusted returns. The SAA targets help us best meet the Plan's long-term funding objectives while effectively managing investment risk.

In 2016, OPB continued to implement the SAA targets, which called for a shift in the Plan's assets from public to private markets investments, according to a planned five-year phase-in period that began in 2014. OPB increased the Plan's holdings in private assets from 26% at the end of 2015 to 27% at the end of 2016. In 2016, all three private markets asset classes were close to or exceeded their phase-in SAA target weights. The Plan also continued the transition from universe bonds to long bonds, which provide a better match with the Plan's long-term cash flow needs.

OPB initiated a new asset/liability (A/L) study in 2016. This study provided OPB with up-to-date data on the correlation between our assets and liabilities in advance of the operational launch of IMCO. Additionally, the A/L study helped to confirm prior investment decisions and provided the opportunity to revisit our SAA as the economic landscape continues to change. The 2016 A/L study validated the 2014 decision to shift assets from public to private markets overall and the Board of Directors approved an updated SAA in early 2017, increasing the allocations to private equity and infrastructure assets, and making a small decrease in the real estate allocation.

Private markets assets help (1) insulate the Plan from public markets volatility; (2) enable us to generate a larger proportion of returns from ongoing and predictable cash flow; (3) provide a greater degree of transparency, increased governance and due diligence; and (4) provide the potential for higher overall returns. In the case of real assets, this enables us to generate a larger proportion of returns from ongoing cash flow versus capital appreciation and have a high correlation to the Plan's inflation-based pension obligations.

As we move forward with our search for high-quality global opportunities, OPB will continue to be thorough in its analysis, and take measured, smart risks. We consider what role an investment will play in our portfolio (from both a risk and return perspective) and whether it complements our existing holdings. Compared to four years ago, the Plan's Reward to Risk ratio (four-year return divided by volatility) increased by over 50% (199.8% as at December 2016 versus 145.6% as at December 2012).

Additionally in 2016, OPB developed a Benchmarking Policy outlining governing principles and procedures for changes to the SAA and mandate-specific benchmarks that enable the Plan to assess and monitor the Portfolio's risk and performance relative to the SAA on an ongoing basis.

SAA asset mix targets

Asset class	2017 New SAA[1]	2014 Previous SAA
Fixed Income	25%	25%
Equity[2]	42.5%	42%
Real Assets[3]	32.5%	33%

Continuing the growth of in-house management capabilities

OPB continued to expand its in-house expertise and management of assets in 2016 (Internalization Program). In addition to continuing to grow our private markets investments' allocation and the associated internal private markets capabilities, OPB developed and launched a second internal absolute return strategy and completed its efforts to internalize the Plan's full money market mandates. The Internalization Program also developed and prepared for the early 2017 internalization of passive government Fixed Income. By implementing and supporting further internal asset management, we are better able to agilely respond to market movements and opportunities and generate incremental risk-adjusted returns on a cost-effective basis.

1 The 2017 SAA targets are the ultimate targets to be phased in over a three-year period. This is distinct from the SAA targets that are disclosed in Note 4(a) of the Financial Statements, which are the transition plan's year-end target allocation.

2 Equity is comprised of Public Equity and Private Equity.

3 Real Assets is comprised of Real Estate and Infrastructure.

Along with growing the Internalization Program, OPB continued to advance its very successful Tactical Asset Allocation (TAA) strategy, adding resources to increase its ability to assess the forces that drive global markets and increase risk deployment best practices.

Leveraging this expertise, we were again able to make very timely TAA decisions in 2016 that bolstered our overall investment results. For example, in January and February 2016, the Asset Mix Committee took steps to preserve stakeholder capital by initiating a relative short position in equities (i.e., reducing the Plan's exposure to equity markets) and purchasing protective put options. The strategy was well timed. Not only did the reduced exposure to public equity markets help preserve capital, the Plan benefited from the increased market volatility as the value of the put options increased during the subsequent market turbulence. By year-end, the Asset Mix Committee had again repositioned the Plan for a rally in global equities, recognizing the underlying global growth impetus and inflationary signs by lessening exposure to fixed income and shortening duration, and overweighting global equities.

Investment risk assessment and analysis

The Internalization Program increases our ability to adapt quickly to changing markets and pursue opportunities that can offer better long-term returns. While this key initiative enables OPB to manage market and currency risk more effectively, it adds a level of complexity that demands an increased focus on investment risk management, compliance, monitoring, and middle- and back-office support. Our risk-managed approach to investing integrates investment risk management into the investment decision-making process and day-to-day activities.

In 2016, we enhanced OPB's investment and risk reporting by developing a fully automated comprehensive risk reporting tool that enables risk attribution, measurement and monitoring. A new performance attribution report was developed to assess the impact of the Asset Mix Committee's investment decisions on Total Plan relative performance, providing management with additional information when positioning the OPB portfolio. We believe being able to attribute, measure and monitor the investment risk associated with a particular investment as a contribution of the Total Plan's investment risk improves the return/risk relationship of our investment decisions by taking only those investment risks that expect to be duly rewarded.

OPB advanced other risk assessment and reporting initiatives in 2016 including:

- Counterparty risk, to assess the dollar value of risk associated with derivative counterparty default, is now reported on a daily basis;
- A diversification benefit report was developed to assist with potential risk mitigation actions from investing in, or divesting from, different asset classes; and
- A trend analysis is now provided in reporting – incorporating insight on future investment risk and the likelihood of significant financial events.

Additionally, OPB updated and reviewed key risk policies in 2016. The Investment Risk Policy and associated research was fully reviewed and all of the original findings relating to outperformance versus the SAA within an acceptable risk framework were re-confirmed. Managing liquidity risk is also of utmost importance and, to this end, the OPB Liquidity Policy was fully reviewed to re-assess the minimum physical cash needed should a liquidity event occur. The result of the Policy review also re-confirmed all of the original findings.

Investment

What we did	Why it matters
Achieved an annual investment return of 8.1%[1]	Despite ongoing market volatility and a low-interest-rate environment, good investment returns helped partially offset the negative impact of lowering the discount rate used in the valuation of OPB's pension liability at December 31, 2016.
Came close to or exceeded our SAA phase-in targets	The Investments team continued working to meet the SAA targets identified in 2014 to better match the Plan's liability profile. Targets were adjusted to place more emphasis on private markets investments and long-term bonds.
Developed an analytical tool used for multi-manager factor return attribution monitoring	Increases management's effectiveness in evaluating external manager mandates and improves ongoing due diligence discussions and market research.
Internalized our money market mandate and developed the capability to manage passive fixed income in-house. Developed and implemented a second absolute return mandate as part of the Internalization Program	Internally managed assets helps us to reduce costs and increase efficiency in executing overall asset mix decisions. We are better able to agilely respond to market movements and opportunities and generate incremental risk-adjusted returns on a cost-effective basis.
Advanced our TAA strategy	Our TAA strategy helps enhance returns by taking advantage of perceived market anomalies at various points in the market cycle and preserving capital in volatile markets. Timely TAA decisions contributed almost 25% of the Total Plan's outperformance versus the benchmark in 2016.

1 For 2016, the investment fees of external managers for private assets were deducted from the gross Total Plan return.

What we did	Why it matters
Continued to increase our exposure to private markets investments by adding approximately $832 million	Private markets investments help insulate the Plan from public markets volatility and enable us to generate a larger proportion of returns from ongoing cash flow versus capital appreciation.
Invested in our first U.S. multi-residential real estate investment ($67 million)	Multi-residential is an attractive asset class because of its consistent cash flow and inflation hedge characteristics. As entry can be expensive, we have been selective and are utilizing our existing relationships to access better quality properties.
Increased our investment in private equity by almost 70% on a gross basis, including the addition of over $100 million in co-investments	Co-investments help the Plan deploy dollars more quickly to reach our Private Equity SAA phase-in targets. They also help reduce fee drag and mitigate the J-curve (i.e., mitigate against lower returns in the early years – paying fees to managers before they have actually made investments) by investing in assets directly or in more mature funds.
Made infrastructure investment commitments of approximately $357 million to two key global partnerships	Working with trusted partners provides access to high-quality assets that may not otherwise be available. Additionally, OPB can leverage their deal execution and investment management experience.

Asset mix

Asset mix is the single most important driver of investment performance. At OPB, asset mix is broadly defined in our SAA, with deviations based on our TAA strategy.

OPB's asset mix for investment purposes comprises:

- Fixed Income (cash, short-term investments and fixed income investments);
- Equities (stocks in both public and private investments, and emerging market debt); and
- Real Assets (Real Estate and Infrastructure).

Asset mix

As at December 31, 2016

Bond offerings

Issuing bonds allows us to enhance the return on our Real Estate portfolio in a cost-effective manner; the financing allows OPB to add high-quality assets to its Real Estate portfolio that generate cash flows greater than the amounts needed to cover the interest payments on the OPB bonds. In February 2016, OPB completed its fifth private placement of bonds in the amount of $250 million (Series "E"). The 10-year offering was priced with a 2.95% annual coupon (interest payment to bondholders) and was distributed across 29 institutional buyers, which included seven new buyers of OPB's bonds. Net proceeds from this bond issue were loaned to a wholly owned real estate subsidiary that, in turn, partially repaid an amount loaned to it by OPB for the acquisition of a 30% co-ownership interest in the Toronto TD Centre.

Also, in January 2017, OPB issued $750 million (Series "F") of 10-year bonds priced with a 2.98% annual coupon in conjunction with the purchase of a 25% interest in a portfolio of properties located in Vancouver.

Bond issues are rated by credit agencies, and we are very pleased that our bond issue again received strong ratings from both Standard & Poor's (S&P) and Dominion Bond Rating Service (DBRS), which confirmed our ratings at AA+ (S&P) and AA (high) (DBRS).

Investment performance

Investment excellence continues to be a top priority for OPB. OPB is pleased with the performance of the Plan in 2016. Our overall annual return of 8.1%[1] exceeded the portfolio benchmark by 1.5% and helped maintain the current funded status of the Plan. The Plan's return, net of all fees and operating expenses, for 2016 was 7.6%, which was 1.0% above the benchmark.

1 For 2016, the investment fees of external managers for private assets were deducted from the gross Total Plan return.

A number of factors positively impacted our results in 2016. The Infrastructure and Private Equity portfolios experienced favourable absolute returns and, as a group, the Plan's public market managers outperformed their benchmarks, enhancing returns. The Plan's TAA strategy also contributed to strong returns. Timely decisions throughout the year helped to preserve stakeholder capital in down markets and enhance returns in rising markets. Our Real Estate portfolio was also a strong contributor to returns. Property values increased on a number of holdings including Halifax Shopping Centre, following the completion of renovations, and TD Centre.

While interest rates remain close to historic lows, they started to trend up in the second half of 2016, reflecting improved global growth and rising inflation expectations. Management's decision to implement a shorter duration strategy mitigated the impact of the interest rate increase on the Plan. On an absolute basis, the rise in interest rates hurt total portfolio returns as, when interest rates rise, bond prices decline, resulting in a decline in the value of fixed income holdings.

Given that pensions are accrued and paid out over decades, pension plans need to take a long-term perspective. As such, our investment approach emphasizes capital preservation and seeks to generate stable, long-term investment returns within an acceptable risk framework by minimizing unrewarded risk; reducing Total Risk; focusing on fundamental research and analysis to make investment decisions; and sourcing diversified investment opportunities that provide predictable cash flow. On a four-year basis, our compounded annualized return has exceeded the portfolio benchmark by 1.1% per year.

Public Markets investments

OPB continued shifting assets from Public Markets to Private Markets, as part of the SAA shift initiated in 2011 and confirmed in the 2014 asset/liability study. As of December 31, 2016, public markets investments accounted for 73.0% of OPB's net assets, compared to 74.0% at year-end 2015. We in-sourced select public markets assets identified as part of OPB's Internalization Program (e.g., money markets, a second absolute return strategy, and prepared for passive government Fixed Income), which better positions us for value-added portfolio management, lower costs and greater control and transparency.

Additionally in 2016, we:

- continued to transition from universe to long bonds, which provide a better match for the Plan's long-term cash flow needs;
- prepared to fund two Chinese Renminbi bond strategies to capitalize on the higher spreads available (versus Canadian Government Bonds) and increase our exposure to what we believe to be a currency with potential to appreciate over the long term;
- committed approximately $250 million in a number of well-diversified investments targeting returns in excess of 10%; and
- entered into agreements to sell three Public-Private Partnership investments resulting in an approximate 30% internal rate of return (IRR) and 1.42x multiple of capital.

Interest-bearing investments – Interest-bearing investments give the Plan a stable source of cash flow. They also help preserve capital in times of market volatility. As of December 31, 2016, interest-bearing investments accounted for 25.4% of the Plan's net assets and included:

- **Fixed Income** – The Plan's Fixed Income portfolio, including global bonds, real return bonds, and private debt with currency hedging, but excluding emerging market debt, provided a solid return of 4.2% in 2016, ending the year valued at $6.2 billion. That compares to a 3.3% return in 2015, when the year-end value was $6.6 billion.
- **Private Debt**[1] – Established as an internally managed strategy within OPB's Public Fixed Income portfolio in 2009, Private Debt assets consist mostly of high-quality, investment-grade, income-bearing fixed income products of various maturities that are unavailable in the public market. This gives OPB the capability to invest in private credit across the risk spectrum (investment and non-investment grade) and capitalize on market opportunities while maintaining a focus on capital preservation and current cash yield. Private Debt has a flexible allocation that can be up to 4.5% of the Fund (to a maximum of 25% of the Fixed Income portfolio). The portfolio returned 9.0% in 2016 on a currency hedged basis, with a year-end value of $456 million. That compares to a return of 8.2% and a year-end value of $390 million in 2015. Since inception, Private Debt has generated a compounded annual return of 9.4%.

Public Equities – The Plan's Canadian equity portfolio returned 25.6% in 2016. That compares to -9.3% in 2015. The year-end market value of the portfolio was $2.8 billion, compared to $2.2 billion at year-end 2015.

The Plan's foreign developed market equity portfolio generated a return of 2.7% in 2016. That compares to 21.7% in 2015. At year-end 2016, the portfolio held a market value of $5.0 billion, compared to $4.7 billion at year-end 2015.

The Plan's emerging markets equity portfolio, which includes emerging market debt, returned 6.1% in 2016, compared to 5.0% in 2015. As of December 31, 2016, the portfolio's market value was $3.8 billion, compared to $3.5 billion at year-end 2015.

Seeking to diversify the management of OPB's developed market equity currency overlay program, management initiated an external foreign currency (FX) manager search, ultimately hiring two additional high-calibre managers. The new portfolio of FX strategies includes allocating specified portions of the Plan's overall FX exposure to three unique investment management styles (quantitative, discretionary and fundamental).

1 For 2016, the investment fees of external managers for all private assets were deducted from gross returns. Management did not adjust the 2015 gross returns for all private asset fees as the information was not immediately available. Currency hedging for Private Debt assets began June 1, 2015. Prior to that date, hedging for Private Debt was executed at the Total Plan level. Accordingly, the 2015 returns for Private Debt have been updated to reflect partially unhedged returns.

Private Markets investments[1]

While demand for quality private markets assets remains high, OPB's reputation as a trusted and respected partner provides access to high-quality deal flow and assets that may not otherwise come to market. This enables the Plan to increase exposure to private markets asset classes by deploying dollars more quickly via direct and co-investment opportunities versus investing only via private funds. This strategy helps reduce fee drag and mitigate the J-curve.

As previously indicated, the SAA phase-in targets continued to shift assets from public to private markets in 2016. Real assets such as real estate and infrastructure assets help partially protect the Plan from public markets volatility as a larger proportion of their returns are generated from predictable ongoing cash flows versus capital appreciation. Private equity offers attractive risk-adjusted returns and allows improved diversification by asset type, industry and geography. OPB's Private Markets investment strategy involves acquiring first-class real estate properties, core infrastructure assets and private equity buyouts through a combination of direct investment, fund investments and co-investments.

OPB increased its gross exposure to private markets investments by approximately $832 million in 2016, increasing our Private Equity portfolio by almost 70%. All three private market asset classes were close to or exceeded their phase-in SAA target weights in 2016. Infrastructure and Private Equity were above weight. Real Estate met the target interim weight when it was phased in mid-year. As a result of strategic dispositions, Real Estate was under target weight benchmark at year-end, but exceeded benchmark after a significant investment in Vancouver closed in early 2017. We will continue to move forward in our search for global private markets opportunities in 2017 in-line with our current strategy, and seek out assets that complement our existing holdings.

As of December 31, 2016, Private Markets investments accounted for 27.0% of OPB's net assets, up from 26.0% at year-end 2015. The market value of these investments as of December 31, 2016 was $6.6 billion, up from $6.0 billion at year-end 2015.

Our Private Markets portfolio continued to generate strong returns in 2016. The portfolio's success can be attributed to several factors:

- our disciplined approach to investing;
- our success in avoiding the J-curve effect;
- strong relationships with partners who continue to give us access to top-quality investment opportunities; and
- our ability to negotiate the best possible investment fees.

1 Currency hedging of foreign Real Estate, Private Equity and Infrastructure investments at the asset class level began April 1, 2015. Prior to that date, hedging for all foreign private assets was executed at the Total Plan level. Accordingly, the 2015 returns for Real Estate, Private Equity and Infrastructure have been updated to reflect partially unhedged returns.

Following is a more detailed breakdown of Private Markets by asset class.

Real Estate – OPB's Real Estate portfolio is presented net of financings and made up of:

- direct and indirect holdings in quality Canadian rental properties;
- direct and indirect holdings in international real estate; and
- a modest investment in participating mortgages.

Real estate assets provide strong cash-flow generation, more stable returns than equity market assets, and a hedge against inflation, which makes them a good match for the Plan's long-term pension liabilities. Our allocation to real estate assets as of December 31, 2016 stood at 18.0%. The portfolio's net market value at year-end 2016 was $4.4 billion, compared to $4.3 billion a year earlier.

OPB's Real Estate portfolio returned 9.5%[1] in 2016, compared to 10.2% in 2015 on a hedged basis. Since 1994, when OPB made its initial investment in real estate, the portfolio has generated an average annual return of 10.4%. The Real Estate portfolio return is measured net of privately issued bonds guaranteed by OPB of $1.5 billion (par value) at the end of 2016 ($1.25 billion (par value) as at December 31, 2015) and any property-specific mortgages. The objectives of the Plan's financing strategy are:

- improving returns on OPB's rental property portfolio;
- improving the funded status of the Plan over the longer term; and
- creating a partial hedge against a decline in the market value of the Plan's rental properties arising from higher interest rates in the future.

OPB continued the active expansion of its Real Estate portfolio in 2016. Our Investments team added to our Manhattan office property holdings by co-investing in an additional office tower in Times Square. In addition, OPB co-invested in an office redevelopment project in Brooklyn and in a portfolio of three multi-residential development projects across the New York Tri-State area through a structured co-investment consisting of mezzanine debt and participating equity. Additionally, the Real Estate portfolio realized significant profits from the partial sale of our co-investment interests in two Manhattan office buildings.

OPB invested $65 million into upgrades and renovations in its Canadian shopping centre portfolio in 2016, further increasing its valuation. It is expected that the renovated centres will attract higher-quality tenants, drive traffic to the centre, improve sales productivity and allow higher rents to be charged as sales performance improves and GROC (gross rent/occupancy cost) declines.

The major portion of our Real Estate holdings consist of rental properties located in Canada. As of December 31, 2016, our Canadian holdings included ownership interests in approximately 8.5 million square feet of retail space and 6.3 million square feet of office space. A list of our Canadian real estate holdings can be found on page 96.

1 For 2016, the investment fees of external managers for Real Estate were deducted from gross Real Estate returns. Management did not adjust the gross returns for Real Estate fees for prior years as the information was not immediately available.

Infrastructure – OPB's Infrastructure portfolio was first introduced in 2011. OPB's Infrastructure portfolio consists of equity investments in assets that provide an essential service to the communities in which they operate. The Infrastructure strategy focuses on core infrastructure assets that provide predictable and ongoing cash flow, stable returns during periods of equity market volatility, and some degree of inflation protection, which provides a good correlation with the Plan's inflation-linked long-term pension liabilities.

On a hedged basis, the Infrastructure portfolio generated a 2016 return of 9.8%[1] compared to 9.4% in 2015. The portfolio received $40 million in income distribution during the year with a year-end value of $1.24 billion, compared to $1.17 billion at the end of 2015. As of December 31, 2016, OPB had remaining unfunded commitments of $506 million to Infrastructure, up from $290 million at December 31, 2015.

The Infrastructure portfolio has good diversification with respect to revenue source, geography and industry sector. In 2016, we increased our commitments to Infrastructure by 27% and acquired interests in gas transmission networks, a water utility, a district heating business and broadcasting and telecommunications assets. OPB continued to diversify our geographic exposure and explore investments in emerging economies and new geographic areas.

Infrastructure assets remain highly sought after and many investors are increasing their allocations to the asset class. In this challenging environment, OPB will stay consistent in our investment approach and remain patient and disciplined in our underwriting of investment opportunities. We will continue to focus on building relationships with our existing partners, with emphasis on developing new strategic relationships with fund managers and other investment partners, increasing the capital amount invested in individual assets and co-investments.

Private Equity – Private equity consists of equity securities not publicly traded on a stock exchange. Private equity tends to be illiquid and returns are generated principally from capital appreciation over the mid- to long term. Because of the added liquidity risk, returns for private equity are typically higher than those expected from public equities. OPB's long-term timeline positions us well to earn value-added returns from this increasingly important asset class.

By focusing on more mature investments since entering the asset class in 2012, we have achieved vintage year diversification and the portfolio began receiving distributions (in the form of income and capital gains) almost immediately.

Our Private Equity portfolio returned 21.8%[2] in 2016, compared to 27.6% in 2015 on a hedged basis. The portfolio had a year-end value of $946.7 million, compared to $561.8 million at the end of 2015.

1 For 2016, the investment fees of external managers for Infrastructure were deducted from gross Infrastructure returns. Management did not adjust the gross returns for Infrastructure fess for prior years as the information was not immediately available.

2 For 2016, the investment fees of external managers for Private Equity were deducted from gross Private Equity returns. Management did not adjust the gross returns for Private Equity fees for prior years as the information was not immediately available.

Strong returns from funds and even better returns from the co-investments continued in 2016, with $122 million in income distributions since 2012, bolstered by $50 million in income distributions in 2016 alone. Since inception, the Private Equity portfolio has generated a net return of more than 20%.

Investment outlook

After years of quantitative easing and increasing monetary stimulus to encourage economic growth, central banks globally are starting to ease up on the strategy. Global economic growth is accelerating, signs of inflation are re-emerging and risk assets (equity and credit markets) are at the higher end of valuations. It is no wonder that central banks are making monetary accommodation decreasingly available – from the European Central Bank that has held stimulus flat for over a year, to the U.S. and China where the respective central banks have started to raise interest rates. In the U.S., consumer confidence is at a cycle peak, unemployment is at a cycle trough and, with the Trump presidency promising significant fiscal stimulus, equity markets have surpassed all-time highs.

Strengthening global growth should continue to be positive for equity markets for the near term. This environment, however, is less attractive for fixed income markets due to the prospects of rising interest rates to curtail inflation.

While the investment environment will remain challenging, it will also provide investment opportunities. OPB is well positioned to manage through these challenges and, more importantly, we have the strategies and expertise needed to generate value-added results in today's investment climate.

Return on investments and benchmarks

OPB has adopted a Statement of Investment Policies & Procedures (SIP&P) which defines:

- the Plan's investment objectives;
- permitted categories for investments;
- asset mix targets; and
- rate of return expectations.

The SIP&P is reviewed annually and was last amended on March 3, 2017.

The Plan's expected long-term real rate of return, as set out in the SIP&P, is a minimum of 3.85% per year, net of expenses. This figure is equal to the Plan's discount rate (the assumed interest rate used to calculate, in today's dollars, the value of the Plan's future liabilities) of 5.95%, which is the rate used for the long-term funding of the Plan less an assumed inflation rate of 2.10% per annum. Given the outlook for the investment and capital market environment, we expect to make a recommendation to the Plan sponsor to lower the assumptions we use for the funding valuation – lowering our inflation rate assumption to 2.00% and our discount rate assumption to 5.70%, resulting in an expected long-term real rate of return of 3.70%.

OPB's total annual rate of return is measured against a composite index, referred to as the Total Benchmark. The Total Benchmark takes the weighted average of the benchmark returns for each of the different investment categories, using the target phase-in allocation of the SAA to determine the weightings. The Plan's relative rate of return expectation for the year is set to equal or exceed the Total Benchmark (net of fees). The Plan's rate of investment return for 2016 was 8.1%[1], above the Plan's Total Benchmark return of 6.6%.

Annual rate of investment return

		Annual Rate of Investment Return (%)[2]			
		2016		2015	
Asset Categories	Benchmark	**Actual**	**Benchmark**	Actual[3]	Benchmark
Cash and Equivalents	FTSE TMX 91-Day T-Bill	**2.6%**	**0.5%**	7.0%	0.6%
Fixed Income	Custom bond index	**4.2%**	**1.4%**	3.3%	3.5%
Canadian Equities	S&P/TSX Composite Index	**25.6%**	**21.1%**	-9.3%	-8.3%
Foreign Developed Equities	MSCI World Index (C$)	**2.7%**	**4.4%**	21.7%	19.5%
Emerging Equities	MSCI Emerging Equity Index (C$)	**6.1%**	**7.7%**	5.0%	2.4%
Real Estate	Custom Real Estate Benchmark	**9.5%**	**5.7%**	10.2%	7.0%
Infrastructure	Custom Infrastructure Benchmark	**9.8%**	**6.9%**	9.4%	5.0%
Private Equity	Custom Private Equity Benchmark	**21.8%**	**21.7%**	27.6%	16.8%
Total Investments	Composite Index	**8.1%**	**6.6%**	6.1%	5.4%

1 For 2016, the investment fees of external managers for private assets were deducted from the gross Total Plan return.

2 For 2016, the investment fees of external managers for all private assets were deducted from gross returns. Management did not adjust the 2015 gross returns for all private asset fees as the information was not immediately available.

3 Certain 2015 returns have been restated to conform to the presentation adopted for 2016. Fixed income now includes Private Debt, and Emerging Equities now includes emerging market debt. In addition, currency hedging of foreign private assets at the asset class level began April 1, 2015 (June 1, 2015 for Private Debt, which is grouped within Fixed Income). Prior to that date, hedging for all foreign private assets was executed at the Total Plan level. Accordingly, the 2015 returns for each of the private asset classes reflect partially unhedged returns. The benchmark returns for each of Private Equity and Infrastructure are shown on a currency hedged basis, assuming perfect currency hedging for the entire year.

Responsible Investing

OPB supports Responsible Investing (RI) through a number of investment initiatives that align well with OPB's broader investment objectives *and* are resource-efficient in terms of both time and money. The combination of OPB's investment objectives and RI beliefs translates into an RI approach that:

1. adopts a pragmatic approach to integrating environmental, social and governance (ESG) considerations into the investment decision process led by both internal and external investment managers (both Public and Private Markets investments);
2. supports collaborative initiatives, such as the Canadian Coalition for Good Governance and the Carbon Disclosure Project, that aim to enhance corporate governance practices and improve corporate disclosures; and
3. utilizes proxy voting as a mechanism to engage with public companies.

In 2016, in order to further support its Responsible Investing initiative, OPB hired a dedicated person to lead the Plan's RI development. As part of OPB's commitment to exercising our proxy voting rights to support long-term corporate performance, in January 2016, we consolidated the voting across all public equity mandates and began implementing an OPB Proxy Voting Policy. In 2016, OPB voted at over 1,000 public company meetings in more than 50 countries, reflecting OPB's globally diversified public equity portfolio.

Voting proxies allows OPB to convey our views to the Boards of Directors and management of public corporations in which we invest. This year, we voted against the management recommendation on 8% of agenda items at shareholder meetings. This includes election of Directors, advisory votes on executive compensation and shareholder proposals, among other items.

As a long-term investor, we encourage companies to adopt practices that support long-term shareholder value creation. Climate change was a key theme for shareholder proposals this year. OPB supported 22 shareholder proposals seeking enhanced disclosure and/or performance related to climate change risks and opportunities at companies in our portfolio.

OPB is a signatory to the United Nations-backed Principles for Responsible Investment (PRI). This international network of investors is collaborating to put RI into practice and help build a more sustainable global financial system.

IMCO

Introduction

Many years of work by OPB and the Workplace Safety and Insurance Board (WSIB) on the Government of Ontario's broader public sector (BPS) asset pooling initiative culminated in the proclamation, on July 1, 2016, of the *Investment Management Corporation of Ontario (IMCO) Act* and OPB and WSIB named by Regulation as IMCO's initial members. Asset pooling through IMCO strongly positions OPB to deliver on the long-term pension promise for PSPP members. By providing immediate economies of scale, IMCO will allow OPB and other members of IMCO to capitalize on opportunities that we otherwise wouldn't have access to, including:

- participation in asset pooling is estimated to boost OPB's investment returns, and even a small increase could have a significant impact; for example, if OPB were able to increase its annual investment returns by 25 basis points (1/4 of 1%) above the Plan's discount rate, this would add approximately $2.0 billion to the funded status of the Plan at the end of 15 years; and
- reduction of external fees through internalization and stronger negotiating position for better deal terms.

This arrangement will provide economies of scale resulting from an initial pool of capital under management of more than $50 billion that will allow OPB to access larger and higher-quality investments capable of generating higher incremental returns at a lower unit cost. It should also open the door to a broader range of investment and partnership opportunities.

The opportunity for OPB in today's challenging pension environment is to take advantage of IMCO's scale to achieve economies that will facilitate improved access to investment opportunities within a wider array of asset classes, enhanced risk management and the optimal use of internal versus external management with the expectation of delivering enhanced risk-adjusted returns.

Through IMCO's scale, OPB will benefit from:

- the ability to retain superior leadership and investment management talent;
- the incorporation of a more robust risk management and monitoring system into its investment decisions and processes;
- being more able to invest in advanced investment and investment finance systems cost effectively;
- achieving cost advantages from the continued internalization of investment expertise for selective public and new private markets investments;
- access to greater research capabilities;
- access to new asset classes; and
- lower relative costs and enhanced investment returns.

IMCO-OPB relationship

Once operational in 2017, IMCO will be appointed OPB's sole and exclusive discretionary investment manager subject to the terms of an investment management agreement (IMA) and a service level agreement (SLA) between OPB and IMCO. The SLA will detail OPB's expectations of IMCO in terms of investment performance, performance measurement and reporting capabilities, and compliance reporting.

The IMA will also establish the governing regulations of the IMCO investment management relationship. This includes the process in which OPB will hold IMCO accountable for its investment decisions, including a dispute resolution process, the requirements for an independent review of IMCO's operations after a predetermined period of time, and under which conditions OPB can terminate its IMA with IMCO and replace IMCO as investment manager.

Role and responsibilities of OPB

OPB will be responsible for overseeing IMCO as the investment manager for its existing and future assets once operational in 2017. As the custodian of the PSPP, and in line with its fiduciary duties, OPB will continue to:

- own its assets and be responsible only for PSPP liabilities;
- own its Statement of Investment Principles and Beliefs (SIP&B) and Statement of Investment Policies & Procedures (SIP&P);
- establish IMCO performance benchmarks and targets;
- conduct its triennial asset/liability (A/L) study; and
- establish its own SAA policy.

OPB will also retain significant influence over decisions in respect of its assets to be managed by IMCO existing on the commencement of IMCO's operations. In accordance with the *IMCO Act*, OPB was pleased to nominate two of our longest-serving Board members, Vincenza Sera and Hugh Mackenzie, to the IMCO Board of Directors.

Asset/liability (A/L) study

OPB is responsible for conducting an asset/liability (A/L) study approximately every three years to ensure that OPB's asset mix, designated as the Strategic Asset Allocation (SAA), is keeping pace with the Plan's ever evolving liabilities, and is still the right blend of targeted investments by asset class (e.g., public equities, fixed income and private markets investments) for the desired risk profile of the Plan. This responsibility will continue to reside with OPB once IMCO is operational, by using the A/L study to establish an effective investment strategy for the Plan.

An A/L study involves the projections of a pension plan's assets and liabilities using numerous economic and capital markets scenarios and models several investment portfolios with varying levels of risk and return characteristics. OPB's A/L study process is designed to allow OPB to have a full understanding of the investment strategies available to the Plan and their inherent benefits and risks.

By conducting an A/L study on a three-year cycle, OPB allows for any course correction required based on current economic assumptions in the years between studies. To ensure that the asset mix is appropriate for the Plan under IMCO management, OPB undertook an A/L study in 2016 to determine which SAA would be the best fit to maintain the vitality of the Plan given projected future liability streams.

Strategic Asset Allocation (SAA)
OPB will remain responsible for setting the Strategic Asset Allocation (SAA) for the Plan's investment portfolio as it marries OPB's investment strategy with its pension liabilities. Establishing the SAA is the single most important decision on the asset side of the Plan's balance sheet as it determines the risk profile of the investment program and lays the foundation for the types and size of investments that should and should not be made. This is especially important considering that the bulk of the Plan's actual investment returns are driven by the SAA-derived asset mix.

As the SAA is determined by OPB's pension liabilities, OPB will continue to establish its own SAA under IMCO, as determined by its triennial asset/liability (A/L) study. IMCO's role will be to execute on OPB's SAA and deliver the targeted investments returns and then some on a cost-recovery basis.

Role and responsibilities of IMCO

As OPB's sole and exclusive discretionary investment manager, IMCO will be required to invest and reinvest the Plan's assets in accordance with the OPB/IMCO IMA and OPB's investment policies and applicable legislation and regulatory policies including the OPB-set Strategic Asset Allocation (SAA), which is underpinned by the triennial asset/liability (A/L) study conducted by OPB.

IMCO will build a relationship team to address the requirements of its members and to foster communication and full transparency between itself and OPB as a founding client of IMCO, and will comply with a set of fundamental principles deemed by OPB and WSIB to be critical to the success of IMCO, including a high-calibre investment team and high-calibre Board of Directors.

In addition to this, the responsibilities of IMCO include:

- acting honestly and in good faith in the best interest of its members such as OPB;
- complying with the standard of care of the *Pension Benefits Act* including prudence and special knowledge and skill;
- utilizing best industry practices for risk management, including enterprise risk;
- establishing a separate and senior independent risk management function, including a Chief Risk Officer;
- adopting industry best practices governance policies; and
- providing quarterly compliance certificates to OPB.

Service excellence

At OPB we believe that delivering on the pension promise goes beyond simply paying pensions and processing transactions. Protecting members means providing them with the support, services and tools they need to make sound pension decisions in the context of their broader personal and financial circumstances.

That's why in 2015, we led the industry by introducing Advisory Services for our members. In 2016, to the best of our knowledge we remain the only defined benefit pension plan in the world that offers this service. In our second year, our team of in-house Certified Financial Planners® helped over 3,000 clients navigate critical pension decisions by helping them understand how those decisions fit into their broader financial and life circumstances. Client Service Advisors are designated Certified Financial Planners® (CFP®) or are accredited Registered Retirement Consultants® (RRC®) and in the process of completing their CFP® designation. We are very pleased with how members have responded to our Advisory Services and our advisory tools.

In 2016, we experienced higher-than-normal service demands, due to significant increases in retirements, buybacks and information requests stemming from changes to post-retirement benefits. In total, OPB handled 3,027 member retirements in 2016, more than twice the number of retirements that occurred in 2015. We are pleased that even with significant higher service demands we continued to provide our clients with excellent service, without any substantive cost increases to handle this higher demand for service.

In 2016:

Advisory Services Excellence:

- Our Advisors met one-on-one with more than 3,000 members and helped them navigate complex pension decisions.
- We held eight in-house retirement advisory workshops – all with high attendance.
- 49% of clients going through a buyback, retirement or termination used our Advisory Services.

Client Service Excellence:

- 98% of client care calls were answered within 30 seconds – the average wait time for clients calling in is five seconds.
- E-services usage increased by 38%.
- Top services being used include updates to beneficiaries (48%), marital status (30%) and current address (21%).
- 16,992 members used our suite of online retirement planning tools in e-services.
- We launched the ability for members to initiate and manage their retirement from the PSPP online.

In response to emerging technology and evolving client needs and preferences, we continue to enhance our digital services – and to become more mobile-responsive and interactive across our web channels. We recently hired a Digital Writer to develop additional member-focused content as we shift to more targeted digital communication with members. As our clients become more sophisticated, we need the tools to be able to support their service demands as we continue to provide a secure online environment with a strong focus on the privacy of our members' data.

To help members make sound pension decisions, we need to deliver the personalized advisory services and tools they need to help them navigate those decisions. Pension Modernization will focus on the creation of a pension administration system that prepares OPB for the future, reassessing our processes and systems to meet the needs of our members today and tomorrow.

Increasingly, members expect to be able to exchange information, complete transactions and receive their communications online. While we have a number of services and excellent planning tools available online, our current IT infrastructure and systems aren't capable of fully meeting the evolving service demands and expectations of our clients. As we modernize our system we will be able to add additional transactions and advisory tools online.

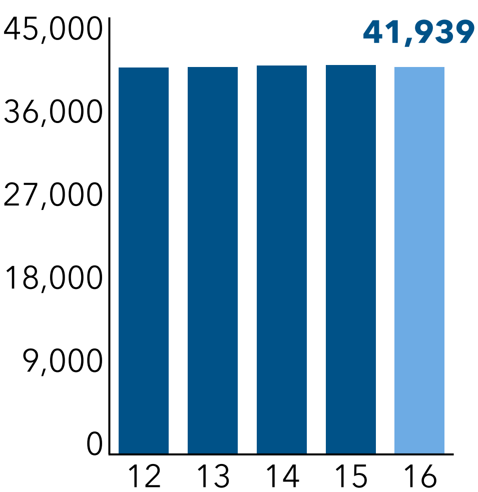
As part of Pension Modernization, we will also re-engineer business processes to help us improve our service and streamline our practices to create service efficiencies that will allow us to improve both our responsiveness and our cost effectiveness.

Client services

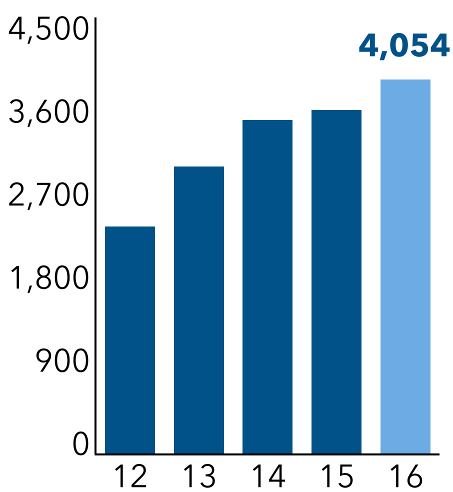
2016 initiatives

What we did	Why it matters
Continued to grow our Advisory Services program and help our members build better financial literacy	Pension issues are complex, and decisions can potentially have a significant impact on an individual's financial future. This is why we continue to expand our Advisory Services offering, which provides our clients with access to Certified Financial Planners® and Registered Retirement Consultants®. Our goal is to help members make sound decisions about their pensions by educating them about how their pension fits into their broader financial circumstances. We believe protecting our members means helping them avoid costly mistakes that could negatively impact their retirement security.
Managed significantly higher service demands	We handled significant service demands due to notable increases in retirements, buybacks, enrolments and information requests stemming from changes to retiree insured benefits.

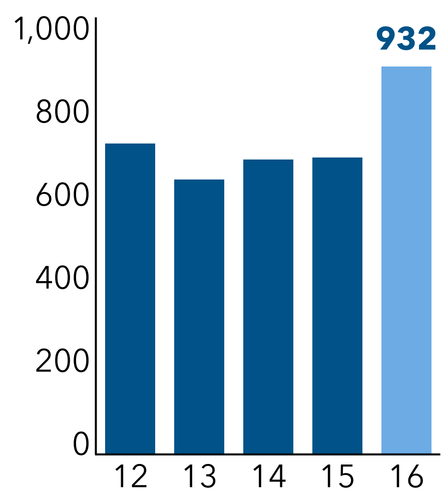
Number of active members



Enrolments



Buybacks completed



Advocating for retirement security

Pension and retirement security issues have gained growing attention from governments, media and Canadians. At OPB, we believe that well-designed, well-managed DB pension plans remain the best option for delivering efficient, affordable and sustainable retirement income. Increasingly, pension administrators around the world are looking to Ontario's model of DB-style management as a model to emulate.

Fewer and fewer Canadians have access to a workplace pension and the reality is that most Canadians are not able to save adequately for their retirement on their own. Ultimately, our goal is to advocate for a viable and meaningful retirement system for all Canadians and to promote the importance of long-term financial planning, which is why we continue to promote these issues in a wide array of public, private and government forums.

OPB continues to advocate strongly for the DB model as well as shared-risk or DB-type plans that are sustainable and could easily be made accessible to a broader range of working Canadians. We also advocate to ensure that policy-makers and thought leaders understand the many socio-economic advantages that the DB model provides. Studies show that DB plans play an important role in stimulating our economy by providing retirees with disposable income that is pumped back into the economy. Just as important, these plans provide an important source of investment capital.

OPB applauds the agreement to expand the CPP, which will help more Canadians achieve financial security in retirement – this is in keeping with OPB's philosophy that all Canadians have an adequate retirement.

In 2016, after working with the Government of Ontario and the Workplace Safety and Insurance Board (WSIB) for the past few years on creating an asset pooling arrangement, our vision was realized. On July 1, 2016, the *Investment Management Corporation of Ontario (IMCO) Act* was proclaimed, with OPB and WSIB named as IMCO's initial members. Pooling the assets of smaller public sector plans can create important economies of scale, generate larger and higher-quality investment opportunities, and improve investment returns, which in turn provides for greater retirement security for the members of these pension plans.

Advocacy

What we did	Why it matters
Continued to promote the DB pension model	We believe DB plans are the best option for providing retirement security and adequate income for retired Canadians. With that in mind, we continued to publicly promote the value of the DB model – ensuring that decision-makers and thought leaders understand the model's many advantages.

What we did	Why it matters
Continued to advocate for regulators to allow sustainable shared-risk plans (i.e., DB-type plans) for all Canadians	Shared-risk plans, which retain the best features of the DB model and divide the risk of unfunded liabilities between members and plan sponsors, are a sustainable option that could be used to provide meaningful retirement income for all working Canadians.
Continued to lay the groundwork for asset pooling	On July 1, 2016, the *Investment Management Corporation of Ontario (IMCO) Act* was proclaimed, with OPB and WSIB named as IMCO's initial members. Asset pooling will open the door to a broader range of investments and partnerships, which we believe will boost our long-term returns. The resulting incremental investment returns would contribute to maintaining the stability of benefits and contribution rates and support the long-term sustainability of the Plan.

Outstanding stakeholder relations

OPB's "shared governance" model helps to ensure that all key stakeholders have (1) the information they need to make informed decisions and (2) a meaningful voice in Plan administration. It's an open, collaborative approach that has earned us the dual role of trusted advisor to the Plan Sponsor and the bargaining agents that represent our members.

OPB works closely with the Government of Ontario to ensure that politicians and senior civil servants fully understand the issues that impact the Plan. We also conduct regular and ongoing discussions with bargaining agent groups – keeping them informed about the health of the Plan and emerging trends and issues, and ensuring that they understand the value of the Plan.

Stakeholders have been supportive of the IMCO announcement, and are pleased by the appointment of two long-standing OPB Board members to the IMCO Board and three senior OPB executives to the IMCO executive team.

In 2016, our strong relationships with the Plan Sponsor, bargaining groups and our stakeholders helped us navigate a challenging and high-service demand year smoothly – ensuring we were able to continue providing our members with the level of service they expect from us.

In 2016, we also:

- delivered 131 presentations to Plan members across Ontario, providing them with information about the value of their pension, Plan provisions, and key decision points; held eight retirement advisory workshops;
- participated in the Government of Ontario Chief Administrative Officer forum; and
- presented at the Annual General Meetings (AGMs) of bargaining agents.

We had almost 181,000 visits to OPB's public website in 2016, up 13.8% over the previous year. We also saw substantial growth in mobile traffic throughout 2016 – with nearly one in five visitors accessing opb.ca and our e-services websites via smartphone or tablet.

Interest in the interactive online 2015 Annual Report drove 320% more visitor traffic in the 90-day launch period compared to 2014.

We built upon the successful launch of our employer portal in 2015; by the end of 2016 more than 12,000 transactions had been submitted by employers through the employer portal.

We know that protecting the long-term sustainability of the Plan requires maintaining strong relationships with our members and stakeholders and OPB remains committed to doing so.

Stakeholder relations

What we did	Why it matters
Continued to build a strong working relationship with the Plan Sponsor	The Plan Sponsor is responsible for major decisions governing the Plan. We believe a strong working relationship will earn us a place at the table during future discussions related to Plan design and funding.

Strategic and responsible financial management

As an agency of the government, OPB remains mindful of the financial pressures facing the Government of Ontario. We are committed to managing costs and offering value-added service at a cost-effective price. Our track record of operational excellence and effective cost management has positioned OPB as a highly respected government agency.

In 2016, OPB's budget came in slightly above expectations in part due to higher than planned expenses related to the establishment of the Investment Management Corporation of Ontario (IMCO). Although we've expanded our range of member services in recent years, especially on the digital services side – and added to the breadth, depth and sophistication of our investment program – our operating expense ratio remains among the lowest in the industry. We've accomplished this by:

- focusing on priorities and working smart;
- automating and redeploying resources where it makes sense to do so;
- negotiating prudent agreements with investment managers and suppliers;
- enhancing our abilities, through staffing and training, to perform more value-added services in-house rather than pay premiums in the open markets; and
- focusing on increasing our digital offerings.

Our total operating expenses for 2016 increased by 9.5% over 2015. This increase is related primarily to OPB's ongoing investment in the people and technology needed to support our strategy of generating superior risk-adjusted returns and the costs associated with the set-up of IMCO that contributed to this increase.

In 2016, we continued to make prudent technology investments in pension and investment applications and cybersecurity, which are critical to OPB's continued success – including our ability to deliver a superior member experience that is consistent with our Advisory Services strategy. Those investments will be complemented with the appropriate people (talent) resources needed to ensure the continuing efficiency of OPB operations.

Our overall consolidated (investments and pension administration) expense ratio for 2016 was 50 basis points, slightly below our expense ratio in 2015.

Financial management

What we did	Why it matters
Continued to make cost constraint a priority while delivering excellent customer service	OPB is committed to managing costs. During 2016, we continued to enhance our ability to provide value-added services in-house, expanded our focus on digital service delivery, and made smart and prudent investments in both talent and technology.

Costs

At OPB, we are committed to disciplined cost management. Our goal is to streamline our costs and to ensure we spend strategically where it is in the best interests of our members and stakeholders. To properly illustrate the Plan's status and our ability to pay the pension promise, we need to compare our returns against all plan operating expenses, from investments to pension administration. This is because the funds available to pay pensions are determined by our investment returns after all expenses have been deducted. Our Plan operating costs are broken down into investment management costs and pension administration expenses.

Our Investment management costs are made up of:

- **Investment fees** – includes fees paid to **external** fund managers[1] and custodial fees associated with managing and investing the Plan's assets. These costs are deducted from total investment income. The "**Investment fees**" disclosed in Note 8 to the financial statements include "**Transaction costs**". These costs are also already included in our gross returns and, accordingly, are not deducted for purposes of calculating the ratios noted below.
  - In 2016, our Investment fees decreased to 0.28% (compared to 0.30% for 2015) as a percentage of average net assets available for benefits[2].

[1] The investment fees of external managers for certain private assets are already deducted directly at source by the respective managers and deducted from gross returns. For 2016, the investment fees of external managers for all private assets were deducted from gross returns. Management did not adjust the 2015 gross returns for all private asset fees as the information was not immediately available.

[2] The average net assets available for benefits is the four-quarter average of the quarterly averages, where the quarterly averages are based on net assets available for benefits at the beginning and end of each quarter.

- **Investment operating expenses** – These are the **internal** costs associated with managing our investment portfolio, including costs related to internal investment staff (front-, middle- and back-office), technology, risk management and performance, financial reporting, investment research initiatives, as well as a portion of general overhead for executives, communications and other general and administrative costs):
    - In 2016, our Investment operating expenses were 0.12% (compared to 0.10% for 2015) as a percentage of average net assets available for benefits.

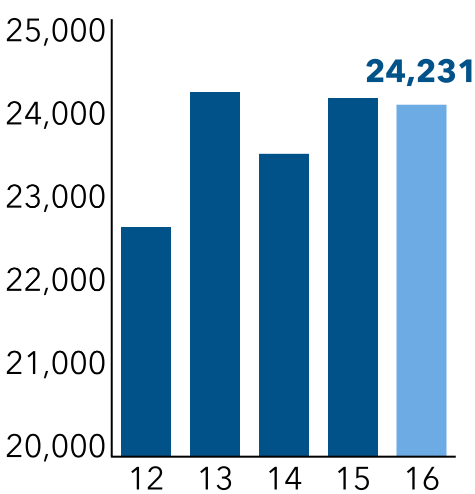
Our total investment management expense ratio (which includes investment fees and investment operating expenses compared to average net assets available for benefits) remains among the lowest in the industry. It held steady at 0.40% (or 40 cents per $100 of average net assets available for benefits) at the end of 2016. Investment fees, excluding the Transaction costs of $8.3 million for 2016 ($9.7 million for 2015) already deducted from gross returns, decreased to $66.6 million (or 28 cents per $100 of average net assets available for benefits) compared to $69.8 million (or 30 cents per $100 of average net assets available for benefits) in 2015. Investment operating expenses for 2016 increased to $27.1 million (or 12 cents per $100 of average net assets available for benefits) compared to $22.6 million (or 10 cents per $100 of average net assets available for benefits) in 2015.

Our Pension administration expenses are made up of:

- the internal costs associated with operating and administering the Plan, including costs related to providing client service, processing member transactions (retirements, terminations, etc.) and maintaining our pension administration system.

In 2016, the Plan's pension administration expenses were $24.2 million (or 0.10% of average net assets available for benefits), in line with the $24.3 million for 2015 (or 0.11% of average net assets available for benefits).

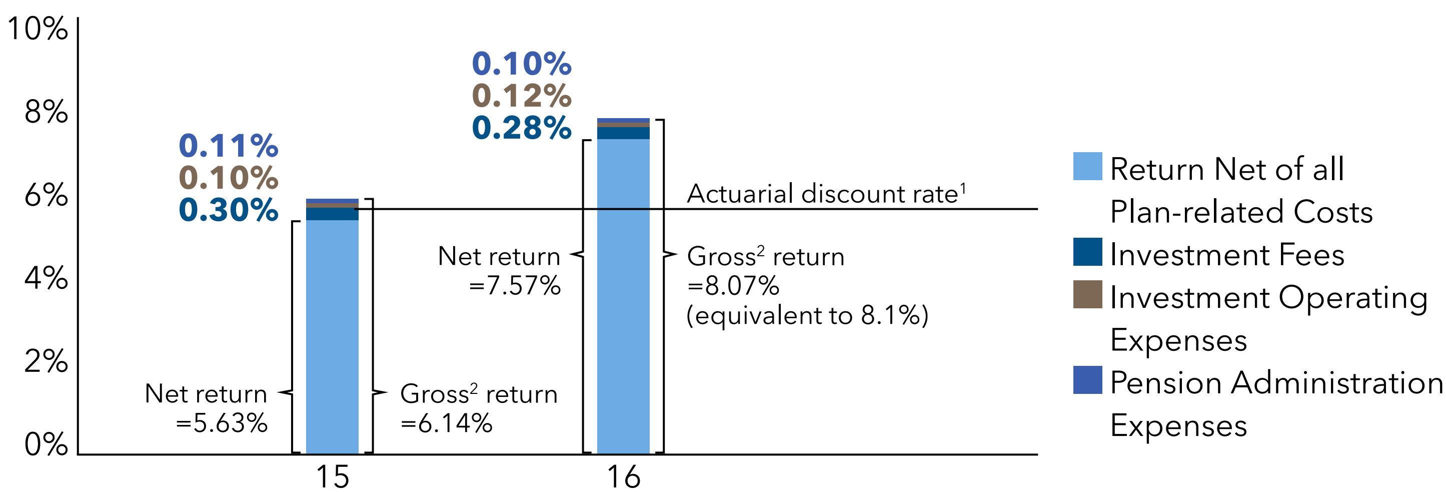
Pension administration operating expenses
(in thousands of dollars)



Our overall organizational expense ratio, factoring in all expenses, decreased slightly to 0.50% in 2016 compared to 0.51% in 2015. In 2017, we will continue to manage our costs by keeping overall staffing costs in check, deferring some non-critical strategic initiatives and continuing to negotiate competitive contracts with service providers.

In the past, OPB has reported returns without netting out investment fees, investment operating expenses and pension administration expenses. However, in the spirit of full transparency, starting this year we are providing a return net of all expenses. We believe this is appropriate because it allows for better alignment between our expressed return and the discount rate used to value the plan, which is also net of expenses. Accordingly, it is the approach we will be taking going forward. Comparing the Plan's net return versus the actuarial discount rate used to value the Plan's liabilities helps us answer the question "are we generating sufficient returns to meet the Plan's obligations net of all expenses incurred in managing the Plan?" The graphs below show how the Plan's net returns for 2015 and 2016 compared to the actuarial discount rate we use to value the Plan's liabilities. In other words, it shows how our net returns in 2015 and 2016 compare to the long-term rate of return we need to meet our pension obligations based on our valuation assumptions.

How the Plan's net return compares to its discount rate



Contributions

Contribution rates for the PSPP are set by the *Public Service Pension Act (PSP Act)*, 1990. They remain among the lowest rates for major pension plans in Canada.

Members currently contribute 6.4% of their salary below the Year's Maximum Pensionable Earnings (YMPE) and 9.5% of their salary above the YMPE. Employers contribute a matching amount. Contributions for members receiving Long Term Income Protection benefits are paid by their employers.

1 The actuarial discount rate assumption during 2015 and 2016 was 5.95%. At the end of 2016, it was reduced to 5.7%.

2 For 2016, the investment fees of external managers for all private assets were deducted from the gross Total Plan return. Management did not adjust the 2015 gross returns for all private asset fees as the information was not immediately available.

Ontario Provincial Police (OPP) officers are required to contribute additional amounts to fund the 50/30 unreduced early retirement provision and the enhanced earnings component of the benefit formula (average annual earnings based on highest 36 consecutive months for officers and highest 48 consecutive months for civilians). The contribution rates for OPP officers are 9.2% of salary up to the YMPE and 12.3% of salary above the YMPE. For civilians, the contribution rates are 6.775% of salary up to the YMPE and 9.875% of salary above the YMPE. These higher contribution rates are matched by the employer.

During 2016, contributions for all OPB members and employers totalled $765 million, up from $732 million in 2015. This increase is attributable to modest salary changes and an increase in past service purchases from members.

Pensions paid

Monthly pension payments for December 2016 totalled $96.4 million, up from $87.7 million in December 2015. Part of the increase is attributable to a 1.3% inflation protection adjustment (Escalation Factor) that was applied to pensions on January 1, 2016. The remainder is attributable to increases in the average pensions and number of new retired members.

Executive compensation

OPB recognizes compensation as a key component in achieving its long-term strategies and organizational effectiveness. The compensation programs as they pertain to the senior executives are described in this section. OPB is an Ontario public sector agency, a distinction which is incorporated into its compensation philosophy. In addition, OPB is very aware that the Province is in an era of cost constraint. While OPB's executive compensation is benchmarked against Ontario's other public sector pension plan administrations, it does not exceed that of any of its peers.

Compensation for the President and CEO is approved by the Board. Compensation for the executives reporting directly to the CEO is approved by the Human Resources Committee of the Board. Incentives are performance based.

A long-term incentive plan (LTIP) was introduced for key investment personnel only, in 2014. The LTIP uses a mix of performance metrics that include total fund returns against benchmark, client service and PSPP funded status and measures these over a four-year timeline. The use of these metrics supports the alignment of interests of senior investment staff with those of PSPP members. There is an upper limit of incentive payout, dependent upon position, ranging from 30% to 55% of base salary at the time of payout. A transitional provision in the LTIP places a ceiling on the amount that can be paid out in the first three years of the program. Commencing in 2014, the ceiling was set at 25% of the maximum otherwise payable, and increases by 25% in each of the subsequent three years.

The table below sets out the compensation for the CEO and the six executives who report directly to the CEO. This list does not reflect the top five earners, but does include the top earner, who is the Chief Investment Officer. The figures set out in the table include the components of compensation and the total compensation (excluding only retirement benefits) paid to the listed executives.

Compensation in 2016

For the year ended December 31	Year	Base Salary[1]	Short-Term Incentive[2]	Long-Term Incentive[3]	Taxable Benefits & Allowances[4]	Total
Mark J. Fuller, President and CEO	2016	$ 473,000	$ 258,077	n/a	$ 699	$ 731,776
	2015	459,223	196,992	n/a	721	656,936
Valerie Adamo, Chief Technology Officer	2016	316,758	139,057	n/a	508	456,323
	2015	298,973	104,531	n/a	514	404,018
R. Paul Edmonds, Chief Legal & Governance Officer	2016	316,758	129,125	n/a	513	446,396
	2015	316,793	108,266	n/a	534	425,593
Gayle Fisher, Chief Administrative Officer	2016	316,758	139,057	n/a	508	456,323
	2015	297,823	104,531	n/a	445	402,799
Michel Paradis, Chief Financial Officer	2016	323,888	142,188	97,500	522	564,098
	2015	323,888	113,242	65,000	546	502,676
Jill Pepall, Executive Vice-President and Chief Investment Officer	2016	492,708	259,560	203,940	728	956,936
	2015	492,878	206,721	135,960	749	836,308
Peter Shena, Executive Vice-President and Chief Pension Officer	2016	316,758	139,057	n/a	513	456,328
	2015	316,793	110,749	n/a	534	428,076

1 Base salary is based upon amounts paid during the year. In 2016 and 2015, there were 26 bi-weekly pays.

2 Short-term incentive earned is paid in March of the following year.

3 LTIP payments are only applicable to the Chief Investment Officer and Chief Financial Officer on this list. These are paid in March of the year following the completion of the measurement period. The figures shown are the amount vested and expected to be paid in the subsequent year.

4 Includes life insurance. There are no car allowances or other perquisites.

The above-noted individuals are entitled to pension benefits on their base salary from both the PSPP and the Public Service Supplementary Benefits Account (the PSSBA). Having the executives as members of the same pension plans as the clients that they serve builds strong alignment.

The listed executives participate in a Supplementary Executive Retirement Plan (SERP) that provides retirement benefits equal to 2% of the best five-year average annual award of short-term incentive plan (STIP) compensation for a year of service with OPB. There is no service accrued in the SERP for years other than during their employment time with OPB. The maximum inflation protection adjustment to the SERP benefit in any year is limited to 2.5%. All the other provisions of the SERP mirror the provisions of the PSPP. The SERP is an unregistered arrangement that is non-contributory and not funded.

In accordance with Government of Ontario directives, OPB executives do not receive any perquisites, such as automobile entitlements or allowances, club memberships, personal use equipment or personal services.

Sound risk management

At OPB, we understand that innovation can carry a degree of risk. That's why sound risk management is embedded in everything we do. Defined benefit pension plans like the PSPP face a wide range of risks, including operational risk, investment risk, funding risk and liquidity risk, to name a few. To manage that risk, OPB has implemented a comprehensive Enterprise Risk Management (ERM) program.

ERM provides an integrated approach to risk management. Specifically, it prescribes a formal framework for identifying, reporting and monitoring risks that could adversely affect the Plan. It also helps identify mitigation strategies. As part of our program, we have:

- strengthened our governance over risk management and compliance to enhance oversight;
- made it our practice to review risk and risk mitigation strategies on a quarterly basis to ensure we have the people, policies and procedures needed to protect the Plan;
- integrated risk management into our strategic planning process;
- put in place a comprehensive risk-based internal audit process; and
- started reviewing actuarial valuation assumptions on an annual basis to ensure they continue to reflect Plan experience.

Operational risk

OPB is focused on continuous improvement as part of our operational risk mitigation strategy. In 2016, OPB moved to reduce operational risk by:

- hiring an information security officer to assist with operational risk monitoring and reduction; and
- continuing to plan for the replacement of our aging pension administration systems as part of the Pension Modernization program. This important technology upgrade will help us to improve client and stakeholder outreach and support our progressive digital strategy, while improving the security of key data.

Investment risk

To position the Plan to meet its investment objectives in an increasingly challenging environment, OPB continues to allocate more funds to private markets and to shift a growing number of investment decisions in-house. OPB's Internalization Program increases our ability to adapt quickly to changing markets and pursue opportunities that can offer better long-term returns. While these key initiatives enable OPB to manage market and currency risk more effectively, they add a level of complexity that demands an increased focus on investment risk management, compliance, monitoring, and middle- and back-office support.

Our risk-managed approach to investing integrates investment risk management into the investment decision-making process and day-to-day activities. To support this effort we have developed a comprehensive investment risk reporting tool that enables investment risk attribution, measurement and monitoring.

We believe that by being able to attribute, measure and monitor the investment risk associated with a particular investment as a contribution of the Total Plan's investment risk, this approach improves the return/risk relationship of our investment decisions by taking only those investment risks that expect to be duly rewarded. In 2016, we developed and implemented a number of initiatives designed specifically to enhance our ability to manage required risk and mitigate unrewarded risk. In 2016, we:

- further advanced the planned asset pooling initiative with WSIB with the establishment of the Investment Management Corporation of Ontario (IMCO), which, once fully operational, will offer OPB the opportunity to continue to enhance our research and risk management capabilities through access to more sophisticated information technology applications;
- incorporated trend and alert analyses providing insight on future investment risk and the likelihood of significant financial events;
- incorporated the Plan's liabilities into the risk analyses so that Surplus Risk could also be factored into the investment decision-making process;
- improved the timeliness of risk reporting by fully automating production of reporting;
- developed daily Derivative Counterparty Risk reporting, including any collateral on hand from, or provided to, counterparties that we have credit exposures with; and
- developed a diversification benefit report to assist in potential risk mitigation actions (i.e., investing in/divesting from) different asset classes.

Risk management

What we did	Why it matters
Enhanced risk analyses	Incorporated trend and alert analyses to help provide insight on future investment risk and the likelihood of significant financial events. Added the Plan's liabilities into risk analyses so that Surplus Risk could also be factored into the investment decision-making process.
Introduced Derivative Counterparty Risk reporting	This reporting permits our front- and middle-office investment teams to monitor, on a daily basis, our exposures to counterparties, net of any collateral on hand, thereby allowing us to assess the credit risk of any of our derivative counterparties defaulting.

What we did	Why it matters
Fully implemented a series of risk appetite statements and a risk scale	These tools enable OPB to specify and more objectively measure acceptable risk levels arising from ongoing activities as well as new business priorities across the organization.
Automated risk reporting	This action automates the production of our reporting mechanisms, allowing us to improve the efficiency and timeliness of our internal risk reporting.
Developed a diversification benefit report	This tool assists in identifying potential risk mitigation actions (i.e., investing in/divesting from) different asset classes.
Developed the IMCO risk dashboard for OPB's Board of Directors	The IMCO Risk Management Dashboard assists the Board of Directors in its oversight of OPB's overall risks and will be a useful oversight and governance tool once the management of OPB's investment assets is transferred to the Investment Management Corporation of Ontario (IMCO).
Hired a dedicated Information Security Officer	As identified in 2015, OPB hired a dedicated Information Security Officer (ISO) in September to ensure information and cybersecurity best practices are at the core of all of our information and technology decision-making. The ISO will oversee the continued enhancement of our information security capabilities and ensure timely actions in responding to the ever changing demands arising from cybersecurity risks.

Governance

You can't build a great house without a solid foundation. We wouldn't be able to invest successfully, offer world-class client service, adapt to changing conditions or continuously drive innovation without our strong governance structure.

How OPB is run

A strong governance structure forms the foundation of OPB's continued success. OPB's governance structure meets – and in many cases exceeds – industry standards and best practices. Our steadfast commitment to industry-leading governance practices ensures full accountability, effective decision-making, prudent investment management, fiscal responsibility, legal compliance and smart risk-taking. In short, it ensures that we are – at all times – protecting and promoting the best interests of the Plan and its beneficiaries.

Underpinning our governance framework is a series of documents that define our organizational structure, responsibilities and governance practices. Collectively referred to as the Governance Documents, these documents include a Statement of Governance Principles, a General By-law, Statements of Mandate and Authority, and a Code of Conduct.

Our Governance Documents clearly define roles and responsibilities, draw a clear link between responsibility and accountability, set expectations for ethical behaviour and entrench conflict-of-interest guidelines. They also establish a well-defined system of checks and balances on all power and authority.

Role of the Board

OPB's Board of Directors holds the ultimate responsibility for the Plan's stewardship. That said, the Board has delegated responsibility for the day-to-day operations of the Plan – including administration and asset management – to OPB's management team. It has also chosen to delegate specific responsibilities to five committees of the Board: the Governance Committee, Investment Committee, Audit Committee, Pensions Committee and Human Resources Committee.

The Board retains overall responsibility for supervision of OPB's business affairs. For example, it:

- approves OPB's strategic plan, business plan and budget;
- ensures that management has identified and is managing risks;
- conducts performance and compensation reviews for the President & CEO;
- approves the Strategic Asset Allocation, which drives investment management asset mix decisions both in OPB's current in-house management of investments and in the future Investment Management Corporation of Ontario (IMCO);
- supervises and approves all audit matters;
- ensures that management is maintaining a culture of integrity;
- conducts an annual review of OPB's *Statement of Investment Policies & Procedures*;
- approves any recommendations made to the Plan Sponsor regarding Plan amendments and funding; and
- monitors compliance with OPB's governance documents.

In fulfilling their duties, members of the Board are directly accountable to:

- the Plan's beneficiaries (i.e., active and retired members);
- the Financial Services Commission of Ontario (the organization that oversees registered pension plans in Ontario); and
- the Government of Ontario (the Plan Sponsor).

Continuous improvement

Good governance is an ongoing process. To ensure we stay at the forefront of industry best practices for governance, we must remain committed to continuous improvement. That's why in 2016 we:

- introduced the analysis and reporting of emerging risks (such as geopolitical risk);
- implemented a series of risk appetite statements and a risk scale to specify and more objectively measure acceptable levels of risk for specific business priorities;
- introduced the IMCO Risk Management Dashboard to assist the Board of Directors in its oversight of the transition to IMCO of OPB's investment management activities;
- introduced a Key ERM Initiatives Overview to give OPB's Senior Executive Team a line of sight to our ERM deliverables across OPB; and
- produced a high-level resource document entitled Risk Management – Integrated Framework to explain all aspects of OPB's risk management activities and their inter-relationship.

Our ERM program remains a key component of our good governance framework. This program provides an integrated, organization-wide approach to managing risk and setting our organizational strategy. Specifically, it prescribes a formal framework for identifying, reporting and monitoring any risk that could adversely affect the Plan. It also helps identify mitigation strategies.

OPB has also embraced the governance-risk-compliance (GRC) model. In short, this model looks to ensure the integration of governance, compliance and risk management functions across the organization and improve organizational effectiveness.

OPB is consistently recognized as an example of good governance within Ontario's public service. The Board is committed to maintaining a best-in-class governance model, and ensuring OPB can continue to drive innovation and build a strong future for all PSPP stakeholders.

Five-year review

(in millions of dollars)	**2016***	2015	2014	2013	2012	
Opening net assets	**$ 23,075**	$ 22,231	$ 20,915	$ 18,991	$ 17,270	
Investment income (loss)	**1,751**	1,224	1,642	2,244	1,964	
Contributions	**765**	731	719	709	714	
Transfers from other plans	**85**	111	81	91	104	
	2,601	2,066	2,442	3,044	2,782	
Pension payments	**1,099**	1,038	989	959	918	
Terminations	**146**	137	94	121	105	
Operating expenses	**51**	47	43	40	38	
	1,295	1,222	1,126	1,120	1,061	
Closing net assets	**24,381**	23,075	22,231	20,915	18,991	
						Cumulative Since Inception
Annual rate of return	**8.1%**	6.1%	8.4%	12.5%	11.9%	8.5%

* Figures may not add up due to rounding.

Actuaries' Opinion to the Directors of the Ontario Pension Board

Aon Hewitt was retained by the Ontario Pension Board ("OPB") to prepare the following actuarial valuations of the Public Service Pension Plan ("PSPP"):

- An actuarial valuation prepared on a funding basis as at December 31, 2015, as described in Note 6 of these financial statements, prepared in accordance with the *Public Service Pension Act* and applicable pension legislation.
- The actuarial valuation prepared on a funding basis as at December 31, 2015 was then rolled forward to December 31, 2016 to determine the pension obligations as at December 31, 2016 for financial statement purposes.

The actuarial valuation of the PSPP prepared on a funding basis as at December 31, 2015 was based on membership data provided by OPB as at December 31, 2015.

We have prepared a valuation of the liabilities as of December 31, 2015 on the basis of the accounting methodology required by the Chartered Professional Accountants of Canada Handbook, Section 4600, as disclosed in Note 6, and extrapolated the liabilities to December 31, 2016. The valuation as at December 31, 2016 was based on assumptions that reflect OPB's best estimates of future events such as future rates of inflation, future retirement rates and future rates of return on the pension fund. The amounts are set out in the statement of changes in pension obligations.

We hereby certify that, in our opinion:

- The data provided to us by OPB as of December 31, 2015 are sufficient and reliable;
- The actuarial assumptions used are appropriate for the purposes of each valuation; emerging experience differing from the assumptions will result in gains or losses which will be revealed in future valuations; and
- The methods used are appropriate for purposes of each valuation and are consistent with the applicable regulatory requirements.

Our valuations have been prepared, and our opinions given, in accordance with accepted actuarial practice.

AON HEWITT

Allan H. Shapira
Fellow of the Canadian Institute of Actuaries

Andrew Hamilton
Fellow of the Canadian Institute of Actuaries

March 3, 2017

OPB
Your Pension. Our Promise.

Management's Responsibility for Financial Reporting

The financial statements of the Ontario Pension Board ("OPB") have been prepared by management, which is responsible for the integrity and fairness of the data presented. The accounting policies followed in the preparation of these financial statements are in accordance with Canadian accounting standards for pension plans. Of necessity, many amounts in the financial statements must be based on the best estimates and judgment of management with appropriate consideration as to materiality. Financial information presented throughout this annual report is consistent with the financial statements.

Systems of internal control and supporting procedures are maintained to provide assurance that transactions are authorized, assets are safeguarded against unauthorized use or disposition, and proper records are maintained. The system includes careful hiring and training of staff, the establishment of an organizational structure that provides for a well-defined division of responsibilities and the communication of policies and guidelines of business conduct throughout OPB.

The Board of Directors (the "Board") is ultimately responsible for the financial statements of OPB. OPB's Audit Committee assists in this responsibility by reviewing the financial statements in detail with management and the external auditors before such statements are recommended to the Board for approval. The Audit Committee meets regularly with management and the external auditors to review the scope and timing of audits, to review their findings and suggestions for improvements in internal control, and to satisfy themselves that their responsibilities and those of management have been properly discharged.

Mark J. Fuller
President & CEO

Michel J. Paradis
Chief Financial Officer

March 3, 2017

Independent Auditors' Report to the Directors of the Ontario Pension Board

We have audited the accompanying financial statements of the Ontario Pension Board, which comprise the statement of financial position as at December 31, 2016, and the statements of changes in net assets available for benefits and changes in pension obligations for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these 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.

Auditors' responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Ontario Pension Board as at December 31, 2016, and the changes in its net assets available for benefits and changes in its pension obligations for the year then ended in accordance with Canadian accounting standards for pension plans.

Ernst & Young LLP

Toronto, Canada
March 3, 2017

Chartered Professional Accountants
Licensed Public Accountants

Statement of Financial Position

As at December 31 (in thousands of dollars)	2016	2015
Assets		
Investments (Note 4)	$ 24,309,550	$ 23,151,396
Investment-related assets (Note 4)	84,164	84,899
Contributions receivable		
Members	23,581	21,390
Employers	51,810	43,803
Capital assets (Note 5)	1,564	1,962
Total assets	24,470,669	23,303,450
Liabilities		
Investment-related liabilities (Note 4)	44,661	190,383
Accounts payable and accrued charges	43,489	36,852
Contributions payable	1,434	1,020
Total liabilities	89,584	228,255
Net assets available for benefits	24,381,085	23,075,195
Pension obligations (Note 6)	25,176,603	23,509,215
Deficit (Note 7)	$ (795,518)	$ (434,020)

See accompanying notes

On behalf of the Board:

Geri Markvoort
Chair

Lynne Clark
Chair, Audit Committee

Statement of Changes in Net Assets Available for Benefits

For the year ended December 31 (in thousands of dollars)	2016	2015
Investment operations		
Net investment income (Note 8)	$ 1,750,984	$ 1,223,981
Operating expenses – investment operations (Note 10)	(27,095)	(22,563)
Net investment operations	1,723,889	1,201,418
Pension operations		
Contributions (Note 9)		
Members	339,393	318,315
Employers and sponsor	426,013	413,289
Transfer of service from other plans	85,441	111,431
Retirement pension payments	(1,098,805)	(1,038,418)
Termination and other benefits	(145,810)	(137,349)
Operating expenses – pension operations (Note 10)	(24,231)	(24,309)
Net pension operations	(417,999)	(357,041)
Net increase in net assets for the year	1,305,890	844,377
Net assets, at beginning of year	23,075,195	22,230,818
Net assets, at end of year	$ 24,381,085	$ 23,075,195

See accompanying notes

Statement of Changes in Pension Obligations

For the year ended December 31 (in thousands of dollars)	**2016**	2015
Pension obligations, at beginning of year	**$ 23,509,215**	$ 22,562,386
Increase in pension obligations		
Interest on pension obligations	**1,384,322**	1,329,768
Benefits accrued		
Service accrual	**630,137**	604,304
Transfer of service from other plans	**85,441**	111,431
Past service buybacks	**42,402**	33,357
Changes in actuarial assumptions (Note 6)	**516,624**	–
Experience losses	**253,077**	97,914
Total increase	**2,912,003**	2,176,774
Decrease in pension obligations		
Benefits paid	**1,244,615**	1,175,767
Changes in actuarial assumptions (Note 6)	**–**	54,178
Total decrease	**1,244,615**	1,229,945
Net increase in pension obligations	**1,667,388**	946,829
Pension obligations, at end of year	**$ 25,176,603**	$ 23,509,215

See accompanying notes

Notes to the Financial Statements

Note 1: *Public Service Pension Act*

Effective January 1, 1990, the Province of Ontario (the "Province") enacted the *Public Service Pension Act* (*"PSPAct"*), 1990 to continue the pension plan for the employees of the Province and certain of its agencies. The terms of the Public Service Pension Plan ("PSPP" or the "Plan") are stated in Schedule 1 to the *PSPAct*. Ontario Pension Board ("OPB") is the administrator of the PSPP.

Note 2: Description of PSPP

The following is a brief description of the PSPP. For more complete information, reference should be made to the *PSPAct*.

a) General

The PSPP is a contributory defined benefit pension plan. Membership is mandatory for persons or classes of persons who satisfy the eligibility requirements provided in the *PSPAct*. Persons who are entitled, but not required, to join the Plan, including Deputy Ministers and contract employees, may elect to participate. Under the PSPP, both the members and the employers make contributions. The PSPP is registered with the Financial Services Commission of Ontario and the Canada Revenue Agency (Registration Number 0208777) as a registered pension plan not subject to income taxes.

b) Contributions

The PSPP is integrated with the Canada Pension Plan ("CPP"). Contribution rates are 6.4% of the salary on which contributions are made up to the Year's Maximum Pensionable Earnings ("YMPE") and 9.5% of the salary above the YMPE. Employers contribute matching amounts.

Ontario Provincial Police ("OPP") officers are required to contribute an additional 2% of salary, which is matched by the employer. These additional contributions are used to fund an unreduced early retirement provision available to OPP officers meeting a minimum 50 years of age and 30 years of service. The contribution rates for OPP officers, inclusive of the additional 2% of salary, are 9.2% of the salary on which contributions are made up to the YMPE, and 12.3% of the salary above the YMPE. The contribution rates for OPP civilians are 6.775% of the salary on which contributions are made up to the YMPE, and 9.875% of the salary above the YMPE.

Contributions from members and employers are remitted to OPB. The portion of these contributions that exceeds *Income Tax Act* (Canada) limits is transferred to the Province's Public Service Supplementary Benefits Account ("PSSBA").

c) Pensions

A pension is payable at age 65 based on the number of years of credit in the PSPP multiplied by 2% of the average salary during the best consecutive 60-month period, less an offset for integration with the CPP at age 65. An unreduced pension can be received before age 65 if the member's age and years of credit total 90 ("Factor 90") or when the member reaches age 60 and has 20 or more years of credit.

OPP officers are eligible for a pension payable based on the average salary during the best 36-month period. OPP civilians are eligible for a pension payable based on the average salary during the best 48-month period. In addition, OPP officers are eligible for an unreduced pension after attaining age 50 with 30 years of credit.

d) Death benefits

Upon the death of a member or pensioner, benefits may be payable to a surviving eligible spouse, eligible children, a designated beneficiary or the member's or retired member's estate.

e) Disability pensions

Based on meeting all eligibility criteria, a disability pension may be available to members with a minimum of 10 years of credit in the PSPP. The amount of the disability pension is dependent on years of credit and average salary.

f) Termination payments

Members terminating employment before age 55 who are eligible for a deferred pension may be entitled to transfer the commuted value of the pension to a locked-in registered retirement savings arrangement, to transfer to another pension plan, or to purchase a life annuity.

g) Escalation of benefits

Current pensions and deferred pension benefits are increased for inflation based on the Consumer Price Index to a maximum of 8% in any one year. Any inflation above 8% in any one year is applied to increase the pension in subsequent years when the adjustment is less than 8%.

Note 3: Summary of significant accounting policies

Basis of presentation

The financial statements are prepared in accordance with Canadian accounting standards for pension plans and present the position of the PSPP as a separate entity independent of the employers and Plan members.

In accordance with Section 4600, Pension Plans, of the Chartered Professional Accountants of Canada ("CPA Canada") Handbook, Canadian accounting standards for private enterprises in Part II of the CPA Canada Handbook have been chosen for accounting policies that do not relate to the investment portfolio or pension obligations to the extent that those standards do not conflict with the requirements of Section 4600.

All of the entities that OPB has an ownership interest in, regardless of whether OPB can control or exercise significant influence, are considered to be investment assets and are presented on a non-consolidated basis.

a) Use of estimates

The preparation of financial statements in conformity with Canadian accounting standards for pension plans requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts on the statements of changes in net assets available for benefits and changes in pension obligations during the reporting period. Actual results could differ from those estimates. The most significant estimates affecting the financial statements relate to the determination of the pension obligations and the fair values of the Plan's Level 3 investments.

b) Investments and related liabilities

Investments are stated at fair value, including accrued income. Fair value is the amount of consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act.

Fair value of financial instruments is determined as follows:

i. Short-term investments are recorded at cost, which, together with accrued interest or discount earned, approximates fair value.

ii. Bonds and OPB Finance Trust debentures are valued at quoted market prices, where available. For those debt instruments for which quoted market prices are not available, estimated values are calculated using discounted cash flows based on current market yields and comparable securities, as appropriate.

iii. Equities are valued at quoted market prices at closing where available. Where quoted market prices are not available, other industry pricing conventions that are used by market participants such as ask price are used to estimate the values.

iv. Pooled fund values for publicly traded securities are supplied by the fund managers based upon fair value quotations.

v. Derivative financial instruments such as foreign exchange and bond forwards, equity futures contracts, credit default swaps and options are recorded at fair value using year-end market prices where available. For those instruments for which market prices are not available, estimated fair values are determined using appropriate valuation models based on industry-recognized methodologies.

vi. Real estate, consisting primarily of income-producing properties, and participating mortgages are valued at estimated fair value determined by independent appraisals. The cost of properties acquired during the year may be used as an approximation of their fair value where there has been no significant change in fair value. Non-operating real estate investments such as vacant land and real estate assets under construction are carried at their latest independently appraised values, plus any additional development costs.

vii. Private market and alternative investments, which include infrastructure, private equity, private debt and real estate funds, are valued using the most recently available financial information provided by the fund managers and adjusted for any transactions during the interim period up to the reporting date of these financial statements.

viii. Mortgages and private debt are valued using discounted future cash flows based on year-end market yields and comparable securities, as appropriate.

c) Revenue recognition

Investment transactions are recorded on trade date. Interest is recognized on an accrual basis when earned. Dividend income is recognized on the ex-dividend date. Distributions from investments in pooled funds are recognized when declared by the fund managers. Since real estate is valued on a fair value basis, depreciation and amortization are not recorded. Interest on participating mortgages is accrued at the rate stated in the instrument, and any participation income is accrued based on an estimate of OPB's participation in the increased value of the properties. Transaction costs are expensed as incurred.

Net investment income also includes fair value changes. Fair value changes represent both realized and unrealized gains and losses. Realized gains or losses are recognized when OPB has transferred to the purchaser the significant risks and rewards of ownership of the investment, the purchaser has made a substantial commitment demonstrating its intent to honour its obligation, and the collection of any additional consideration is reasonably assured.

d) Pension obligations

Pension obligations are determined based on an actuarial valuation prepared by an independent firm of actuaries using an actuarial valuation report prepared for funding purposes. This valuation uses the projected benefit cost method pro-rated on service and management's best estimate of various economic and non-economic assumptions.

e) Contributions

Contributions due to the PSPP at year-end are recorded as receivable. Transfers into the Plan and purchases of prior service are recorded after cash is received and the transfer or purchase transaction is completed.

f) Capital assets

Capital assets are carried at cost less accumulated depreciation. Depreciation is provided on a straight-line basis over the estimated useful lives of the capital assets as follows:

Computer equipment	3 years
Leasehold improvements	Remaining term of lease
Furniture and fixtures	10 years

g) Foreign currency translation

Foreign currency transactions are translated into Canadian dollars at the rates of exchange prevailing at the dates of the transactions. The fair values of investments and cash balances denominated in foreign currencies are translated at the rates in effect at year-end.

Note 4: Investments

Investments before allocating the effect of derivative contracts consist of the following:

As at December 31 (in thousands of dollars)	2016	2015
Cash and short-term investments		
Canada	$ 1,054,549	$ 489,584
Foreign	121,938	179,568
	1,176,487	669,152
Bonds and private debt		
Canada	5,738,077	6,317,419
Foreign	516,459	620,595
	6,254,536	6,938,014
Equities		
Canada	2,262,940	1,813,019
Foreign	8,053,841	7,753,984
	10,316,781	9,567,003
Real estate (net of financing, Note 4(h))	4,375,431	4,247,082
Infrastructure	1,238,661	1,167,558
Private equity	947,654	562,587
Total investments	24,309,550	23,151,396
Investment-related assets		
Pending trades	8,547	10,322
Derivatives receivable (Note 4(d))	75,617	74,577
Total investment-related assets	84,164	84,899
Investment-related liabilities		
Pending trades	9,568	10,978
Derivatives payable (Note 4(d))	35,093	179,405
Total investment-related liabilities	44,661	190,383
Total net investments	$ 24,349,053	$ 23,045,912

a) Investment asset mix

The Plan's actual and target investment asset mix is summarized below as at December 31:

	2016		2015		
	Asset Allocation %		Asset Allocation %		
	Total Plan	Target	Total Plan	Target	SIP&P Range
Asset categories[1]					
Fixed income	**25.4%**	**31.0%**	28.8%	32.5%	10%–45%
Equity	**51.5%**	**45.5%**	47.7%	46.0%	15%–75%
Real assets	**23.1%**	**23.5%**	23.5%	21.5%	20%–45%
Total investments	**100.0%**	**100.0%**	100.0%	100.0%	

1 The asset categories in this Asset Mix table are adjusted to reflect the market exposures after allocating derivatives positions to the asset classes to which they relate, offset by an adjustment to cash and equivalents, included in the Fixed income category.

The Plan approved an updated Strategic Asset Allocation ("SAA") on September 19, 2014, which is summarized in the Statement of Investment Policies and Procedures ("SIP&P") amended and approved on September 23, 2016. There were no significant changes as a result of that amendment. A transition plan to achieve the updated SAA was also approved on September 19, 2014. The transition plan is being phased in over a five-year period. During this period, the asset mix of the Plan's investments may not fall within the SIP&P ranges. However, the ultimate goal of the Plan is to achieve the specified SIP&P ranges of each asset category by the end of the phase-in period.

For purposes of assessing the investment asset mix of the Plan for SIP&P purposes, the investment asset categories reflect the impact of derivative contracts, and investment-related receivables and liabilities. As at December 31, 2016, the asset mix of the Plan's investments was within the acceptable ranges as specified in the SIP&P effective as at the financial statements date.

Subsequent to the year-end, the SAA was updated and the updates were incorporated into a new SIP&P, which was approved on March 3, 2017. The changes to the SIP&P will be effective as of 2017.

b) Financial instruments risk

The Plan is subject to financial risks as a result of its investing activities that could impact its cash flows, income, and assets available to meet benefit obligations. These risks include market risk (including interest rate risk, foreign currency risk and other price risk), credit risk and liquidity risk. OPB manages these risks in accordance with its SIP&P, which prescribes the asset mix policy, diversification requirements, performance expectations, limits on individual investments, valuation standards, and guidelines for the management of the Plan.

Market risk – Market risk is the risk that the fair value or future cash flows of an investment will fluctuate because of changes in market factors. Market risk comprises the following:

(i) Interest rate risk – Interest rate risk refers to the effect on the fair value of the Plan's assets and liabilities due to fluctuations in market interest rates. The value of the Plan's investments is affected by changes in nominal and real interest rates. Pension liabilities are exposed to fluctuations in long-term interest rates and inflation. The Plan has established an asset mix policy that balances interest-rate-sensitive investments with other investments. OPB's fixed income investments have the most significant exposure to interest rate risk. Duration and weighting for the fixed income portfolio are actively managed. Modified duration is a measure of the sensitivity of the price of a fixed income instrument to a change in interest rates. Given the Plan's modified duration of 8 years at December 31, 2016 (2015 – 7.3 years), a parallel shift in the yield curve of +/-1% would result in an approximate impact of $503 million (2015 – $514 million) on net investments with all other variables held constant. In practice, actual results may differ materially from this sensitivity analysis. See the schedule of fixed income maturities for further information.

(ii) Foreign currency risk – Foreign currency exposure arises from the Plan holding foreign currency denominated investments and entering into contracts that provide exposure to currencies other than the Canadian dollar. Fluctuations in the value of the Canadian dollar against these foreign currencies can have an impact on the fair value of investments. In addition to passively hedging a portion of its foreign currency exposure, the Plan also has an active currency hedging strategy in place through the use of foreign exchange forward contracts, which are accounted for at fair value. The total currency exposure, the impact of foreign exchange forward contracts and the net currency exposure are as follows:

As at December 31, 2016 (in thousands of dollars)	Gross Exposure	Foreign Exchange Contracts Receivable	Foreign Exchange Contracts Payable	Net Exposure
U.S. Dollar	$ 5,164,440	$ 773,927	$ (2,771,247)	$ 3,167,120
Hong Kong Dollar	582,987	86,970	(104,600)	565,357
Euro	684,302	368,450	(1,457,110)	(404,358)
Indian Rupee	401,745	2,355	(58)	404,042
South Korean Won	323,312	107	(242)	323,177
Japanese Yen	197,375	226,462	(115,492)	308,345
Chinese Renminbi	303,015	–	–	303,015
Other	2,230,402	407,051	(1,079,126)	1,558,327
Total foreign	9,887,578	1,865,322	(5,527,875)	6,225,025
Canadian Dollar	14,428,841	5,424,639	(1,729,452)	18,124,028
	$ 24,316,419	$ 7,289,961	$ (7,257,327)	$ 24,349,053

As at December 31, 2015 (in thousands of dollars)	Gross Exposure	Foreign Exchange Contracts Receivable	Foreign Exchange Contracts Payable	Net Exposure
U.S. Dollar	$ 4,938,316	$ 1,077,956	$ (3,209,621)	$ 2,806,651
Hong Kong Dollar	569,550	1,220	(187)	570,583
Indian Rupee	408,856	6,044	–	414,900
Chinese Renminbi	356,932	–	–	356,932
British Pound Sterling	446,489	349,787	(1,147,302)	(351,026)
Japanese Yen	130,731	245,080	(90,069)	285,742
South Korean Won	283,070	–	–	283,070
Other	2,130,090	634,644	(1,125,678)	1,639,056
Total foreign	9,264,034	2,314,731	(5,572,857)	6,005,908
Canadian Dollar	13,876,812	5,233,197	(2,070,005)	17,040,004
	$ 23,140,846	$ 7,547,928	$ (7,642,862)	$ 23,045,912

The impact of a 5% absolute change in foreign exchange rates compared to the Canadian dollar, holding all other variables constant, is 5% of the net exposure of the impacted currency, as follows:

		Change in Net Assets Available for Benefits as of	
	Change in Exchange Rates	**December 31, 2016 (in thousands of dollars)**	December 31, 2015 (in thousands of dollars)
U.S. Dollar	+/- 5%	**+/- $ 158,356**	+/- $ 140,333
Hong Kong Dollar	+/- 5%	**+/- 28,268**	+/- 28,529
Euro	+/- 5%	**+/- (20,218)**	+/- 1,657
Indian Rupee	+/- 5%	**+/- 20,202**	+/- 20,745
South Korean Won	+/- 5%	**+/- 16,159**	+/- 14,154
Japanese Yen	+/- 5%	**+/- 15,417**	+/- 14,287
Chinese Renminbi	+/- 5%	**+/- 15,151**	+/- 17,847
Other	+/- 5%	**+/- 77,916**	+/- 62,744
Total	+/- 5%	**+/- $ 311,251**	+/- $ 300,296

(iii) Other price risk – Other price risk is the risk that the fair value of an investment will fluctuate because of changes in market prices other than those arising from foreign currency or interest rate risk, whether those changes are caused by factors specific to the individual investment or factors affecting all securities traded in the market. An absolute change in the fair value of OPB's investments that are exposed to other price risk will have a direct proportional impact on the fair value of the investments. OPB's investments in equities have the most significant exposure to other price risk. The impact of a 10% absolute change in the price of an investment, holding all other variables constant, is 10% of the net exposure of the impacted investment, as follows:

			Change in Net Assets as of	
Equities	Stock Market Benchmark	Change in Price Index	**December 31, 2016 (in millions of dollars)**	December 31, 2015 (in millions of dollars)
Canadian	S&P/TSX Composite Index	+/- 10%	**+/- $ 284.5**	+/- $ 224.9
Foreign	MSCI World (C$)	+/- 10%	**+/- 499.5**	+/- 472.0
Emerging	MSCI Emerging Equity Index (C$)	+/- 10%	**+/- 375.6**	+/- 347.1
			+/- $ 1,159.6	+/- $ 1,044.0

The sensitivity analysis is performed using the investment asset mix weights summarized in Note 4(a).

Credit risk – The Plan is exposed to the risk of loss through over-the-counter ("OTC") derivative transactions, arising from a default or insolvency of a counterparty. This risk is significantly mitigated by the fact that for any counterparties where the Plan transacts in OTC derivatives of greater than one year in duration, an International Swaps and Derivatives Association ("ISDA") master agreement must be in place accompanied by a Credit Support Annex ("CSA"), which forms part of the ISDA. Under these agreements, collateral is exchanged with counterparties on a daily basis to manage the credit risk arising from any existing OTC derivative contracts with that counterparty. In addition, under the ISDA master agreement for OTC derivatives, the Plan has the right to settle obligations on a net basis in the event of default, insolvency, bankruptcy or other early termination event.

The Plan assumes credit risk exposure through bonds and private debt investments. As at December 31, 2016, the Plan's greatest credit exposure to a securities issuer is with the Government of Canada in the form of interest-bearing securities for $1.4 billion (2015 – with the Government of Canada for $983 million). The credit ratings of the Plan's fixed income and bond investments are as follows:

Credit Rating as of December 31, 2016 (in thousands of dollars)

AAA	**AA**	**A**	**BBB**	**BB**	**B**	**CCC**	**Not Rated**	**Total**
$1,812,196	**$1,852,846**	**$766,512**	**$639,644**	**$198,928**	**$94,038**	**$4,135**	**$886,237**	**$6,254,536**

Credit Rating as of December 31, 2015 (in thousands of dollars)

AAA	AA	A	BBB	BB	B	CCC	Not Rated	Total
$1,826,884	$2,056,754	$1,085,702	$685,353	$364,499	$181,828	$8,712	$728,282	$6,938,014

The majority of the "not rated" classification in the table above is comprised of fixed income pooled fund and private debt investments.

Liquidity risk – Liquidity risk is the risk that the Plan has insufficient cash flows to meet its pension obligations and operating expenses as they become due. The typical cash requirements of the Plan are in the form of monthly retirement benefit payments as well as periodic termination and other benefit payments and expenses. The Plan also has financial liabilities in the form of derivatives that all mature within one year. The cash requirements and the fulfillment of any financial liabilities are typically met through cash sources such as investment income, proceeds from the sales of investments, and member and employer contributions. The majority of the Plan's assets are also invested in securities that are traded in active markets and can be divested on a timely basis. The largest sources of cash during the year were the member, employer and sponsor contributions. The maturities of the Plan's fixed income and bond investments are as follows:

Fixed Income Maturities as of December 31, 2016 (in thousands of dollars)

< 1 year	**≥ 1–5 years**	**≥ 5–10 years**	**≥ 10 years**	**Funds**	**Total**
$214,830	**$1,731,323**	**$1,295,498**	**$2,558,146**	**$454,739**	**$6,254,536**

Fixed Income Maturities as of December 31, 2015 (in thousands of dollars)

< 1 year	≥ 1–5 years	≥ 5–10 years	≥ 10 years	Funds	Total
$562,336	$1,819,378	$1,638,002	$2,706,121	$212,177	$6,938,014

c) Cash and short-term investments

As at December 31 (in thousands of dollars)	**2016**	2015
Canada		
Cash	**$ 99,183**	$ 46,569
Short-term notes and treasury funds	**942,205**	426,095
Term deposits	**12,719**	16,550
Accrued interest	**442**	370
	$ 1,054,549	$ 489,584
Foreign		
Cash	**$ 85,308**	$ 162,247
Short-term notes and treasury funds	**36,628**	17,319
Accrued interest	**2**	2
	$ 121,938	$ 179,568

d) Derivative contracts

Derivative contracts are financial contracts whose values change as a result of changes in the values of an underlying asset, index, yield curve or foreign exchange rate.

OPB uses derivatives, either directly with counterparties in the OTC market or on regulated exchanges, to facilitate asset allocation, alter the overall risk-return profile of the Plan, and manage or hedge risk. The Plan utilizes the following types of derivative contracts:

Futures contracts

Futures contracts are standardized agreements that can be purchased or sold on a futures exchange market at a predetermined future date and price specified at origination of the contract, in accordance with terms specified by the regulated futures exchange, and are subject to daily cash margining. These types of derivatives are used to efficiently modify exposures without actually purchasing or selling the underlying assets.

Forward contracts

Foreign exchange forward contracts are negotiated agreements between two parties to exchange a notional amount of one currency for another at an exchange rate specified at origination of the contract, with settlement at a specified future date. Foreign exchange forward contracts are used by OPB to modify currency exposure for both passive and active hedging.

A bond forward is a contractual obligation to either buy or sell an interest-rate-sensitive financial instrument on a predetermined future date at a specified price. Bond forward contracts are used to modify OPB's exposure to interest rate risk, such as hedging a potential new debenture issue.

Credit derivatives

Credit default swaps are a type of credit derivative used to transfer credit risk of an underlying financial instrument or group of securities from one party to another. In a credit default swap, the buyer of the swap pays a regular premium to the seller in return for protection against any loss of the notional amount of the underlying securities if a credit event, such as a default, occurs.

Options

Options are contractual agreements under which the buyer has the right, but not the obligation, either to buy (call option) or sell (put option) an underlying asset at a predetermined price on or before a specified future date.

The following schedule summarizes the notional amounts and fair values of the Plan's derivative contracts held on the indicated dates:

As at December 31, 2016		Fair value	
(in thousands of dollars)	**Notional value**	**Assets**	**Liabilities**
Equity derivatives			
Futures	**$ 1,011,195**	**$ 7,992**	**$ –**
Currency derivatives			
Forwards	**7,301,648**	**67,625**	**(34,991)**
Credit derivatives			
Credit default swaps	**1,100**	**–**	**(102)**
Value of derivative contracts	**$ 8,313,943**	**$ 75,617**	**$ (35,093)**

As at December 31, 2015		Fair value	
(in thousands of dollars)	Notional value	Assets	Liabilities
Equity derivatives			
Futures	$ 624,416	$ –	$ (6,744)
Currency derivatives			
Forwards	7,473,626	74,577	(169,511)
Fixed income derivatives			
Bond forwards	266,617	–	(3,150)
Value of derivative contracts	$ 8,364,659	$ 74,577	$ (179,405)

The credit defaults swaps will mature in 2020 and all the other derivative contracts have remaining maturities of less than one year as at December 31, 2016.

e) Securities lending

At year-end, $865 million (2015 – $1.6 billion) of OPB's securities were on loan to third parties. Pursuant to a securities lending agreement, OPB's custodian arranges the loans and OPB earns a fee. The custodian follows strict lending criteria and over-collateralizes the loans with securities that have credit ratings equal to or better than the securities loaned. OPB does not employ cash collateral in its securities lending program. Securities under lending arrangements continue to be recognized as OPB's investments as OPB retains the rewards and risks associated with these securities. At year-end, $910 million (2015 – $1.7 billion) of securities were held as collateral, providing a 5.1% (2015 – 5.5%) cushion against the potential credit risk associated with these securities lending activities.

f) Fair values

Canadian accounting standards for pension plans require disclosure of a three-level hierarchy for fair value measurements based on the transparency of inputs to the valuation of an asset or liability as of the financial statement date. The three levels are defined as follows:

Level 1: Fair value is based on quoted market prices in active markets for identical assets or liabilities. Level 1 assets and liabilities generally include equity securities traded in an active exchange market.

Level 2: Fair value is based on observable inputs other than Level 1 prices, such as quoted market prices for similar (but not identical) assets or liabilities in active markets, quoted market prices for identical assets or liabilities in markets that are not active, and other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 2 assets and liabilities include debt securities with quoted prices that are traded less frequently than exchange-traded instruments and derivative contracts whose value is determined using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data. This category generally includes mutual and pooled funds; hedge funds; Government of Canada, provincial and other government bonds; Canadian corporate bonds; and certain derivative contracts.

Level 3: Fair value is based on non-observable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This category generally includes investments in underlying real estate properties, private equity investments and securities that have liquidity restrictions.

The following tables present the level within the fair value hierarchy for investments and derivatives, excluding pending trades.

As at December 31, 2016 (in thousands of dollars)	Level 1	Level 2	Level 3	Total Fair Value
Financial assets				
Cash and short-term investments				
Canada	$ 99,183	$ 955,366	$ –	$ 1,054,549
Foreign	85,308	36,630	–	121,938
Bonds and private debt				
Canada	–	5,347,555	390,522	5,738,077
Foreign	–	449,669	66,790	516,459
Equities				
Canada	2,262,940	–	–	2,262,940
Foreign	8,053,841	–	–	8,053,841
Real estate	–	–	4,375,431	4,375,431
Private equity	–	–	947,654	947,654
Infrastructure	–	–	1,238,661	1,238,661
Forwards	–	67,625	–	67,625
Futures	7,992	–	–	7,992
	$ 10,509,264	$ 6,856,845	$ 7,019,058	$ 24,385,167
Financial liabilities				
Forwards	$ –	$ (34,991)	$ –	$ (34,991)
Credit default swaps	–	(102)	–	(102)
	$ –	$ (35,093)	$ –	$ (35,093)

As at December 31, 2015 (in thousands of dollars)	Level 1	Level 2	Level 3	Total Fair Value
Financial assets				
Cash and short-term investments				
Canada	$ 46,569	$ 443,015	$ –	$ 489,584
Foreign	162,247	17,321	–	179,568
Bonds and private debt				
Canada	–	5,954,125	363,294	6,317,419
Foreign	–	593,523	27,072	620,595
Equities				
Canada	1,813,019	–	–	1,813,019
Foreign	7,380,483	373,501	–	7,753,984
Real estate	–	–	4,247,082	4,247,082
Private equity	–	–	562,587	562,587
Infrastructure	–	–	1,167,558	1,167,558
Forwards	–	74,577	–	74,577
	$ 9,402,318	$ 7,456,062	$ 6,367,593	$ 23,225,973
Financial liabilities				
Futures	$ (6,744)	$ –	$ –	$ (6,744)
Forwards	–	(172,661)	–	(172,661)
	$ (6,744)	$ (172,661)	$ –	$ (179,405)

There were no significant transfers between Levels 1, 2 or 3 during the years ended December 31, 2016 and 2015.

The following tables present a reconciliation of all Level 3 assets and liabilities measured at fair value for the years ended December 31, 2016 and 2015.

(in thousands of dollars)	**Fair Value as at January 1, 2016**	**Acquisitions**	**Dispositions**	**Issuance of Debt**	**Fair Value Changes**	**Fair Value as at December 31, 2016**
Financial assets						
Private debt						
Canada	**$ 363,294**	**$ 91,410**	**$ (68,053)**	**$ –**	**$ 3,871**	**$ 390,522**
Foreign	**27,072**	**44,069**	**–**	**–**	**(4,351)**	**66,790**
Real estate	**4,247,082**	**362,193**	**(103,736)**	**(250,000)**	**119,892**	**4,375,431**
Private equity	**562,587**	**406,412**	**(107,631)**	**–**	**86,286**	**947,654**
Infrastructure	**1,167,558**	**133,159**	**(15,131)**	**–**	**(46,925)**	**1,238,661**
	$ 6,367,593	**$ 1,037,243**	**$ (294,551)**	**$ (250,000)**	**$ 158,773**	**$ 7,019,058**

(in thousands of dollars)	Fair Value as at January 1, 2015	Acquisitions	Dispositions	Issuance of Debt	Fair Value Changes	Fair Value as at December 31, 2015
Financial assets						
Private debt						
Canada	$ 411,819	$ 31,741	$ (72,122)	$ –	$ (8,144)	$ 363,294
Foreign	24,995	12,083	(14,281)	–	4,275	27,072
Real estate	3,425,640	1,291,555	(129,492)	(500,000)	159,379	4,247,082
Private equity	359,765	150,411	(38,509)	–	90,920	562,587
Infrastructure	754,609	406,727	(94,207)	–	100,429	1,167,558
	$ 4,976,828	$ 1,892,517	$ (348,611)	$ (500,000)	$ 346,859	$ 6,367,593

g) Commitments and guarantees

As at December 31, 2016, OPB has unfunded commitments for certain investments of $2,064 million (2015 – $1,845 million).

OPB has provided a guarantee for the payment of principal and interest on $1,500 million in debentures that were issued by OPB Finance Trust, a trust established for the benefit of OPB and its related entities. Five series of debentures have been issued as at December 31, 2016:

1. $350 million, Series A, 30-year debentures due 2042, with a 3.89% coupon payable semi-annually.
2. $150 million, Series B, 50-year debentures due 2062, with a 3.87% coupon payable semi-annually.
3. $250 million, Series C, 10-year debentures due 2023, with a 2.90% coupon payable semi-annually.
4. $500 million, Series D, 7-year debentures due 2022, with a 1.88% coupon payable semi-annually.
5. $250 million, Series E, 10-year debentures due 2026, with a 2.95% coupon payable semi-annually.

The proceeds from the issuance of the Series A, B, D and E debentures were loaned to a number of OPB real estate subsidiaries. In turn, these real estate companies repaid amounts owed to OPB.

The proceeds from the issuance of the Series C debentures were loaned to a real estate trust established for the benefit of OPB.

Subsequent to year-end, on January 24, 2017, OPB Finance Trust issued $750 million of Series F debentures at an effective yield of 2.986%. The debentures are due on January 25, 2027 with a coupon of 2.98% per annum, calculated and payable semi-annually. The repayment of principal and interest for the Series F debentures is fully guaranteed by OPB. The entire proceeds from the issuance were loaned to a number of OPB real estate subsidiaries to acquire real estate investments on February 1, 2017 (refer to Note 13 for additional information).

OPB's real estate investments are shown net of the OPB Finance Trust debentures and any other financings specifically assumed by these real estate entities.

In addition to the guarantee on the debentures, $17 million of letters of credit are guaranteed by OPB as at December 31, 2016.

h) Real estate

The following table provides a breakdown of the real estate portfolio by its major components.

As at December 31 (in thousands of dollars)	**2016**	2015
Assets		
Real estate[1]	**$ 2,337,800**	$ 2,274,625
Investments[2]	**3,582,353**	3,276,149
Total assets	**5,920,153**	5,550,774
Liabilities		
Debentures[3]	**1,540,227**	1,289,521
Other liabilities, net	**4,495**	14,171
Total liabilities	**1,544,722**	1,303,692
Net investment in real estate	**$ 4,375,431**	$ 4,247,082

1 Real estate investments that are 100% directly owned and held in single-purpose subsidiaries.

2 Investments held through partially owned non-controlling co-ownerships, funds, or similar investment vehicles consist of real estate properties, any related assets and liabilities and participating mortgages. These assets and liabilities are presented on a net basis.

3 The debentures represent securities issued by OPB Finance Trust and are guaranteed by OPB (see Note 4(g)).

Note 5: Capital assets

As at December 31, 2016 (in thousands of dollars)	**Cost**	**Accumulated Depreciation**	**Net Book Value**
Computer equipment	**$ 4,866**	**$ 4,341**	**$ 525**
Furniture and fixtures	**2,491**	**2,032**	**459**
Leasehold improvements	**1,732**	**1,152**	**580**
Total capital assets	**$ 9,089**	**$ 7,525**	**$ 1,564**

As at December 31, 2015 (in thousands of dollars)	Cost	Accumulated Depreciation	Net Book Value
Computer equipment	$ 4,624	$ 3,995	$ 629
Furniture and fixtures	2,483	1,808	675
Leasehold improvements	1,641	983	658
Total capital assets	$ 8,748	$ 6,786	$ 1,962

Note 6: Pension obligations

An actuarial valuation prepared for funding purposes ("funding valuation") is used as the basis for funding, Plan design decisions and the periodic determination of the Plan's pension obligations. This funding valuation is based on methods required under the *PSPAct* and the *Pension Benefits Act* (Ontario) ("*PBA*"). The *PBA* and the *Income Tax Act* (Canada) require that a funding valuation of the PSPP be completed and filed with the regulatory authorities at least every three years.

The most recent regulatory filing of a funding valuation was as at an effective date of December 31, 2013, which disclosed a funding shortfall of $804 million on a going-concern basis. The funding valuation was prepared by Aon Hewitt. The next required funding valuation to be filed with the regulatory authorities will have an effective date no later than December 31, 2016. This required funding valuation would need to be filed in 2017.

A funding valuation was prepared as at December 31, 2015 and finalized in May 2016 by Aon Hewitt. This funding valuation, which was not filed, disclosed a funding shortfall of $667 million on a going-concern basis. For the purposes of these financial statements, Aon Hewitt used the funding valuation as at December 31, 2015 and rolled it forward in order to determine the Plan's pension obligations as at December 31, 2016. The pension obligations as at December 31, 2016 are $25.2 billion (2015 – $23.5 billion).

Actuarial assumptions – The actuarial assumptions used in determining the value of the pension obligations reflect management's best estimate of future economic and non-economic events. The primary economic assumptions as at December 31 are:

	2016	2015
Investment return	**5.7%**	5.95%
Inflation	**2.0%**	2.10%
Real rate of return	**3.7%**	3.85%
Salary increases		
2015	**–**	1.5% + promotional scale
2016	**1.5% + promotional scale**	1.5% + promotional scale
2017	**1.5% + promotional scale**	1.5% + promotional scale
2018	**2.0% + promotional scale**	2.0% + promotional scale
2019	**2.5% + promotional scale**	2.5% + promotional scale
2020 and thereafter	**3.0% + promotional scale**	3.1% + promotional scale

The non-economic assumptions include mortality, withdrawal and retirement rates. During 2016, changes in actuarial assumptions related to the real rate of return, inflation and total investment return resulted in an increase of $517 million to the Plan's pension obligations. The annual expected real rate of return has been lowered based on the long-term investment mix policy and expected returns and volatility for each of the asset classes. During 2015, the changes in actuarial assumptions related to a survivorship adjustment for spouses, offset by lower mortality assumptions as a result of Plan experience, contributed to a decrease of $54 million to the pension obligations.

Note 7: Deficit

In these financial statements, the amount by which net assets available for benefits is less than the pension obligations is represented by the deficit, which as at December 31, 2016 was $796 million (2015 – $434 million).

Note 8: Net investment income

For the year ended December 31

(in thousands of dollars)	**Investment Income[1]**	**Fair Value Changes**	**2016 Total**	Investment Income[1]	Fair Value Changes	2015 Total
Cash and short-term investments						
Canada	**$ 10,681**	**$ 1,974**	**$ 12,655**	$ 9,520	$ 16,365	$ 25,885
Foreign[2]	**452**	**241,044**	**241,496**	1,788	(615,953)	(614,165)
	11,133	**243,018**	**254,151**	11,308	(599,588)	(588,280)
Bonds and private debt						
Canada	**234,414**	**(12,349)**	**222,065**	242,205	(5,720)	236,485
Foreign	**40,739**	**(6,230)**	**34,509**	45,739	35,309	81,048
	275,153	**(18,579)**	**256,574**	287,944	29,589	317,533
Equities						
Canada	**54,370**	**480,344**	**534,714**	59,804	(273,612)	(213,808)
Foreign	**171,683**	**173,331**	**345,014**	221,159	944,398	1,165,557
	226,053	**653,675**	**879,728**	280,963	670,786	951,749
Real estate	**208,336**	**112,441**	**320,777**	196,493	147,291	343,784
Infrastructure	**50,308**	**(62,642)**	**(12,334)**	41,908	99,303	141,211
Private equity	**40,880**	**86,070**	**126,950**	46,865	90,532	137,397
Total investment income	**$ 811,863**	**$ 1,013,983**	**$ 1,825,846**	$ 865,481	$ 437,913	$ 1,303,394
Investment management and related fees (Note 8(b))			**(74,862)**			(79,413)
Net investment income			**$ 1,750,984**			$ 1,223,981

1 Investment income includes interest on cash and short-term investments, fixed income and participating mortgages, dividend income on equities, real estate distributions and distribution income from various pooled funds.

2 Fair value changes on cash and short-term investments include gains (losses) on foreign exchange contracts.

a) Interest income

For the year ended December 31 (in thousands of dollars)		2016		2015
Cash and short-term investments				
Canada				
Cash	$	7,201	$	5,059
Short-term notes and treasury funds		3,441		4,394
Term deposits		39		67
	$	10,681	$	9,520
Foreign				
Cash	$	429	$	1,784
Short-term notes and treasury funds		23		4
	$	452	$	1,788

Earnings from pooled short-term investment funds are included with short-term notes and treasury funds.

b) Investment management and related fees

For the year ended December 31 (in thousands of dollars)		2016		2015
Portfolio fund management	$	60,363	$	63,104
Transaction costs		8,303		9,659
Custodial		5,425		5,607
Private market		771		1,043
	$	74,862	$	79,413

Transaction costs include commissions and fees on trades.

Note 9: Contributions

For the year ended December 31 (in thousands of dollars)	2016	2015
Members		
Current service required	$ 301,627	$ 289,515
Prior service	37,766	28,800
Total contributions from members	339,393	318,315
Employers		
Current service		
Regular contributions	301,833	289,043
PSSBA transfer	(14,634)	(12,637)
For members receiving Long Term Income Protection benefits	12,791	11,485
Prior service	4,636	4,557
	304,626	292,448
Sponsor payments		
Special payments	98,989	98,989
Additional current service	22,398	21,852
	121,387	120,841
Total contributions from employers and sponsor	426,013	413,289
Total contributions	$ 765,406	$ 731,604

The contribution requirements are set out in the *PSPAct* and summarized in Note 2(b).

Members who are receiving benefits on Long Term Income Protection have their contributions to the PSPP paid by their employers.

The Province, as sponsor of the Plan, contributed $99 million (2015 – $99 million) in Special Payments in 2016 towards the funding shortfall identified in the filed funding valuation as at December 31, 2013. In 2016, the Province made $22 million (2015 – $22 million) in additional employer current service contributions.

For 2016 and 2015, the contributions to the Plan were made in accordance with the funding requirements as specified by the most recently filed actuarial funding valuation.

There were no required contributions past due as at December 31, 2016 and 2015.

Note 10: Operating expenses

Investment operations

For the year ended December 31 (in thousands of dollars)		**2016**		2015
Staffing costs	**$**	**15,891**	$	13,409
Staff development and support		**216**		179
Office premises and operations		**2,823**		2,656
Information technology and project management		**3,225**		3,231
Professional services		**1,878**		1,939
Communication		**132**		124
Depreciation		**309**		315
Board remuneration		**77**		86
Audit		**182**		244
IMCO set-up costs		**2,362**		380
	$	**27,095**	$	22,563

Pension operations

For the year ended December 31 (in thousands of dollars)		**2016**		2015
Staffing costs	**$**	**13,492**	$	12,916
Staff development and support		**121**		99
Office premises and operations		**3,169**		2,894
Information technology and project management		**5,567**		6,486
Professional services		**911**		868
Communication		**308**		288
Depreciation		**429**		457
Board remuneration		**52**		57
Audit		**182**		244
	$	**24,231**	$	24,309

Included in the above operating expenses are:

External audit services

For the year ended December 31 (in thousands of dollars)		**2016**		2015
External audit and related services provided to Ontario Pension Board	**$**	**205**	$	256
External audit and related services provided to and recorded by subsidiary operations		**272**		311
Total fees	**$**	**477**	$	567

Actuarial services

For the year ended December 31 (in thousands of dollars)		2016		2015
Actuarial services provided to Ontario Pension Board	$	457	$	410

IMCO set-up costs

In 2016, the Investment Management Corporation of Ontario Act was proclaimed by the Government of Ontario, creating Investment Management Corporation of Ontario ("IMCO"), a new investment management entity that will provide the day-to-day investment management and advisory services to participating organizations in Ontario's broader public sector with the ownership of the investment assets remaining with the participants. OPB and Workplace Safety and Insurance Board ("WSIB") are IMCO's founding members and IMCO is expected to be fully operational in 2017, at which time IMCO will assume responsibility for OPB's day-to-day investment management functions.

On July 27, 2016, IMCO entered into a funding agreement with OPB and WSIB to provide funding for IMCO's initial set-up costs incurred from the date of the funding agreement to December 31, 2017. As at December 31, 2016, no amounts are owed from IMCO to OPB under this agreement.

During 2016, IMCO charged $1.2 million to OPB, its portion of IMCO's initial set-up costs such as legal and other costs for entering into contracts with service providers. Other set-up costs related to IMCO of approximately $1.2 million (2015 – $0.4 million), such as legal and consulting expenses, were also incurred by OPB during the year.

Note 11: Capital management

The funding surpluses or deficits determined periodically through the funding valuations prepared by the independent actuary are defined as the Plan's capital. The actuary's funding valuation is used to measure the long-term health of the Plan. The last filed actuarial valuation report for funding purposes was prepared by Aon Hewitt as of December 31, 2013, which disclosed a funding shortfall of $804 million on a going-concern basis and a deficit of $871 million on a solvency basis.

The objective of managing the Plan's capital is to ensure the Plan is funded to fully pay out the Plan's benefits. The funding valuation determines the annual minimum contribution levels to eliminate any shortfalls. The Plan's SIP&P also provides guidance with respect to the investment of the Plan's assets (see Note 4(a)) in order to assist with the management of any funding excesses or shortfalls. During the year, the SIP&P was amended on September 23, 2016, resulting in the asset mix targets as shown in Note 4(a). The Plan's rate of return expectation has been set in the SIP&P at a 3.85% real rate of return, net of fees.

Note 12: Comparative financial statements

Certain amounts in the comparative financial statements have been reclassified to conform to the presentation of the 2016 financial statements.

Note 13: Subsequent events

On November 17, 2016, OPB entered into a purchase and sale agreement together with WSIB to acquire a total 50% interest in certain Vancouver properties (the “Purchased Interest”) for a total consideration of $1.9 billion. Subsequently on January 11, 2017, the Purchased Interest was assigned and transferred to entities that are equally owned by OPB and WSIB, resulting in each of OPB and WSIB having a 25% ownership interest in the Vancouver properties. The transaction was completed on February 1, 2017.

On January 24, 2017, OPB Finance Trust issued $750 million of Series F debentures (as noted in Note 4(g)) to finance a portion of the Purchased Interest described above.

Supplementary Information

Fixed income maturities

As at December 31 (in thousands of dollars)	2016 Fair Value	2016 Current Yield %	2015 Fair Value	2015 Current Yield %
Bonds				
Canada				
< 1 year	$ 166,124	1.09–7.50	$ 532,406	0.98–12.01
≥ 1–5 years	1,615,253	0.25–12.39	1,646,854	0.25–14.19
≥ 5–10 years	1,113,043	0.52–14.29	1,330,725	0.75–11.16
≥ 10 years	2,455,708	1.03–10.00	2,622,330	1.07–11.37
	5,350,128		6,132,315	
Foreign				
< 1 year	48,706	2.16–8.48	29,930	3.16–7.00
≥ 1–5 years	116,070	0.46–11.35	172,524	2.48–38.10
≥ 5–10 years	182,455	0.32–12.02	307,277	2.04–21.61
≥ 10 years	102,438	1.36–10.84	83,791	1.43–10.12
	449,669		593,522	
Fixed income funds (with no stated maturities)	454,739		212,177	
Total fixed income	$ 6,254,536		$ 6,938,014	

Investments over $200 million

As at December 31, 2016 (in thousands of dollars)	Maturities	Coupon %		Fair Value[1]
Cash and short-term investments				
Government of Canada			$	445,302
Fixed income				
OPB Investments Limited (holding company, 100% owned)			$	210,060
Blackrock Canada Universe Bond Index Class A fund				203,488
Bonds				
Canada				
Government of Canada	2018–2064	0.25–10.50	$	986,424
Province of Ontario	2018–2062	1.16–9.50		814,268
Canada Housing Trust No. 1	2018–2026	1.10–4.10		463,829
Province of Quebec	2018–2055	1.00–9.63		337,007
Real estate, net of financing				
Investment in real estate holdings, comprising OPB Realty Inc. (holding company, 100% owned), OPB (TDC) Inc. (holding company, 100% owned), OPB Real Estate Investments 2 Limited (holding company, 100% owned), OPB (EMTC) Inc. (holding company, 100% owned), OPB (Southgate) Inc. (holding company, 100% owned), OPB (155 Wellington) Inc. (holding company, 100% owned), OPB (Centre 10) Inc. (holding company, 100% owned) and OPB Finance Trust (financing entity, 100% beneficial interest)			$	2,977,547

		Fair Value
Infrastructure		
OPB Infrastructure 2 Limited (holding company, 100% owned)	$	642,820
Private equities		
OPB Private Equity 5 Limited (holding company, 100% owned)	$	303,176

[1] Includes guaranteed instruments issued by subsidiaries/agencies.

Real estate properties – Location and gross leasable area

The following table provides gross leasable area of those real estate properties that are 100% directly owned and those owned through co-ownerships, all of which are held in single-purpose subsidiaries:

As at December 31, 2016 (in thousands of square feet)	Location	Gross Leasable Area[1]
Retail		
Pen Centre	St. Catharines	1,039
Southgate Centre	Edmonton	942
Pickering Town Centre	Pickering	938
St. Vital Centre	Winnipeg	932
Erin Mills Town Centre	Mississauga	867
Erin Mills Town Plaza	Mississauga	59
Woodgrove Centre	Nanaimo	748
Cornwall Centre	Regina	579
Halifax Shopping Centre	Halifax	555
Carlingwood Shopping Centre	Ottawa	520
Halifax Shopping Centre Annex	Halifax	420
Mumford Professional Centre	Halifax	187
		7,786
Office		
TD Centre	Toronto	4,494
155 Wellington Street West	Toronto	1,211
Centre 10	Calgary	368
Pickering Office Tower/Durham College	Pickering	127
Halifax Office Complex	Halifax	52
		6,252
Residential		
Engelhart Apartments	Toronto	85
Total properties		**14,123**

[1] Area shown above reflects 100% of each property's square footage. Southgate Centre and 155 Wellington Street West are 50% owned by Ontario Pension Board through its subsidiaries OPB (Southgate) Inc. and OPB (155 Wellington) Inc. Woodgrove Centre, Cornwall Centre and Engelhart Apartments are 50% owned by Ontario Pension Board through its subsidiary OPB Real Estate Investments 2 Limited. TD Centre is 30% owned by Ontario Pension Board through its subsidiary OPB (TDC) Inc.

Governance

How OPB Is Run

To protect the pension promise for more than 85,000 members and retired members of the Public Service Pension Plan, we have established a structure that enables us to meet legislative requirements, to operate effectively and efficiently, to prudently invest and manage the Plan's assets and to protect the best interests of Plan beneficiaries.

It is a structure that ensures transparency, accountability and prudent risk management. At the same time, as OPB's pioneering in-house Advisory Services program and our significant contribution to the creation of IMCO demonstrate, it also supports innovation. Good governance is an essential foundation for the sustainability of the PSPP.

Role of the Board

In their role as stewards of the Plan, OPB's Board of Directors has delegated responsibility for the day-to-day operations of the Plan to OPB's management team. It has delegated specific responsibilities to five committees: the Governance Committee, Investment Committee, Audit Committee, Pensions Committee and Human Resources Committee.

The Board retains overall responsibility for supervising OPB's business affairs. This responsibility includes:

- approving OPB's strategic plan, business plan and budget;
- ensuring that management has identified and is managing risks;
- ensuring a management succession plan is in place;
- conducting performance and compensation reviews for the President & CEO;
- approving the Strategic Asset Allocation, which drives investment management asset mix decisions;
- supervising and approving all audit matters;
- ensuring that management is maintaining a culture of integrity;
- conducting an annual review of OPB's *Statement of Investment Policies & Procedures*;

- approving any recommendations made to the Plan Sponsor regarding Plan amendments and funding; and
- monitoring compliance with OPB's governance documents.

Members of the Board are directly accountable to:

- the Plan's beneficiaries (i.e., active and retired members);
- the Financial Services Commission of Ontario (the organization that oversees registered pension plans in Ontario); and
- the Government of Ontario (the Plan Sponsor).

Managing Risk

Managing the Plan effectively requires robust and prudent risk management. Over the course of the year, we launched the following initiatives to ensure we are effectively mitigating risk:

We introduced an enhanced approach to the analysis and reporting of emerging risks. OPB's management team meets regularly to identify emerging risks, such as geopolitical risk, and determine whether these risks warrant full analysis as enterprise risks.

We implemented a series of risk appetite statements and a new risk scale to better specify and objectively measure acceptable levels of risk for specific business priorities.

We implemented a Risk Management Dashboard for IMCO activities to assist the Board of Directors in its oversight of the transition of OPB's investment management activities to IMCO.

Board of Directors

Members of OPB's Board of Directors are appointed based on their expertise, commitment, integrity and vision. Working together, they ensure the Plan's governance structure and practices reflect the highest standards.

Geri Markvoort (Chair)

Geri is a retired senior human resources executive, with more than 40 years' experience in large complex organizations. She has aligned the delivery of human resources with the needs of business in various industries (e.g., Shell Canada, Quality Safety Systems, Jannock, CIBC, KPMG and KPMG Global). Significant organizational change, global service models, total rewards delivery, effective client relationships and the evolution of the HR function have challenged and engaged her throughout her career. A passionate champion for change and strong HR leadership, Geri's board experience has included governance roles as Chair of the Board of Governors, George Brown College; Chair of the Board, Dress for Success Toronto; and board member of Lawn Summer Nights and the Cystic Fibrosis Toronto Chapter.

Appointed to the Board on January 5, 2015.
Appointed as Chair on February 2, 2017.
Current appointment ends February 1, 2020.

Patti Croft, ICD.D (Vice-Chair)

Patti has over 30 years of experience as an economist, with extensive institutional investment management experience, focusing on asset allocation strategies. She has held a number of high-profile positions, including Vice-President and Chief Economist for Phillips, Hager & North Investment Management, Chief Economist for RBC Global Asset Management, and Vice-President and Chief Economist for Sceptre Investment Counsel. Patti is a member of the Institute of Corporate Directors.

Appointed to the Board on May 1, 2013.
Appointed as Vice-Chair on December 3, 2014.
Appointed as Acting Chair between June 2016 and February 2017.
Current appointment ends May 1, 2019.

Michael Briscoe

Michael Briscoe worked for 27 years in the Ontario and municipal government as an HR professional. With a focus on labour relations, he was Chief Negotiator and Senior Manager of HR for the Simcoe County District School Board. Michael was hired by the Ontario Provincial Police Association in 2013 as its Executive Labour Advisor and as its Chief Administrative Officer in 2015. He is also a former Strategic Issues Advisor with the Ontario Provincial Police and a Client Relationship Coordinator for the Strategic Business Unit with the Ministry of Community Safety and Correctional Services. Michael holds a Bachelor of Arts degree and is a Certified Human Resources Professional.

Appointed to the Board on August 15, 2016.
Current appointment ends August 14, 2019.

Dave Bulmer

Dave Bulmer is the President of AMAPCEO – Ontario's Professional Employees and has been since 2015. He previously held the offices of Chief Financial Officer, Board Chair, Director-at-Large, Finance Committee Chair and Pension Committee Chair. His home position in the OPS is within the Emergency Health Services Branch of MOHLTC. Dave is a long-time community activist who has volunteered his time as a coach in elite-level sports and with PFLAG and Crohn's & Colitis Canada.

Appointed to the Board on November 16, 2016.
Current appointment ends November 15, 2019.

Lynne Clark, ICD.D

Lynne Clark is a recently retired senior Deloitte partner with over 35 years of public accounting experience and a former leader of the Deloitte National Financial Services Industry. She is the 2012 recipient of the Queen Elizabeth II Diamond Jubilee Medal for community service, is a former Treasurer of the Junior Achievement Foundation (Canadian Business Hall of Fame) and is past chair of Junior Achievement of Canada. She was also a Director of The Easter Seals Society of Ontario. Lynne is a Fellow Chartered Professional Accountant of Ontario and received her ICD.D designation from the Institute of Corporate Directors. She also holds a Master's in Business Administration from the Schulich School of Business and a Bachelor of Science from the University of Toronto. She is currently a member of the audit committee and investment committee at North York General Hospital.

Appointed to the Board on June 22, 2016.
Current appointment ends June 21, 2019.

Kevin Costante

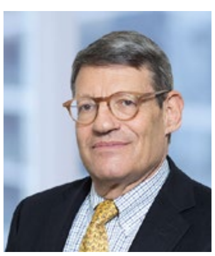
Kevin Costante retired from the Ontario Public Service in 2014. Kevin spent 36 years with the Ontario and Saskatchewan public services, including the last 15 years as a Deputy Minister in the Ontario ministries of Government Services; Education; Northern Development and Mines; Cabinet Office (Policy); Training, Colleges and Universities; and Community and Social Services. Kevin is currently an Adjunct Professor at the School of Policy Studies at Queen's University and serves on several government and not-for-profit boards.

Appointed to the Board on December 2, 2015.
Current appointment ends December 1, 2018.

Sean Hanley

Sean is Counsel with the Constitutional Law Branch, Ministry of the Attorney General. As past President of the Association of Law Officers of the Crown, he established a successful track record of advocacy on behalf of public sector lawyers in collective bargaining, pension sustainability, defending professional employees' rights and independence in the workplace, and promoting continuing professional development for public sector lawyers. He was also the founder of the National Pension Strategy Committee of the Canadian Association of Crown Counsel, which co-ordinates education and advocacy with respect to public sector pension developments affecting Crown counsel in all Canadian jurisdictions.

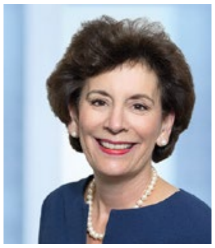
Appointed to the Board on December 3, 2014.
Current appointment ends December 2, 2017.



Dr. John T. Por

Dr. John Por is Founder and President of the Decumulation Institute. He is the former Founder and President of Cortex, a pension governance consultancy, and a National Partner with Mercer Canada. He holds a Master's degree in Engineering from Budapest Technical University (Hungary) and a PhD from the University of Veszprém (now known as the University of Pannonia, Hungary) in Engineering Physics. Dr. Por has served as a senior advisor in the pension and investment industry for over 30 years.

Appointed to the Board on June 22, 2016.
Current appointment ends June 21, 2019.



Michelle Savoy, ICD.D

Michelle is a corporate director with over 25 years' experience in the financial services industry, including investment management and capital markets. She currently serves as a Director for the Laurentian Bank of Canada (LB-T), Pizza Pizza Royalty Corp. (PZA-T) and Nav Canada, and held numerous senior executive positions with The Capital Group of Companies, a global investment management organization, including President of Capital Guardian Canada, until her retirement in 2011. Michelle is a member of the Institute of Corporate Directors.

Appointed to the Board on January 15, 2016.
Current appointment ends January 14, 2019.

Former members of the Board

M. Vincenza Sera

Appointment from September 2004 to June 2016.

Hugh G. Mackenzie

Appointment from December 2002 to June 2016.

Lisa Hillstrom

Appointment from March 2015 to August 2016.

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Directory of Key Personnel

Officers

Mark J. Fuller

President & CEO

Jill Pepall

Executive Vice-President & Chief Investment Officer

Peter Shena

Executive Vice-President & Chief Pension Officer

Valerie Adamo

Chief Technology Officer

R. Paul Edmonds

Chief Legal & Governance Officer

Gayle Fisher

Chief Administrative Officer

Michel J. Paradis

Chief Financial Officer

Glenn Hubert

Managing Director, Private Debt

Tanya Lai

Managing Director, Public Markets

Sean Macaulay

Managing Director, Private Markets

Brian Whibbs

Managing Director, Real Estate

Mila Babic

Vice-President, Client Services

Kevin Clinton

Vice-President, Investment Counsel

John McNair

Vice-President, Investment Risk Management & Analytics

Glossary

Counterparty risk: The risk of a counterparty not fulfilling their contractual financial obligations.

Diversification benefit: The degree of Total Risk reduction resulting from a combination of asset classes behaving differently to each other.

FTSE TMX Universe Bond Index: The FTSE/TMX Universe Bond Index and the S&P/TSX Composite Index are two benchmarks commonly used to compare Canadian equity portfolio and fixed income portfolio performance and risk, respectively. OPB's Strategic Asset Allocation (SAA) is a benchmark against which the overall Plan is assessed from a risk and return perspective.

Internalization Program: OPB initiative to selectively bring the management of some public markets assets in-house from external managers.

IRR: Internal rate of return is a discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero. IRR calculations rely on the same formula as NPV does. The term internal refers to the fact that its calculation does not incorporate environmental factors (e.g., the interest rate or inflation).

Passive fixed income: Passive investing is an investment strategy that aims to mimic the returns of a specific index. This type of strategy is generally low cost.

Put options: A derivatives option contract giving the owner the right, but not the obligation, to sell a specified amount of an underlying security (the security on which the derivative derives its value) at a specified price within a specified time.

Renminbi: General term for the currency of the People's Republic of China (PRC). The renminbi (or yuan) is made up of 10 jiao and 100 fen and is often either abbreviated as RMB or presented with the symbol ¥. Renminbi is issued by the People's Bank of China, which is controlled by the PRC.

Responsible Investing: Responsible Investing (RI) is the integration of environmental, social and governance (ESG) factors into the investment decision-making process, which supports long-term investment performance.

Reward to Risk ratio: A measure of risk-adjusted performance used to compare the expected returns of an investment to the amount of risk undertaken to capture these returns.

Risk-adjusted return: A measurement used to analyze an investment's return based on how much risk is involved in producing that return. Risk-adjusted returns can be used to compare the return of a portfolio against a benchmark with a known return and risk profile.

Total Risk: The volatility or fluctuations of portfolio returns over a defined period of time.

Yield to maturity (YTM): Total return anticipated on a bond if the bond is held until the end of its lifetime. Yield to maturity is considered a long-term bond yield, but is expressed as an annual rate.