Ontario Pension Board 2022 Annual Report

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Letter from the Chair

Amidst another challenging year, OPB staff remained focused on serving our clients today, advancing initiatives that will help us enhance our services and the client experience in the future and protecting the pension promise.

2022 was also a very difficult year for the markets with both bonds and stocks significantly down. As a result, our 2022 return was negative and our funded status decreased to 89% on a financial statement basis. It is important to note that while this year's results were negative, our Plan did exceed the benchmark, outperforming the market amidst challenging conditions.

Over the past few years, we have seen several one in 100-year events that have created significant economic volatility and market uncertainty. This underscores the importance of prudent funding management and risk analysis. Our ongoing analysis of the changing economic and market conditions gives us the necessary insight to help us effectively manage the risks and continue to protect the long-term health of the Plan. As a defined benefit pension plan, we are a long-term investor, which means that the Plan's sustainability is not dependent on how the markets perform in any given year. What's important is how the Plan performs over many years. The Board and management remain confident in the long-term health of the Plan and are committed to taking the strategic steps necessary to manage the shortfall and to keep the Plan strong. More information about the Plan's funding and strategies can be found in the CEO's letter and the Funding section in the Management's Discussion & Analysis (MD&A).

Oversight of the Investment Management Corporation of Ontario (IMCO), our investment manager, continues to be an important governance focus for the Board. 2022 marks IMCO's fifth anniversary, and over those years it has built a strong and effective investment team, a comprehensive risk management program, and established a network of partnerships with leading global investment managers.

As IMCO continues to mature in terms of investment expertise and scale, it is able to pursue and secure investment opportunities that would not have been previously possible for OPB to accomplish on its own.

Both OPB and our investment manager, IMCO, are committed to integrating environmental, social and governance (ESG) practices into our strategies and to making meaningful progress in this area. In 2022, we had focused attention on climate risk and diversity, equity and inclusion (DEI), ensuring that these important topics were embedded in risk and strategy discussions. In particular, OPB:

- Established a Diversity, Equity and Inclusion Advisory Council as part of our commitment to strengthen and advance DEI at OPB and to ensure the encouragement and inclusion of diverse voices. Comprised of volunteers from across the organization, the DEI Advisory Council will provide advice and recommendations in establishing our DEI framework and priorities while connecting OPB's DEI activities and programs to our mission, operations, strategies, and business objectives.

- Surveyed our members to gain a better understanding of the ESG issues that are important to them and to find out how members want us to communicate our progress on ESG with them.
- Based on the feedback received, we developed an ESG Communications Strategy and published two articles for members, including an educational article to help members understand the path to net zero and to announce IMCO's interim targets.
- Updated our action plan in 2022 to identify additional key activities relating to ESG that we intend to undertake over the next two to three years. We expect to issue our first ESG report by early 2024.

We were pleased to see IMCO release its inaugural ESG report, reporting its carbon footprint baseline and establishing its interim net-zero target as well as a climate solution target.

Last year, we also continued to make progress on our multi-year pension modernization initiative to transform our business processes and technology. In 2022, we made enhancements to our new member portal, implemented an improved Retirement Planner and launched the first phase of our project to modernize our Pension Administration System. We will continue to move our modernization initiative forward in 2023 to enable us to meet evolving client expectations and improve the client experience.

As a society, our expectations of organizations are continuing to evolve. Being a good corporate citizen and an active, positive contributor to community are seen as just as important as how well an organization serves its clients. This has also shifted boards' oversight responsibilities. In addition to the key areas of board oversight (Strategy, Risk, Performance and Leadership), boards are required to help organizations navigate and respond effectively to changing societal expectations and to help organizations get crystal clear on their purpose and how they support their clients, employees and their broader communities. In 2022, the Board and management began defining our formal purpose statement.

These evolving expectations for boards are also shaping our work as we consider the strategic challenges of ESG governance, talent and succession management, and diversity in the workplace and boardroom.

Over the past few years, executive succession planning has been a key focus for the Board as we prepare for the retirement of two of OPB's long-serving, well-respected and integral executives. First, Peter Shena, OPB's Chief Pension Officer and Executive Vice-President, will be stepping down from his role as CPO & EVP at the end of 2023. Mark Fuller, our President and CEO, will follow and retire at the end of 2024. Together Mark and Peter have transformed the way we deliver pension services to our members, creating an industry-leading Advisory Services model that provides members with the help they need to make sound pension decisions. They have worked hard to foster a caring culture dedicated to supporting our staff, delivering outstanding service to our clients and protecting the pension promise. OPB wouldn’t be where we are today without their exemplary leadership.

In 2022 the Board initiated a working group to ensure we effectively consider and execute a transition plan that allows us to continue to deliver excellent service, protect the pension promise and advance our strategies to help improve the client experience for our members.

In addition, after almost 10 years on the OPB Board, Patti Croft will be stepping down in June 2023. Patti has served as the Vice-Chair of the Board since October 2014 and Chair of the Investment Committee since July 2016. During her tenure, Patti has contributed leadership in many ways. She was instrumental in helping us successfully navigate the transition of the Investment function to IMCO and oversee the evolution of IMCO. She has been a passionate champion for DEI, as well as ESG and climate. I would like to thank Patti personally; she has been a tremendous support to me and an exceptional Vice-Chair.

With Patti stepping down, I am pleased to announce that Rob Ritchie will take over as the new Vice-Chair and Chair of the Investment Committee. Rob joined the Board in 2020, has served as Chair of the Managed Plans Committee and member of the Investment and Audit committees. His more than 35 years in insurance, pensions and financial services, as well as his significant investment management experience, has served the Board well. I am confident that Rob will bring significant value to these new roles.

Lastly, on behalf of the Board, I want to express our thanks and appreciation to the OPB team for their hard work and dedication. During another challenging year, OPB continued to focus on serving our clients well, delivering on the pension promise, overseeing IMCO and advancing our growth and modernization initiatives to position us well for the future.

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Chair

Letter from the President & CEO

In a year that presented us with challenges on many fronts, OPB remained focused on delivering excellent service to our pension plan members and stakeholders and on the long-term health of the Plan.

In 2022, we faced historically high service demands while adapting to a new hybrid work model and continuing to enhance our digital service offerings. We continued to evolve our environmental, social and governance (ESG) practices, including issuing our first communication to members on IMCO's ESG Report. Internally, we introduced a voluntary Diversity, Equity and Inclusion Advisory Council.

While this was not a good year in the stock and bond markets, our strategic and investment planning is done with a focus on the long view. While important, the results of a single year, whether positive or negative, are not what drives the health of the Plan. What's important is how the Plan performs over the long term. We have successfully navigated challenging years in the past and remain confident in IMCO's ability to generate the long-term returns needed to keep the Plan strong and healthy.

Investment Performance

Over the course of 2022, geopolitical instability hampered the economic recovery from the COVID-19 pandemic. We saw significant market volatility and shortages of goods due to supply chain issues. A surge in energy and commodity prices, triggered by Russia's invasion of Ukraine, exacerbated price pressures. This, combined with the impact of supply chain issues, helped push inflation in developed countries to the highest levels in 40 years.

Central banks in Canada, the United States, England and Europe responded by implementing a rapid and aggressive series of interest rate hikes to slow inflation. This led to substantial losses in government and corporate bonds as well as public equities – an unusual combination.

Due to sharp declines in stocks and bonds, OPB's investment portfolio produced a one-year loss of (7.8%), compared to a return of 9.4% in 2021. This marked only the fourth year in OPB's 33-year history that the portfolio generated a loss. We outperformed our portfolio benchmark of (8.1%) and significantly outperformed the average Canadian defined benefit pension plan which, according to the Royal Bank of Canada (RBC), lost (10.3%). Positive returns in our private equity and infrastructure investments helped offset some of the losses from the stocks and bonds. This provides further validation of our strategic decision in recent years to shift more heavily into private market investments.

As IMCO has matured over the past five years, it has been able to pursue investments, particularly in private markets, that would be difficult or impossible for OPB to make on our own.

As a pension plan manager with a 30-year to 50-year time horizon, we naturally take the long view. Diversified portfolios tend to rebound well from market downturns, as we saw in the years following the 2008–2009 global financial crisis. OPB has a proven track record of successfully navigating through challenging markets, since inception.

Plan Sustainability

Given the economic climate in 2022, including the spike in inflation and the investment loss, the Plan's funded status declined in 2022.

Higher interest rates are typically positive for defined benefit pension plans, in that they lower the present value of the Plan's obligations. However, on the asset side in 2022, they caused the value of our stock and bond holdings to drop. At the same time, high inflation increased the Plan's liabilities more than expected due to the high cost-of-living adjustment (COLA) for retired members. Pensions paid to OPB retired members and survivors increased 6.3% on January 1, 2023, compared to our long-term inflation assumption of 2.0%. As a result of these factors, the Plan's funded ratio at December 31, 2022 on a financial statement basis, without asset smoothing, is 89%. This figure takes into account the full investment and inflation losses incurred in 2022 and also includes a regulatory provision for conservatism. The Plan Sponsor is making special payments to the Plan which will contribute substantially to bringing the Plan to fully funded status over the next 10 years.

Record Service Demand

On another front, we were challenged by a surge in service demand from our clients. Service demand hit historically high levels in 2022 as we integrated almost 7,000 new Plan members – a 37% increase from the previous year. This happened in a year in which we were transitioning our staff from remote work to a new hybrid working model and were also dealing with higher staffing vacancies.

Our staff remained committed to providing outstanding service. While our response times were impacted, they remain industry leading as demonstrated by the scores we received in the CEM pension administration benchmarking survey. OPB ranked first amongst our Canadian peers for the second year in a row and we rose to fourth internationally. Our client satisfaction survey score did drop slightly to 8.6. We took, and continue to take, steps to restore our service levels and ease the pressures on our staff. These steps included hiring additional service staff and carefully prioritizing our work.

I am extremely proud of how OPB staff performed when we adapted to the COVID-19 pandemic and I remain humbled by their efforts to meet the unique challenges of 2022. I am grateful to lead such a dedicated and talented group of people.

Progress on ESG

Diversity, equity and inclusion (DEI) are integral values at OPB and we continued to advance an inclusive and respectful work environment. We conducted a survey to better understand employees' experiences in the workplace and launched a volunteer DEI Advisory Council as part of our commitment to encourage, and listen to, diverse voices. The Council will provide advice and recommendations as we establish our DEI framework and priorities.

Both OPB and our investment manager, IMCO, are integrating ESG factors into our investments and operations. OPB developed a communications strategy to enhance our ESG reporting, and in 2023 we aim to help our members better understand important ESG topics, such as climate change and what the path to net zero looks like. For its part, IMCO released its inaugural ESG report in 2022, disclosed its carbon footprint and announced interim targets to help achieve net-zero greenhouse gas emissions in its investment portfolio by 2050.

We expect to release our ESG report in late 2023 or early 2024.

Efficient Operations

We continued to grow our membership with the addition of 600 Ontario Health employees. Such growth helps to improve Plan demographics (maintaining our ratio of active-to-retired members) and keep our operations cost-efficient in the long term, although it requires expertise and resources in the short term.

We closely manage and monitor our expenses. In 2022, our expense ratio, including all internal and external pension administration and investment expenses (other than investment expenses netted against investment returns) was 0.53% (or 53 cents per $100 of average net assets available for benefits). This compares to an expense ratio of 0.55% in 2021. Our expense ratio remains very competitive with our much larger public sector peers.

In closing, I want to acknowledge all OPB employees for their grace under pressure in another demanding year and thank the Board of Directors for their ongoing guidance and support.

Mark Fuller
President & CEO

Management's Discussion & Analysis

OPB's vision is to be a premier pension delivery organization and a trusted advisor to all our stakeholders.

Introduction

At OPB, our primary objective is to effectively and efficiently manage the Public Service Pension Plan (PSPP or the Plan) so that we can deliver pension benefits as promised and keep the Plan affordable for our members and employers over the long term.

We are focused on providing unmatched service excellence to clients and managing the Plan to protect its sustainability, not just for our approximately 96,200 current members but for members well into the future. We are vigilant in managing the key risks facing the Plan, and we incorporate risk management in the oversight of our investment activities and in pension administration.

Pensions are funded through a combination of investment income and contributions made by members, employers and the Plan Sponsor.

The Investment Management Corporation of Ontario (IMCO) manages Plan assets on a cost-recovery basis. As the administrator of the PSPP, and in line with our fiduciary duties, OPB continues to:

- own PSPP assets and be responsible for PSPP liabilities;
- set our Strategic Asset Allocation (SAA) policy, which IMCO implements; and
- set our Statement of Investment Policies and Procedures (SIP&P), with which IMCO must comply.

As an agency of the Government of Ontario, OPB has an obligation to effectively manage costs. We operate within the objectives and guidelines on transparency established by the government.

This section provides management's analysis of how the Plan performed in the past year, its financial condition, and the ongoing health of the Plan. This MD&A supplements the information provided in the financial statements.

Overview

This table presents 2022 highlights. See the relevant performance sections in this annual report for detailed discussion of OPB's 2022 results, challenges and accomplishments.

Performance Area	2022 Results	Why It Matters
Plan funding	• OPB filed the December 31, 2021 actuarial valuation with the Financial Services Regulatory Authority. The next required filing will be as of December 31, 2024. • Under the filed funding valuation, the Plan was 94% funded at December 31, 2021, which includes asset smoothing.	A funding valuation is a snapshot of projected assets and liabilities at a point in time. We are required to file a funding valuation with the regulator at least once every three years. If the Plan is underfunded at the time, we are also required to submit a plan to restore the Plan to a fully funded status. Given the volatility that followed the pandemic, we made the decision to file the 2021 valuation ahead of schedule. This approach allows more time for the markets to recover and our assets to grow before we need to file again (as at December 31, 2024).
Investments	• The Plan lost (7.8%) on a net basis. The Plan outperformed our portfolio benchmark return of (8.1%). • Net assets declined to $31.0 billion from $33.8 billion in 2021. • IMCO made progress implementing our strategic asset mix and acting on ESG and climate-focused priorities.	In a difficult year, our investment manager outperformed the benchmark. This is only the fourth time the PSPP has had a loss in its 33 years of managing the Plan. Our Strategic Asset Allocation is designed to offer the best chance of delivering sustainable returns.

Performance Area	2022 Results	Why It Matters
Client service	• Enrolled 6,900 new members and processed 2,600 buybacks, a 37% and 41% increase, respectively, from 2021. • Earned a service score of 90/100 from CEM Benchmarking. • Received a client satisfaction rating of 8.6/10, even while we were only 90% staffed and many employees were new to their roles.	We were able to meet high demand for complex transactions such as pension plan mergers and buybacks while understaffed, which demonstrates our culture of service excellence. Recognizing that our response times were slower than normal, we took action in the fall to reduce staffing pressures and help improve response times.
Pension and technology modernization	• Enhanced functionality of member and employer portals, based on user feedback. • Implemented first phase of improved Retirement Planner. • Reviewed our technology roadmap and reprioritized initiatives. • Launched a major project to modernize our pension calculators and core system.	We made progress on our multi-year pension modernization initiative, which is transforming our pension administration processes and technology to keep up with technological improvements and evolving client expectations.
Workplace culture	• Implemented a new hybrid workplace program to support transition back to the workplace and to guide managers and employees on expectations. • Advanced diversity, equity and inclusion through learning opportunities, an employee survey about respect in the workplace, and a new internal DEI Advisory Council.	Our flexible hybrid work program balances the benefits of remote work and in-office collaboration, while considering employee well-being and engagement. Our DEI initiatives aim to build a diverse, equitable and inclusive workplace which will make us a stronger, more agile and higher-performing organization.

Performance Area	2022 Results	Why It Matters
Sound risk management	• Implemented a new risk management cloud-based tool to provide greater awareness of risks facing OPB from across the organization and enhance our ability to respond effectively. • Advanced our capability to manage third-party vendor risk, building upon our existing strong procurement procedures and implementing a structured, cohesive risk-based framework for onboarding and managing ongoing vendor relationships.	Advancing our ERM program will instill confidence in achieving our strategic objectives; improve compliance with regulatory and internal compliance mandates; and enhance operational efficiency through consistent identification, management, and mitigation of risk exposures, strengthening our operational resilience. Implementing a third-party vendor risk framework will provide us greater visibility into the potential risks our business is facing when utilizing products and services provided by our vendors. It will also enhance our ability to assess these risks and make informed decisions on reducing such risks.
Financial management	• Overall expense ratio was 53 basis points (or 53 cents per $100 of average net assets available for benefits) excluding expenses netted against investment returns.	Through disciplined cost management, we met our objective of keeping the ratio at or below 66 basis points.

PLAN FUNDING

The funded status of a pension plan, in simple terms, compares the value of pension assets on one side with the present value of projected future pension benefit payments, or 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.

The Plan's year-end funded ratio is 89% on a financial statement basis, which takes into account the full impact of the 2022 investment and inflation losses. Our last filed valuation as at December 31, 2021 was done on a funding basis and included asset smoothing (i.e., we looked at the Plan's funded status when we averaged our returns from 2019 to 2021). On this basis, the Plan was 94% funded.

The investment portfolio generated a loss of (7.8%), including expenses, compared to a return of 9.4% in 2021. Canadian and global public equities and fixed income assets posted significant negative returns, offset by strong performance in private market assets. Government bonds are typically held for liquidity, capital preservation and diversification purposes; however, the rapid increase in interest rates in 2022 led to unusual losses in government bonds. This marked only the fourth year in OPB's 33-year history in which the diversified investment portfolio suffered a loss.

While rising interest rates helped lower the Plan's long-term liabilities, they also caused the value of our stock and bond holdings to drop, lowering our investment performance in 2022. Additionally, inflation increased the Plan's liabilities because of the higher than assumed cost-of-living adjustment. On a financial statement basis, the funded ratio of the Plan is 89%, which takes into account the full impact of the investment and inflation losses.

To support the long-term sustainability of the Plan, OPB filed the December 31, 2021 funding valuation with the provincial pension regulator in 2022. The filing included a plan to discharge the funding shortfall of $2.18 billion as at the end of 2021 and return the Plan to fully funded status through special payments by the Plan Sponsor over a 10-year period. The *Pension Benefits Act* requires pension plan administrators to file a funding valuation report at least every three years, and a filed valuation that shows a shortfall must include a plan to discharge that shortfall over the prescribed period, which in this case is 10 years. Having filed the December 31, 2021 valuation, we are not required to file again until the December 31, 2024 valuation. This timing allows Plan assets to recover from short-term market downturns.

Funding Calculation

Under *Pension Benefits Act* (PBA) funding rules that took effect in 2018, movements in long-bond yields have a more pronounced impact on Plan liabilities than they did in the past. As required under the PBA, we must first calculate Plan liabilities without any margin in the discount rate, and then add an explicit reserve, called a Provision for Adverse Deviations (PfAD). This provision is based on our target asset mix and the yields of the Government of Canada long bonds on the valuation date.

What We Did	Why It Matters
Filed the December 31, 2021 actuarial valuation with the Financial Services Regulatory Authority in 2022.	We are required to file a funding valuation at least once every three years and mitigate any funding shortfall. The next funding valuation must be filed no later than the valuation as at December 31, 2024, allowing time for market volatility to subside and Plan assets to grow.
As part of filing the December 31, 2021 funding valuation, we included a strategy to bring the Plan back to fully funded status through special payments by the Plan Sponsor over a 10-year period.	Notwithstanding the decline in the Plan's funded status in 2022, the funding strategy aims to achieve full funding over a 10-year period, during which there is the potential to reverse the 2022 losses.

Managing Funding Risk

To protect the long-term health of the Plan, we must ensure it can withstand periodic downturns in investment returns and demographic challenges, such as continued improvements in members' lifespans. At OPB, we regularly update our assumptions to reflect actual experience. We then use that information to carefully manage elements of Plan funding that are within our control or the Plan Sponsor's control – namely, investment asset mix, contribution levels and pension benefits – to avoid significant shortfalls.

We work to minimize funding risk by:

- performing funding scenario and data analysis, including stress testing;
- regularly reviewing the strategic asset mix to potentially improve investment returns, manage investment risk, and achieve an appropriate matching of our investments and liabilities;
- pooling assets through IMCO, our investment manager, to reduce costs, improve net investment returns, gain the benefits of scale, and enhance risk management; and
- implementing our consolidation strategy to maintain or improve Plan demographics and economies of scale.

We continually monitor the adequacy of contributions to the Plan and recommend contribution increases as appropriate. The most recent increases in member and matching employer contribution rates took effect in 2018 and 2019. While we believe those increases and special payments from the Plan Sponsor will contribute significantly to restoring the Plan's funded status over time, given inflation levels, the investment outlook and funding rules for sole-sponsored plans, there is a risk of further deterioration in the funded status.

Asset mix is a critical driver of investment returns and risk. At OPB, our Strategic Asset Allocation (SAA) sets out the Board's target investment allocations (weights) to each major asset class. The targets are developed with the intention of meeting the Plan's long-term funding objectives while effectively managing investment risk through diversification across several asset classes.

The OPB Board approved a new SAA in 2021, which provides for a continued, gradual reduction in the proportion of public market assets in favour of a greater weighting in private and alternative assets. It also adds portfolio leverage to reduce volatility and risk. Our investment manager, IMCO, is in the process of implementing the SAA over a four-year period. The new SAA is intended to provide the best chance of earning the risk-adjusted returns needed for the long-term health of the Plan.

Key Assumptions

Effective pension plan management involves careful and prudent asset management and appropriate funding and design of the Plan over the long term. OPB adheres to a robust funding policy, which guides decisions around Plan design, funding and valuation assumptions.

In conducting funding valuations, some of the key analyses and assumptions we make in consultation with our actuaries include:

- expected investment return;
- expected rate of inflation;
- expected salary increases and increases in government limits and benefits;
- the projected number of member retirements;
- members' age at retirement; and
- member life expectancy.

DISCOUNT RATE

The discount rate is a key assumption used to calculate the present value of the future pensions expected to be paid by the Plan (the liabilities). A pension payment that is expected to be made in 20 years is "discounted" back to today's dollars at the discount rate. Over the long term, investment returns on the Plan's assets must equal or exceed the discount rate – otherwise, the cost of the pension will grow faster than the value of the assets, which produces a shortfall.

Changes to the discount rate impact the Plan's projected liabilities: a lower discount rate means higher Plan liabilities, and vice versa. By extension, the discount rate affects the Plan's funded status, and therefore can influence decisions about contribution rates and pension benefits.

Setting a realistic discount rate is a critical aspect of managing the long-term financial health of a defined benefit pension plan. We use a rigorous process to establish our "best estimate" of the discount rate, by considering reasonable expectations for investment returns, the current economic environment and outlook, plus a cushion for unanticipated events (known as a margin).

Using the valuation methodology required by our pension regulator, the funded status of the Plan has become much more directly sensitive to movements in long-term Government of Canada bond yields.

The significant increase in bond yields, combined with stock market declines, has resulted in an increase in our long-term expected returns going forward, enabling us to modestly increase the discount rate used to value the Plan's liabilities, offsetting some of the impact of investment losses and inflation of 2022.

The long-term inflation assumption, based on the inflation underlying long-term Government of Canada bond yields, increased from 1.80% to 2.00%. The nominal discount rate increased from 5.50% to 6.10%. The effective nominal discount rate, after considering the impact of the PfAD, was 5.64%, resulting in an effective real discount rate (the effective nominal discount rate, less our inflation assumption) of 3.64%. This compares to 3.25% for 2021.

MEMBERS ARE LIVING LONGER

The most important demographic challenge facing the Plan is that members are living longer and collecting their pensions for longer periods.

For example, a 62-year-old member who retired in 2002 would be expected to receive their pension for 21.4 years. However, by December 2022, a member retiring at the same age would be expected to receive their pension for 26.2 years – an increase of 4.8 years.

We closely monitor demographic trends in our membership and may make adjustments to our funding assumptions, or recommendations for changes to Plan design and funding, to ensure that the Plan remains financially healthy.

FINANCIAL POSITION

OPB conducts actuarial valuations of the Plan 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. 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. The combination of investment losses and increase in liabilities due to inflation resulted in a deterioration of the Plan's funded status in 2022.

In determining the surplus or deficit position of the Plan for financial reporting purposes, OPB uses the latest actuarial valuation for funding purposes and extrapolates the pension obligations to the financial statement date.

Valuation Type	Purpose and Description
Funding basis	Pension plans are legally required to file a funding valuation with the Financial Services Regulatory Authority once every three years. A funding valuation is used by the Plan Sponsor to make decisions about contribution rates and benefit levels. In 2022, OPB filed an actuarial valuation of the Plan as at December 31, 2021. For purposes of the funding valuation, asset gains and losses relative to the discount rate are smoothed over a three-year period. The funding shortfall of $2.18 billion that existed at the end of 2021 is being amortized by special payments by the Plan Sponsor. The December 31, 2021 actuarial valuation for funding purposes assumed an inflation rate of 1.80%, with an indexation reserve included for short-term inflationary impacts. The nominal discount rate used in the funding valuation was 5.50%, and after considering the impact of the PfAD, the effective nominal discount rate was 5.05% (effective discount rate of 3.25%).
Financial statements	For the purpose of the financial statements, the Plan's liabilities were calculated as at December 31, 2021 and extrapolated to December 31, 2022. For financial reporting purposes, we have calculated the Plan's 2022 year-end financial position by comparing the extrapolated liability with the actual market value of assets as of December 31, 2022. The financial statements funding ratio decreased to 89% compared to 97% in 2021. The estimated shortfall was $3.96 billion, compared to $852 million at the end of 2021. For the purpose of the financial statements, the smoothing used in the filed funding valuation is not applied.

The Retirement Compensation Arrangement (RCA) is a separate trust; as a result, the net assets available for benefits and accrued benefits and deficit of the RCA are not included in this annual report.

INVESTMENTS

Our long-term pension obligations drive OPB's investment strategy and decisions.

Since 1990, approximately 70% of pension payments have come from investment income, so strong investment returns are critical to the long-term health of the Plan.

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

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

Since 2017, the Investment Management Corporation of Ontario (IMCO) has invested OPB's investment portfolio in accordance with OPB's overarching investment policies, including our Statement of Investment Policies and Procedures (SIP&P) and our Strategic Asset Allocation (SAA).

Outsourcing investment management to IMCO provides us with best-in-class advice around portfolio construction, cost-efficient access to a diverse range of asset classes, and superior reporting on investment risks and returns. It allows OPB to sharpen our focus on service to existing and new Plan members.

Investment Roles and Responsibilities

OPB	IMCO
Owns Plan assets and is responsible for Plan liabilities.	Manages Plan assets on a cost-recovery basis (i.e., not for profit).
Sets SAA, considering Plan funding and cash-flow needs.	Manages investments in accordance with OPB's SAA and contractual requirements.
Monitors IMCO's investment performance with respect to the SAA and other contractual requirements.	Regularly reports on investment performance and risk management to OPB.

Working with IMCO

ENSURING VALUE

After its first five years, IMCO is growing into a leading investment organization, as OPB anticipated. It has established solid foundations, building a highly capable investment team and using its scale to undertake activities that OPB would not have been able to do on its own. This includes developing a comprehensive risk management program, managing more assets internally and partnering with leading global investment managers, particularly in private assets (which make up a sizable portion of the Plan's asset mix).

To ensure we are receiving good value for money, we regularly assess the fees we pay to IMCO in multiple contexts, such as year-over-year changes and long-term trends, as well as costs compared to relevant peers.

MONITORING PERFORMANCE

We monitor IMCO's investment performance and assess how well IMCO is meeting its responsibilities and obligations to OPB.

An Investment Management Agreement (IMA) between OPB and IMCO governs our relationship and focuses largely on investment-related matters. A Service Level Agreement (SLA) sets out a framework for dealing with matters such as reporting and expected service levels. An Implementation and Support Agreement (ISA) deals with operating and governance matters such as IMCO corporate policies, asset pool development, budgeting and cost management.

Our monitoring program helps to assure OPB that IMCO is prudently managing Plan assets and investment risk on behalf of OPB and our members, in accordance with all relevant investment strategies and policies.

COLLABORATING ON KEY DEVELOPMENTS

We have developed a strong relationship with IMCO. We have open dialogue with IMCO executives, and OPB's Investment Committee receives regular and detailed updates on key investment and operational developments.

IMCO launched its first private market asset pool for infrastructure in 2022, adding to the public market pools it introduced in recent years.

IMCO made substantial progress on environmental, social and governance (ESG) and climate change strategies this past year and OPB continued to actively monitor and interact with IMCO on these issues. Key developments included the publication of IMCO's first ESG annual report and a climate action plan containing interim targets to reduce the portfolio's carbon emissions. More details are available in the Responsible Investing section of this report.

We have worked closely with IMCO on asset/liability (A/L) studies, which are conducted every three to five years and project the Plan's assets and liabilities under numerous economic and capital markets scenarios. In addition, given the turmoil in the capital markets in 2022, IMCO provided an updated review of capital market assumptions and total portfolio risk and return estimates. This process ensures we understand the range of investment strategies available to the Plan and their expected returns and risks.

Strategic Asset Allocation

Asset mix is the most important driver of investment performance. At OPB, asset mix is known as the Strategic Asset Allocation (SAA), which sets out the Board's target investment allocations (weights) to each major asset class.

The SAA targets are developed with the intention of meeting the Plan's long-term funding objectives while managing investment risk through diversification across asset classes.

The OPB Board approved a new SAA in 2021 and IMCO began to implement it at the end of that year. Implementation of that SAA is scheduled to take place from 2021 to 2024. The new SAA introduced the use of portfolio leverage and investment in public market alternatives. It also reduced exposure to nominal government bonds, public equities and real estate, while increasing the allocations to global credit, infrastructure and private equity.

The inclusion of the two new elements in our SAA – public market alternatives (PMA) and portfolio leverage – turned out to be well timed, as PMA performed better than most of the other strategies in 2022 and the addition of leverage enabled greater flexibility in managing the portfolio during periods of market stress. It's important to note, however, that both elements are long-term strategies and our intention is to keep them in our SAA for a significant period of time.

Adhering to the planned shift in our SAA was a challenge in 2022, given the very different results among asset classes, particularly between public and private assets. In effect, with the decline in public equities and bond prices in 2022, our weights in private market assets grew more rapidly than expected and, in some cases, are outside the targeted ranges in our SAA implementation plan. We are considering steps to update our strategy for managing the SAA to bring the allocations back closer to their targets.

The table below illustrates the Plan's policy weights, according to the SAA implementation plan, and the actual asset mix at December 31, 2022.

SAA IMPLEMENTATION PLAN

Asset Class	December 31, 2022 Target	December 31, 2022 Actual	December 31, 2024 Target
Portfolio Leverage	(7.0%)	(5.1%)	(10.0%)
Money Market	0.0%	0.7%	0.0%
Long Government Bonds	16.0%	13.3%	12.0%
Inflation-Linked Bonds	9.0%	9.3%	12.0%
Global Credit	10.0%	10.2%	13.0%
Canadian Public Equities	4.0%	3.1%	2.5%
Global Public Equities	15.5%	12.1%	13.0%
Emerging Markets Public Equities	9.5%	7.6%	5.5%
Real Estate (Net of Real Estate Debt)	15.0%	18.8%	15.0%
Infrastructure	11.5%	12.2%	14.5%
Private Equity	9.5%	13.3%	12.5%
Public Market Alternatives	7.0%	4.5%	10.0%
Total	**100.0%**	**100.0%**	**100.0%**

Notes:

1 The amounts for the three Public Equities strategies have been rounded to one decimal but sum to 22.9%.

2 The amount for Public Market Alternatives differs from the amount presented in the financial statements due to rounding.

Investment Highlights

OPB's investment portfolio lost (7.8%), net of expenses, in 2022 compared to earning a return of 9.4% in 2021.

The portfolio return was disappointing but did exceed our benchmark, which had a return of (8.1%).

This marked only the fourth time in OPB's 33-year history of managing the PSPP in which our portfolio generated a loss.

One of the key investment environment factors that contributed to the negative return last year was the significant increase in consumer price inflation. After remaining well-contained since the early 1990s, annual consumer price inflation in Canada jumped to a 40-year peak of 7.6% in July 2022. A surge in energy and commodity prices, triggered by Russia's invasion of Ukraine, exacerbated pandemic-related inflationary pressures. Central banks in developed markets began aggressively raising interest rates to bring inflation down, which created challenging conditions for both stock and bond prices, breaking down the typical inverse relationship between them.

OPB's portfolio is highly diversified, which means a decline in one asset class is often offset by better results in others. In 2022, our private market assets performed relatively well and much better than publicly traded stocks and bonds. The performance of many of OPB's private market assets over the past several years, and even through the challenges of 2022, further validates our strategic decision to invest more heavily into private markets.

Our recent allocation to PMA, while a small percentage of the portfolio, performed relatively well last year. This asset class is intended to have modest absolute returns that have a low correlation with equity markets, and they delivered that characteristic in 2022.

Investment Activities	Why It Matters
The Plan lost (7.8%) in 2022. However, the Plan outperformed the benchmark return of (8.1%).	Beating the benchmark means we outperformed the market in a challenging year. The Fund's increasing exposure to private market assets in recent years helped to partially offset significant downturns in both public equities and bonds.
The five-year annualized net return was 3.8% and, since inception in 1990, our annualized net return stands at 7.6%.	OPB's diversified portfolio has performed well over the long term and supports Plan sustainability.
IMCO launched its first private markets pool, for infrastructure assets. This follows the creation of public markets pools in 2020 and 2021.	IMCO's mandate is to pool assets of multiple clients to achieve economies of scale, provide access to direct investments, and increase operational efficiency.
IMCO made new commitments and investments in private equity, real estate, global credit and infrastructure.	These types of assets (private and real assets) are expected to help generate the long-term returns required to pay future pensions.
IMCO committed to interim emissions reductions targets for its investment portfolio, as well as a target for investments in climate solutions.	IMCO is taking steps to support the transition to a low-carbon economy.

RESPONSIBLE INVESTING

We believe that companies and investment managers that effectively address environmental, social and governance (ESG) issues, including climate change, are more likely to improve shareholder value over the long term – which helps pension plan members.

What's more, failure to identify and mitigate ESG issues may hurt long-term investment performance. It is increasingly important to PSPP members that ESG factors are considered and integrated in the investment decisions made on their behalf. In the spring, we invited PSPP members to complete a survey on ESG-related issues and the topics that matter most to them. Of the 1,048 respondents, 73% said they believe that ESG should be an important consideration for the Plan, while 23% thought ESG should be a primary focus. For more detail on the survey results, see the OPB's ESG Activities section.

Responsible Investing Governance

The Ontario *Pension Benefits Act* requires OPB and other pension plan administrators to establish a Statement of Investment Policies and Procedures (SIP&P) that contains information about whether ESG factors are incorporated into the Plan's investment policies and procedures and, if so, how those factors are incorporated.

OPB's SIP&P contains our investment beliefs, which includes a statement that ESG factors should be integrated into the evaluation of an individual security, asset or external investment manager.

Our ESG Policy, approved by the OPB Board in 2021, further articulates our expectations with respect to ESG, provides structure around governance at OPB, and communicates our investment beliefs around ESG issues, including climate change.

We expect IMCO not only to integrate ESG considerations in the investment process, but also to influence investee companies through engagement and shareholder voting to improve corporate practices and to avoid investments with problematic ESG issues. We also expect IMCO to consider divesting from investments where insufficient action, such as unsuccessful engagement, is taken to address those issues. OPB regularly monitors IMCO's performance, including its progress on ESG issues and activities.

IMCO integrates ESG considerations into its investment decisions, engagement activities and selection of external managers. Its objectives are to better manage risk, capitalize on emerging sustainable investing opportunities and generate sustainable long-term returns for clients such as OPB.

OPB's Board and Investment Committee receive continuing education and information on ESG and climate risk, review progress on ESG issues and activities, and meet with IMCO about their performance.

OPB's ESG Activities

OPB is a signatory of the UN-supported Principles for Responsible Investing (PRI) as an asset owner (IMCO is a signatory as an asset manager), which commits us as an asset owner to supporting the Principles. Signatories are assessed annually on their activities regarding ESG issues and OPB will have its first assessment in 2023.

We updated our ESG Action Plan in 2022 to identify activities relating to ESG that OPB intends to undertake over the next two to three years. These include maintaining current practices, enhancing our governance and monitoring activities, and improving how we communicate progress to Plan members.

In 2022, OPB invited nearly 10,000 Plan members to complete a survey to help us better understand what ESG issues matter most to them and their expectations of how they want to stay informed on ESG topics.

Here are some of the key findings:

- Respondents were most likely to rank environmental protection (39%) in their **top three most important considerations for investments**, followed closely by climate change (38%) and human rights (34%). Business ethics (26%), good corporate governance (24%) and labour standards (23%) were also cited;
- 40% of respondents felt that OPB should **avoid making investments in thermal coal**, followed by gambling (34%), fossil fuel extraction or refining (32%), palm oil (28%) and factory farming (26%);
- Most respondents (58%) would look to the Annual Report to keep them informed about how the Plan is invested, followed by articles on the OPB website (47%), a dedicated ESG report or section on the OPB website (42%) and e-alerts (42%); and
- Finally, most respondents (81%) want to stay informed on the Plan's returns as well as ESG issues OPB and IMCO are prioritizing (59%) and significant ownership positions (53%).

This feedback was an important element of improving our approach to communicating OPB's activities as it relates to ESG issues and to enhancing the ESG-related information on our website.

OPB intends to issue its first ESG report in late 2023 or early 2024.

OPB is a member of the 30% Club Canada, which encourages board chairs and CEOs to achieve better gender balance at the board and senior management levels. Its mission is to achieve at least 30% representation of women on all boards and C-suites globally. At OPB, three of our seven senior executives (43%) are women, and four of nine OPB Board members are women (44%).

Along with IMCO, we are a signatory to the Canadian Investor Statement on Diversity & Inclusion. We encourage Canadian public companies to address systemic inequities by advancing diversity and inclusion efforts and enhancing transparency and accountability.

IMCO's ESG Activities

IMCO's Responsible Investing Policy and ESG Strategy govern how it invests across all the asset classes. The ESG Strategy is built on four pillars: Integration, Stewardship, Sustainable Investing and Screening. IMCO has selected climate change, diversity, equity and inclusion (DEI), and good governance as its priority areas within its investment process. This is consistent with OPB's primary ESG areas of focus.

In 2022, IMCO published its inaugural ESG annual report, which included its first response to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). In the report, IMCO discussed ESG issues broadly, as well as how it integrates climate-related risks and opportunities into its investment process. IMCO stated its intention to update its TCFD-aligned disclosures over time. For more about IMCO's ESG strategy and actions, read its 2021 ESG Report.

Additionally, IMCO developed two new guidelines for its stewardship approach and sustainable investing actions. As a member of the International Corporate Governance Network (ICGN) and the Canadian Coalition for Good Governance (CCGG), IMCO endorsed the ICGN and CCGG's Stewardship Principles and aligned IMCO's stewardship approach in IMCO's Stewardship Guideline. IMCO's Sustainable Investing Guideline defines investments in "sustainable solutions" in line with Green Bond and Social Bond Principles set by the International Capital Market Association (ICMA) and maps them to the relevant UN Sustainable Development Goals.

Climate Change

OPB and IMCO are both signatories to the Responsible Investment Association (RIA) Canadian Investor Statement on Climate Change. We recognize that climate change is likely to be a major challenge for society for the foreseeable future and therefore is of significant concern to long-term investors such as OPB. Increasingly, governments and market participants acknowledge that there is an urgent need to accelerate the transition towards an economy with net-zero greenhouse gas (GHG) emissions.

The risks and impacts of climate change on specific markets, regions, communities, and investments are complex, dynamic, and uncertain. The value of financial assets could be impacted by the physical effects of climate change (known as physical risks) and by an adjustment toward a net-zero economy (known as transition risks). There will also be investment opportunities in a range of assets and companies as the world transitions and develops climate solutions and as transitioning to a net-zero economy requires carbon emission reductions across all sectors.

We recognize that the transition to a net-zero economy will involve a major transformation of sectors and industries. We encourage all companies and stakeholders to facilitate a just transition that does not leave workers or communities behind. We also support a transition to a net-zero economy that is informed by Indigenous perspectives, supports Indigenous economic opportunities, and encourages business practices that align with the principles of the United Nations Declaration on the Rights of Indigenous Peoples.

IMCO's Interim Climate Targets

Following its 2021 commitment to reach net-zero emissions by 2050 or sooner, in 2022 IMCO set an interim target to reduce its portfolio carbon emissions intensity by 50% by 2030, from a 2019 baseline. This target is consistent with science-based net-zero pathways aimed towards the 1.5°C temperature goal of the Paris Agreement and net-zero emissions by 2050.

Emissions intensity is calculated as emissions per million dollars of investment value and can therefore be impacted by either a reduction in emissions or a change in the value of investments, or a combination of the two.

IMCO also set a goal to invest 20% of its total portfolio in climate solutions by 2030. Solutions are defined by the International Capital Markets Association Green Bond Principles and include businesses whose primary objective is to solve climate-related challenges. Examples include developing renewable energy sources, alternative fuels, and low-carbon transportation.

Setting these targets is an important milestone in making meaningful progress to mitigate climate change.

IMCO's climate action plan includes:

- Capital deployment: pursuing climate-positive and transition investment opportunities.
- Asset ownership: engaging with portfolio companies and external managers and collaborating with like-minded investors and policymakers to drive collective climate action.
- Portfolio management: integrating climate-related risks and opportunities into our investment decision-making process and monitoring climate risk across our portfolio.
- Climate guardrails: mitigating climate risk in our portfolio through climate guardrails, which limit our exposure to investments that are incompatible with a net-zero future.

Collaborative engagement can increase our influence by having a bigger platform and voice. IMCO participates in climate initiatives that enable our ability to work collaboratively, including:

- Climate Engagement Canada (CEC): IMCO is a founding member and Steering Committee member of CEC, a coalition of investor associations to drive dialogue between the financial community and Canadian corporations to promote a just transition to a net-zero economy.
- Climate Action 100+: IMCO is a member of Climate Action 100+, an initiative to engage with the world's largest carbon emitters to encourage them to take action to reduce their emissions.
- Climate Disclosure Project (CDP): IMCO is a member of CDP, a global alliance to drive companies and governments to disclose and manage environmental impacts. IMCO supports the CDP Science-Based Target Engagement and CDP disclosure campaign.

For more about IMCO's climate strategy and actions, read its Climate Action Plan.

Proxy Voting

OPB views proxy voting as an important tool to encourage companies to provide adequate disclosure to shareholders relating to ESG factors, policies and initiatives. Voting proxies at shareholder meetings enables investors to convey their views to the board of directors and management of public companies.

IMCO, on OPB's behalf, exercises voting rights for securities owned by OPB, in accordance with its Proxy Voting Guideline and Responsible Investing Policy. IMCO discloses its proxy voting results on its website (imcoinvest.com) and reports them to OPB.

In 2022, IMCO voted on OPB's behalf at 2,991 public company meetings in 57 markets. On OPB's behalf, IMCO voted against management recommendations on 18% of agenda items at shareholder meetings, versus 9% in 2021. This included election of directors and advisory votes on executive compensation, among other items. IMCO supported 519 shareholder proposals related to ESG issues, including climate risk disclosure, diversity, human rights risk assessment, and board compensation or board effectiveness.

INVESTMENT PERFORMANCE

In 2022, the Plan lost (7.8%) (net of external investment management and custodial fees and OPB's operating expenses). While negative, this result exceeded the portfolio benchmark return of (8.1%), primarily due to the performance of investments in global credit, private equity and infrastructure. This was offset by losses in public equities and government fixed income securities.

The total fees, costs and expenses (excluding expenses netted against investment returns) amounted to 0.53% in 2022, compared to 0.55% in 2021.

RATES OF RETURN

OPB's annualized rates of net investment return for the one-year, five-year, 10-year and since-inception periods ending December 31, 2022 are as follows:

	1-year	5-year	10-year	Since Inception
Total Fund return	(7.8%)	3.8%	6.2%	7.6%
Benchmark return	(8.1%)	3.8%	6.0%	7.4%

Note: Returns are net of all Plan administration and investment management expenses.

Because pensions are accrued and paid out over decades, pension plans need to take a long-term perspective. Since the PSPP is a mature plan, we have a lower risk appetite than some other pension plans in Canada. Our objective is to generate stable, long-term investment returns within an acceptable risk framework by minimizing unrewarded risk, reducing total risk, using fundamental research and analysis to make investment decisions, and sourcing diversified investment opportunities that provide predictable cash flow.

On a 10-year basis, our annualized return of 6.2% has exceeded the portfolio benchmark return by 20 basis points.

Asset Class Returns and Benchmarks

The aggregate performance of all asset classes determines our overall Plan return.

We provide a comparison of the 2022 versus 2021 asset class returns below. For public markets, the returns provided are before the inclusion of external investment management fees, custody costs and IMCO's management fees. For private markets, the returns provided are after the inclusion of external investment management fees but before custody costs and IMCO's management fees.

At the total Plan level, the impact of public markets external investment management fees, custody costs, IMCO's management fees, and OPB's pension administration expenses equated to 0.53% in 2022, compared to 0.55% in 2021.

The benchmarks are defined in the Plan's Statement of Investment Policies & Procedures and IMCO's Investment Policy Statements and enable us to determine the relative performance ("value add") for each asset class. Cash and Equivalents, Government Fixed Income, and Inflation-Linked Bonds are passively managed with the objective to closely track their respective benchmarks. All other asset classes are actively managed.

		2022		2021	
Asset Categories	Benchmark	**Actual**	**Benchmark**	Actual	Benchmark
Cash and Equivalents	FTSE Canada 91-Day T-Bill	**1.9%**	**1.8%**	0.4%	0.2%
Gov't Mid-Term Fixed Income	FTSE Canada Mid Government Bond	**N/A[1]**	**N/A[1]**	(2.9%)	(3.1%)
Gov't Long-Term Fixed Income	FTSE Canada Long Government Bond	**(22.6%)**	**(22.6%)**	(4.9%)	(5.1%)
Inflation-Linked Bonds	Custom Benchmark	**(13.7%)**	**(13.4%)**	3.8%	3.7%
Global Credit	Custom Benchmark	**(5.2%)**	**(12.8%)**	5.7%	1.4%
Canadian Equities	S&P/TSX Composite Index	**(4.2%)**	**(5.8%)**	25.0%	25.1%
Global Equities	MSCI World Index (C$)	**(13.6%)**	**(12.4%)**	21.5%	20.6%
Emerging Markets Equities	MSCI Emerging Equity Index (C$)	**(17.2%)**	**(14.3%)**	0.3%	(3.4%)
Public Market Alternatives	Custom Benchmark	**3.1%**	**3.6%**	(0.4%)	(3.5%)
Real Estate	Custom Benchmark	**(0.2%)**	**14.4%**	12.9%	5.8%
Infrastructure	Custom Benchmark	**7.9%**	**(3.7%)**	12.4%	21.7%
Private Equity	Custom Benchmark	**8.3%**	**(12.9%)**	20.9%	14.8%

1 The Government Mid-Term Fixed Income portfolio was terminated in 2022 so calendar year returns are not available.

Fixed Income

Government fixed income – We invest in government fixed income assets to diversify the overall portfolio, provide liquidity and offset the changes in the value of the Plan's liabilities. In 2022, government bonds were pressured by rising inflation and rising interest rates. The portfolio, which includes nominal and inflation-linked bonds, provided a one-year return of (22.6%) for long-term fixed income ((4.9%) in 2021) and (13.7%) for inflation-linked bonds (3.8% in 2021). The year-end market value at December 31, 2022 was $7.0 billion and was also $7.0 billion at the end of 2021.

We are monitoring developments around the Government of Canada's statement in late 2022 that it will no longer issue real-return bonds to determine what impact this may have on our investment strategy given the Plan has a material allocation to these securities.

Global credit – These assets are invested in a globally diversified portfolio of public and private credit securities. Investing in these assets gives OPB the ability to capitalize on market opportunities while seeking to gain exposure to a wide range of credit strategies. In 2022, the Global Credit portfolio returned (5.2%) on a currency-hedged basis (5.7% in 2021), with a year-end market value of $3.1 billion ($2.8 billion in 2021).

The performance of the Global Credit portfolio was driven by allocations to private and alternative debt, primarily within real estate debt and distressed debt.

IMCO made sizeable investments in **Loomis, Sayles & Co.** and **Beach Point Capital Management**, which allow access to investment-grade debt, high-yield bonds, structured credit and leveraged loans, providing additional diversification and opportunity to earn attractive risk-adjusted returns. IMCO also committed to **Blackstone Green Private Credit Fund III**, which provides an opportunity for companies and assets part of the energy transition to access flexible credit capital.

Public Equities

The Fund invests in public equities to enhance long-term returns. Public equities are expected to generate higher returns than the Fund benchmark return over the long term. After posting double-digit returns in 2021, our public equities holdings came under pressure in 2022 as the Russia/Ukraine war, lingering impacts from COVID-19, and rising inflation and interest rates clouded the global business outlook.

There are three components to the portfolio:

- The **Canadian equity portfolio** returned (4.2%) in 2022, compared to a return of 25.0% in 2021. The year-end market value of the portfolio was $1.0 billion, compared to $1.9 billion at the end of 2021.
- The **Global equity portfolio** generated a return of (13.6%) in 2022, compared to 21.5% in 2021. At year-end 2022, the portfolio had a market value of $3.8 billion, compared to $5.3 billion a year earlier.
- The **Emerging Markets equity portfolio** return was (17.2%) in 2022, compared to 0.3% in 2021. As of December 31, 2022, the portfolio's market value was $2.3 billion, compared to $3.6 billion at year-end 2021.

Public Market Alternatives

The Fund made a sizeable allocation to IMCO's actively managed public market alternatives (PMA) strategy in the latest SAA. It provides exposure to a range of alternative risk premiums and active investment mandates that offer low correlation with public market equities. This portfolio produced a 2022 return of 3.1%, and the year-end market value of the PMA portfolio was $1.4 billion, compared to $1.1 billion in 2021.

The PMA portfolio held up well in a volatile environment. The portfolio's multi-asset mandate, with a mix of directional and relative value strategies, delivered diversifying positive returns while managing broad market risks. Discretionary macro strategies, which trade a wide range of securities, contributed strongly to performance, driven by active views on bonds, equities, and commodities.

Real Estate

The Fund invests in real estate in order to obtain strong cash-flow generation, relatively stable returns and a partial hedge against inflation. These characteristics are a good match for the Plan's long-term pension liabilities.

OPB's Real Estate portfolio is made up of:

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

The Real Estate portfolio returned (0.2%) in 2022, on a currency hedged basis, compared to a return of 12.9% in 2021. Real Estate results are presented net of financing. OPB has previously issued private bonds to finance the addition of high-quality real estate assets that generate cash flows.

The market value of the Real Estate portfolio at year-end 2022, net of the market value of the bonds issued by OPB to finance a portion of the cost of the Canadian rental properties acquired since 2012, was $5.8 billion, compared to $5.1 billion a year earlier.

Real estate assets were largely impacted by the economic uncertainty associated with monetary and fiscal policy actions. Rising interest rates pushed valuations down, construction material costs increased, and it became difficult to source financing for development projects. The types of assets in the Real Estate portfolio also had a negative bearing on performance in 2022. For example, compared to the benchmark, the portfolio had limited exposure to industrial properties while those types of assets generated very strong returns. Conversely, the portfolio had a comparatively high allocation of office properties, which did not perform well in 2022. In addition, as office vacancies have begun to rise in many markets due to a move to flexible or hybrid work arrangements, tenants were reconsidering their overall space needs, resulting in further pressure on real estate values in 2022.

IMCO increased allocations to existing strategic partners including the **Tishman Speyer Separately Managed Account** focused on multi-family and mixed-use real estate in select U.S. markets, and the **WPT Industrial Joint Venture** to develop and acquire logistics properties throughout the U.S. to address the portfolio's underweight to the best performing sector.

ESG remains a key focus of IMCO's Real Estate portfolio. IMCO made its first investment in real estate venture capital focused on climate change by committing to **Fifth Wall Climate Tech Fund**, which aims to develop technology companies to decarbonize real estate. This investment aligns well with IMCO's climate action plan and commitment to net zero by 2050 or earlier. IMCO also committed to **Tishman Speyer Proptech Venture Fund**, which invests in early-stage companies with technologies intended to improve efficiencies for the real estate industry and construction processes, including reducing the carbon footprint of buildings and the production of waste during the construction process as well as improving the health and safety of workers.

IMCO is also focusing on manager stewardship by outlining the importance of ESG and sustainability in both development and existing projects. IMCO's strategic partners are aligned with IMCO's net-zero commitments and further work is underway to develop a programmatic approach to outlining actionable ESG and sustainability goals.

Infrastructure

The Fund's diversified Infrastructure portfolio contains assets that provide an essential service to the regions in which they operate, such as telecommunications, transportation and utility assets. These assets tend to provide predictable and ongoing cash flow, stable returns during periods of equity market volatility and some degree of inflation protection. Over the long term, these characteristics provide a good hedge against the Plan's pension liabilities.

On a currency hedged basis, the Infrastructure portfolio generated a 2022 return of 7.9%, compared to 12.4% in 2021. The portfolio generated $266 million in income during the year ($228 million in 2021), with a year-end market value of $3.8 billion ($2.8 billion at the end of 2021).

The Infrastructure portfolio delivered strong returns in 2022, primarily driven by investments in utilities and energy-focused businesses which performed well in an inflationary and increasing yield environment.

IMCO completed its largest infrastructure acquisition with **AusNet Services Limited** in 2022, a regulated energy utility in Australia, and its first take-private transaction. AusNet aligns with IMCO's climate change plans and plays a leading role in helping the state of Victoria in Australia achieve its net-zero commitment by 2050. IMCO also committed to the **Macquarie GIG Energy Transition Solutions Fund** which will invest in sustainable infrastructure assets expected to produce attractive risk-adjusted returns and accelerate the green energy transition.

Private Equity

Private equity consists of investments in private companies or entities that are not publicly traded on a stock exchange. The Fund invests in private equity for capital appreciation over the mid to long term. Private equity is not as liquid as public equities, and returns are expected to be higher to compensate for the added liquidity risk. With OPB's long-term investing horizon, private equity is an important source of diversification.

Our Private Equity portfolio returned 8.3% in 2022 compared to 20.9% in 2021, on a currency hedged basis. The portfolio had a year-end value of $4.1 billion ($3.5 billion in 2021).

The Private Equity portfolio performed well despite the volatile market environment, led by strong realized gains from the sale of **VersaCold** in August 2022.

IMCO made a number of private equity transactions over the year. Notably, IMCO made its first private equity investment in an impact fund through commitments in **Apax Global Impact Fund I**. The fund will focus on investments that have a positive societal and/or environmental impact, targeting themes that include environment and resources, health and wellness, social and economic mobility, and technology businesses that enable impact across these three themes. IMCO also invested in **CDK Global Inc.**, a leading software provider to North American automotive dealerships, in addition to co-investing in **123Dentist**, a Canadian dental support organization, and **Trinity Life Sciences**, a company that helps bring new drugs to market by providing consulting and analytics services.

Investment Risk Management

A clearly defined legislative, regulatory and contractual framework lays out IMCO's duties, responsibilities and obligations to OPB, as well as OPB's governance and investment-related rights. Under this framework, OPB sets the investment strategy and IMCO implements it.

Our agreement with IMCO states that IMCO will manage investment risk in accordance with the *Pension Benefits Act*'s standard of care and best practices for Canadian public sector managers.

Investment risk management is integrated into the investment activities and decision-making process at IMCO – our investment manager has governing rules, risk committees, structures and processes to effectively manage risk. It assesses investment risk from several perspectives, including liquidity risk, counterparty credit risk, concentration risk and stress scenario risk.

OPB's Chief Investment Officer and other executives, and OPB's Investment Committee, have regular dialogue with IMCO about the investment risks pertaining to OPB's investment portfolio. These include traditional portfolio risks (market, liquidity, credit, etc.) as well as material ESG risks, including climate-related risks.

Investment Outlook

As disclosed in previous annual reports, our outlook in recent years was subdued, due to several years of increasingly rich equity market valuations and extremely low bond yields (and conversely, high bond prices). Historically, high valuations tend to lead to lower long-term returns.

The spike in inflation in 2022 and subsequent rapid rise in interest rates reverberated through public markets, weighing on stock and bond returns in the process. It is unclear how long the period of relatively higher interest rates may last.

Despite the declines in many capital markets in 2022, significant challenges remain in the broader economy, including geopolitical risks, climate change (both physical and transition risks), growing inequality and fallout from the global pandemic.

Our investment manager, IMCO, published its World View outlook in January 2023, which highlights key long-term trends shaping the future and their implications for investors. Below are a few of the major issues identified in the report.

- Several factors (deglobalization, decarbonization, fiscal policy) are likely to generate higher and more volatile inflation, and therefore higher interest rates, over the next decade.
- Higher underlying inflation could create a dynamic where central banks frequently need to slow growth to combat upward price pressures, leading to shorter economic cycles and higher market volatility. This environment could create opportunities for outperformance through active management (e.g., sector, style, security selection) and portfolio construction.
- The coming decade appears poised for a capital investment boom, driven by government priorities such as decarbonization, building green infrastructure, securing strategic supplies and private sector efforts to bring manufacturing closer to home and revamp aging capital stock.
- As private market investment opportunities grow, investors with scale, capabilities in value enhancement, and long investment horizons are best positioned to capitalize on the potential for private assets to provide superior risk-adjusted returns.
- The rise of index investing heightens the potential for concentration risks and potentially undesirable ESG considerations associated with passive exposures.
- The scale of social and economic change currently underway is dramatic. Investors who can innovate and adapt are at an advantage, including those who invest in asset classes with a broad remit.

With heightened market volatility and ongoing economic uncertainty, investment returns could remain under pressure in the near term. We continue to believe that long-term results are the best gauge of success for pension plans with long-term obligations.

OPB's investment portfolio has posted a 10-year annual compounded return of 6.2%, exceeding our benchmark by 0.2 percentage points.

SERVICE EXCELLENCE

We believe that delivering on the pension promise goes beyond simply paying pensions and processing transactions. We offer the expertise, information, retirement planning services and tools our members need to make sound pension decisions in the context of their unique financial needs and retirement goals.

Despite the stresses of the past two years, with the COVID-19 pandemic affecting most aspects of our members' and employees' lives, OPB remained focused on service excellence and meeting our clients' needs.

In 2022, OPB enrolled an unprecedented 6,900 new members, including 600 transferring from the Ontario Health defined contribution pension plan. Typically, annual enrolment of new members ranges from 3,000 to 4,000 people. This surge in enrolments – up 70% from historical norms and a 37% increase from 2021 – was coupled with high demand for many other services and a much higher than usual turnover rate of OPB staff, which meant fewer employees were available to handle requests. While the combination of these factors led to longer wait times for service delivery and a slight decline in our satisfaction ratings, our client research shows more than 60% of our members continue to rate their satisfaction with our service a 9 or 10 out of 10.

Our most recent ranking from CEM and our yearly client satisfaction scores continued to be strong, despite our evolving work models and growing service demands. This demonstrates the culture of dedication and outstanding client service that defines OPB.

Client Service

At OPB, we are proud to deliver exceptional service to our clients, at a reasonable cost. We offer a wide array of proactive services to support clients when there are changes in their life and career, as well as personalized advisory services tailored to each member's unique financial needs and retirement goals.

In 2022, we were stretched by the lingering effects of the COVID-19 pandemic. Service demand from our clients surged to historically high levels as we enrolled thousands of new members, completed the integration of 600 employees of Ontario Health who joined the PSPP on January 1, 2022, and worked with two-thirds of them who elected to buy back their former defined contribution (DC) service. While adding new members helps OPB to maintain or improve Plan demographics and reduce public sector pension administration redundancies, it also increases the demand for our services.

We experienced high growth in service demands across all aspects of our service offerings. However, we saw particularly high increases in enrolments (a 37% increase from 2021) and buybacks (a 41% increase), the latter predominantly driven by buybacks among new Ontario Health members. We also dealt with a high volume of calls (20% higher than 2021) from members seeking assistance in setting up multi-factor authentication on their online e-services accounts, which was introduced at the end of 2021 to further strengthen security.

This increase occurred when we were operating with 90% of our full staffing complement, while also onboarding a significant number of new employees. The PSPP has been rated by CEM as one of the most complex plans in Canada, so we require a comprehensive onboarding and training process for new talent. As with many organizations, OPB has experienced higher-than-normal levels of employee turnover related to the pandemic. At the same time, we were planning and then transitioning our staff from working at home to a partial return to the office (our hybrid work program).

Our client satisfaction survey scores dropped modestly as service response times slowed. Nevertheless, our relatively strong client satisfaction level in a year of record demand for services shows our resilience and agility as an organization.

We measure our service by two key metrics: our CEM Benchmarking service score and ranking, and our client satisfaction survey score.

- In the CEM Benchmarking survey for 2021, reported in mid-2022, OPB was ranked first for client service among our Canadian peers and fourth globally among the 40 plans that participate in the CEM Benchmarking survey. Our CEM Service Score was 90/100, rising from 87/100 the prior year.
- Our overall client satisfaction score, as measured by an independent external research firm, was 8.6 in 2022, compared to 8.8 for 2021. Our employer satisfaction score increased to 8.8, from 8.5 in 2021.

To help meet increased demand, work to restore our normal service levels and ease the pressures on our employees, we took a number of steps, including:

- We adopted a hybrid workplace program in September 2022, providing employees with the equipment and technical support they needed to serve members and employers from home or at the office.
- We triaged and re-prioritized our work to better help clients – we made retirement and enrolment transactions our top priorities, putting less urgent service transactions on the backburner. This created some service delays and backlogs that we will work to resolve in 2023.
- Through hiring and internal promotions, we strengthened our ability to meet the evolving service needs of our clients and stakeholders. Training and supporting many people in new jobs has been a significant effort for our relatively small organization.

These steps are helping. By the end of 2022, our client satisfaction scores were rising, though not yet back to pre-pandemic levels, even though our Client Care Centre had not yet returned to normal staffing levels. We expect to see continued improvement during 2023.

What We Did	Why It Matters
Earned a total service score of 90 out of 100 from CEM Benchmarking for 2021, ranking OPB first among Canadian peer pension plans and fourth globally for excellence in service and pension administration.	We are consistently recognized as a world-class service leader, while operating efficiently and managing a more complex plan than most of our peers.
We improved our advisor meeting booking capability, enabling clients to self-select an available appointment time.	This makes it easier for members to schedule a meeting with an advisor to get the information and support they need to make sound pension decisions.
Met with 3,388 members in advisory sessions to help them navigate key pension decisions in their lives.	We continued to provide expert, unbiased advice on how pension benefits fit into members' larger financial picture.
Satisfaction with our advisory services was 8.9 out of 10, up from 8.8 in 2021. Satisfaction with client service overall was 8.6 out of 10, down from 8.8 in 2021.	Our advisory services distinguish us from other pension plans, and our members recognize the additional value we provide. The PSPP is a very complex plan. In 2022, we faced much higher call and transaction demand at a time when we were operating with 90% of our full staffing complement, while also onboarding a significant number of new employees and transitioning to our new hybrid work program.

What We Did	Why It Matters
Answered 92% of Client Care Centre calls within 30 seconds (versus 98% in 2021). Our goal is to answer 95% of calls within 30 seconds. Average call response time was 11 seconds (versus three seconds in 2021). Daily average calls climbed to 248 (versus 205 in 2021).	We are committed to maintaining world-class service to members, even as Plan membership grows and demand for service increases.
Tied our all-time high satisfaction rating from employers at 8.8 out of 10 in 2022, compared to 8.5 in 2021.	Our strong partnerships with employers help ensure that we have the information we need to provide excellent member service.

We saw increased demand for almost all types of transactions in 2022. For example, we managed a 41% increase in buybacks, a 24% rise in terminations, a 23% increase in services to pensioners (such as statement inquiries, beneficiary updates and administering insured medical benefits on behalf of the Plan Sponsor) as well as a 5% rise in retirements.

Our total call volume in 2022 jumped 20% from 2021, influenced by member requests for support, including updates on transactions in progress and help navigating login and registration on our e-services portal. Our response time to client calls declined, with 92% of calls answered within 30 seconds, compared to 98% the previous year.

ADVISORY SERVICES

At OPB, we feel strongly about the importance of retirement planning and financial literacy. We have provided advisory services for our members since 2015. These services are very popular with members and attractive to prospective and current provincial employees.

We lead the industry in being the only defined benefit (DB) pension plan that employs in-house experts with the Certified Financial Planner® (CFP®) designation. Our CFPs help inform decision making and provide retirement planning advice to members. In 2022, they helped almost 3,400 members to understand how their pension decisions can impact their broader financial and life circumstances.

We improved our advisor meeting booking capability. This enhancement improves the client experience by allowing members to self-select an appointment time with an advisor. Longer term, we hope to further enhance the capability to allow for a seamless booking through the portal.

Feedback from members who have used our advisory services and tools continues to be very positive, with 70% of clients surveyed rating their satisfaction with their OPB Advisor a 9 or 10 out of 10. In addition:

- 90% agreed their advisor provided the pension advice they needed;
- 87% agreed their advisor provided objective guidance to protect their best interests; and
- 86% agreed their advisor provided valuable insights that they hadn't considered.

We also have Registered Retirement Consultant (RRC) certified staff in our Client Care Centre providing front-line support for incoming calls and general inquiries. RRC is a program offered by the Canadian Institute of Financial Planning.

EDUCATION AND FINANCIAL LITERACY

OPB's client education sessions originally focused on informing members about the Plan and its benefits. In recent years, our education efforts have evolved to help members improve their retirement knowledge and financial literacy.

We provide tailored financial and retirement planning sessions designed to get members engaged earlier in retirement planning. Our broader education efforts include comprehensive financial advisory workshops for members in the early, middle and late stages of their career.

In 2022, as the pandemic persisted, we hosted a total of 52 presentations that reached 3,095 members, fewer than in 2021 due to staffing challenges. The client education department is now at full complement, and we anticipate the number of presentations in 2023 will return to normal levels. The sessions held in 2022 were rated "very good" or "excellent" by 74% of participants.

We continued to offer advisory articles in our newsletters and website throughout the year to help active and retired members better understand personal finance topics.

DIGITAL AND ONLINE SERVICES

As part of our multi-year pension modernization program, we launched updated member and employer portals in late 2021 and enhanced those portals in 2022, based on feedback from users. Improvements were made to the experience when members register for and log into the portal using multi-factor authentication. We also added functionality for staff to help them better serve clients.

Our e-services enhancements included an improved retirement planning tool to create a snapshot of a member's overall retirement income. We also re-launched our "initiate and track retirement" feature, where members who are ready to retire can initiate the retirement process online and track the status of their application in e-services. The new OPB member portal also allows members to choose their communication preference for Retired Member Statements and Annual Pension Statements (APS). In 2022, we delivered 87% of APS digitally. Over time, we plan to expand the number of documents available for paperless delivery.

The e-services portal is responsive on mobile devices and complies with Ontario's accessibility requirements under the *Accessibility for Ontarians with Disabilities Act*.

Keeping our members' information secure is important and, from the beginning of the portal design process, we added an extra layer of protection to reduce security breaches. Multi-factor authentication (MFA) was implemented to protect our members' personal information. With the new MFA security process to access the portal, members were instructed to reregister to access e-services. Implementing MFA prompted numerous inquiries, requiring our client service representatives to provide additional support to members. Among active members, 40% were registered by the end of 2022 (down from 67% prior to the relaunch of e-services in November 2021), and among retired members, 28% were registered (down from 54% of retired members prior to the relaunch). We expect these rates to continue to grow as we add new functionality, tools and features and promote the benefits of registration to our members.

Members continued to use our digital and online services to seek information and conduct self-service transactions. Our e-services traffic edged down in 2022 to just over 112,000 logins, versus 145,700 logins during 2021. This was largely due to the lower number of members registered in 2022 due to the portal relaunch in November 2021.

Greater use of online self-services is expected to free up OPB's resources to increase proactive client outreach and to meet the growing demand for our advisory services.

Approximately 20% of e-service logins were from a mobile device, down from 23% in 2021. Popular member services included creating pension estimates, looking at their digital Annual Pension Statements or Retired Member Statements, updating beneficiaries and using the buyback calculator.

Stakeholder Engagement

OPB works closely with the Plan Sponsor to ensure that it has the information needed on issues to make decisions that impact the Plan. We also conduct regular and ongoing discussions with bargaining agent groups to keep them informed about the health of the Plan and emerging trends and issues, and to ensure they understand the value of the Plan.

We believe defined benefit plans are the most effective approach in achieving retirement income while still being affordable to both employers and employees. We also believe that, as an attractive part of a total compensation package, defined benefit plans can help public sector employers attract and retain key talent.

OPB's third-party administration responsibilities have grown in recent years. We have enrolled Ontario Health employees into the PSPP (our largest defined contribution plan conversion to date) and we have taken on full administration for the Provincial Judges Pension Plan (PJPP) and the Retirement Compensation Arrangement (RCA) as well as benefits for Agricorp, TVO and Ontario Northland pensioners.

We undertake advocacy efforts through:

- direct OPB submissions to government, regulators and employee groups;
- partnerships with our peer plans on matters of mutual concern and best practice sharing; and
- collaboration with industry organizations such as the Association of Canadian Pension Management (ACPM) and the Ontario Bar Association.

OPB recognizes the value that a strong retirement system has for all Canadians. In 2022, we:

- delivered 52 member webinars to 3,095 participants around Ontario;
- continued to provide members with information about the value of their pension, Plan provisions and key decision points, through our website, newsletters and interactions;
- held our annual Agency Forum online (roundtable meeting with employer representatives), where we discussed pension-related topics; and
- facilitated 31 employer training sessions.

There were 289,800 visits to OPB's public website in 2022, compared to 227,290 visits in 2021. Among website visitors, 37% accessed opb.ca via smartphone or tablet, up from 32% in 2021.

Overall transactions through the employer portal rose 32% compared to transactions conducted in 2021.

Pension and Technology Modernization

Pension modernization is a multi-year business transformation and risk mitigation program designed to improve client and stakeholder experiences and generate business efficiencies. The COVID-19 pandemic accelerated what was already a priority transition toward digital services.

Our multi-year roadmap identifies and prioritizes the other parts of our pension business processes and systems that must be modernized in order to support critical business priorities and hybrid work. We monitor the business and IT risks that need to be addressed and adjust the roadmap accordingly.

Our client engagement and experience strategy is a significant portion of the pension modernization program. It involves rebuilding our pension administration business processes and IT systems to deliver a more modern and efficient digital service experience and to provide our staff with tools to do their jobs more efficiently. This initiative aligns with the Government of Ontario's Digital First service delivery strategy.

We believe it is critical to continue advancing this innovation program; however, in 2022, we decided to defer certain aspects of it, to allow us to manage heavy demand for services while we trained new employees and promoted staff into new roles. (In 2022, approximately one-third of the entire OPB workforce was either new or newly promoted.)

Despite these challenges, we made progress on the pension modernization program. For example:

- We transitioned approximately 95% of our applications infrastructure and data to the cloud, which allows for greater security, development capacity and responsiveness, and the ability to work across platforms. It also helps ensure that we are AODA-compliant and provides enhanced efficiency and cost-effectiveness.
- We reviewed our technology roadmap and revised the way we intend to go forward, to keep in synch with the constant evolution of and improvements to technology.
- We enhanced functionality of member and employer portals based on member feedback and implemented the first phase of improvements to our Retirement Planner.
- We launched the first phase of a major project to modernize our pension calculators and core system. Our current approach cannot handle multiple plans or complex member rules. Moving to one calculation engine will introduce efficiencies by eliminating the need to update multiple instances of our calculator across different platforms. Modernizing our core system will also enhance business processes, integrate quality assurance and make it easier for us to adapt to changing rules and Plan provisions. In 2022, we conducted a request for information (RFI) to understand the marketplace offerings and inform our approach for replacing our legacy systems.
- We implemented enhanced hybrid meeting technology to enable employees, our executive team and Board of Directors to collaborate effectively and securely with their colleagues, whether at home or in the office.

Workplace Culture

OPB is committed to providing exceptional service to its members and stakeholders while protecting the health, safety and well-being of employees and visitors. All of these factors were considered as OPB made plans to reduce remote work and return more activities to the workplace.

HYBRID WORK PROGRAM

In September 2022, OPB implemented a new hybrid work program, which is designed to balance the benefits of remote work and in-office collaboration, while delivering client service excellence and effective operations. Employee well-being, engagement, and experience are also core to the design of the new program, with a focus on building and sustaining a strong and cohesive workplace culture. Employee feedback has been sought in the planning and implementation stages.

The program provides a framework and guidance for managers and staff, with flexibility to accommodate the varying needs and roles across the organization. Depending on the position and the need to be in the office for critical business functions, collaboration, engagement, and training opportunities, employees work in the office an average of two days per week. Some roles may be required to be on-site for three, four or five days per week, depending on operational requirements.

The principles that underpin OPB's hybrid work program are:

- Operational excellence — We continue to deliver exceptional service to clients and stakeholders, consistently reinforcing OPB's Advise & Protect mission.
- Accountability — We remain accountable for our performance, behaviours, and service delivery, whether working on site or remotely.
- Employee experience — We value our employees' well-being and strive to create an environment where employees thrive and feel empowered to contribute their best.
- Clarity — OPB will provide a clear framework and expectations to support success in our new hybrid program.
- Trust — Leaders and employees continue to have trust-based interactions to balance their schedules and responsibilities appropriately within the program framework provided by OPB.
- Flexibility — We encourage all employees and leaders to embrace flexibility as the cornerstone of hybrid work.

DIVERSITY, EQUITY AND INCLUSION

Diversity, equity and inclusion (DEI) are integral values for OPB, and we recognize that they are absolutely necessary if we are to deliver on our vision. Building a diverse, equitable and inclusive workplace makes us a stronger, more agile and more successful organization.

Our Board and executive team consider DEI commitments to be high priorities. We continue to advance DEI through a variety of actions that support an inclusive work environment for our employees, clients, and stakeholders.

Along with our investment manager, IMCO, we are a signatory to the Canadian Investor Statement on Diversity & Inclusion. We encourage Canadian public companies to address systemic inequities by advancing diversity and inclusion efforts and enhancing transparency and accountability. We also challenge our own organizations to advance diversity and inclusion of underrepresented individuals internally.

In 2022, we continued to share information, resources, and learning opportunities to raise awareness and increase understanding about various events and dates of significance, such as Black History Month, National Day for Truth and Reconciliation, and International Day of Persons with Disabilities.

We conducted a Respect in the Workplace survey to explore some aspects of our 2021 comprehensive employee engagement survey. The participation rate for the survey was greater than 91%, and the feedback gathered helped us to better understand employees' experiences as we continue working to advance an inclusive and respectful workplace.

While the survey results were positive overall, we feel there is always room for improvement to support an engaged and strong culture. As part of activities to address the feedback we received, we developed virtual etiquette guidelines to encourage inclusive and respectful virtual interactions and provided employee training on inclusive and respectful interactions and responding to microaggressions, with specialized sessions developed to support leaders.

We also launched a Diversity, Equity and Inclusion Advisory Council as part of our commitment to strengthen DEI at OPB and ensure we encourage and include diverse voices in our business. Composed of volunteers from across the organization, this council will provide advice and recommendations in establishing our DEI framework and priorities, which will connect OPB's DEI activities and programs to our mission, operations, strategies, and business objectives.

Sound Risk Management

OPB's risk framework is set out in our Governance, Risk and Compliance Policy, which establishes core functions and responsibilities for managing risk.

Our approach to risk management is to assess strategic and operational risks and to take actions that mitigate or limit downside risk exposures. In a rapidly changing environment characterized by technological disruption, geopolitical instability, cyber-threats and changing societal demands, risk management is critical in enabling OPB to maintain operational resilience and meet its responsibilities to Plan members and other stakeholders.

ENTERPRISE RISK MANAGEMENT

The goal of Enterprise Risk Management (ERM) is to preserve OPB's reputation, strengthen operational resilience and enable OPB to make informed decisions in the face of uncertainty, the evolving external environment or circumstances, and competing demands.

While OPB tries to anticipate material risks, unforeseen and unprecedented events will occur. We maintain a robust ERM framework to ensure significant current and emerging risks and opportunities are identified and managed; appropriate risk mitigations are developed and implemented; regular monitoring is conducted to evaluate the mitigation measures; and risk activities are reported on a regular basis.

OPB adopts an enterprise-wide approach that involves an integrated view of key risks and their interdependencies across all areas of our organization and all levels of staff. Our goal is to ensure key risks are identified in a timely manner and managed within acceptable levels.

Categories of Enterprise Risk

Our ERM program provides a consistent framework to evaluate and manage the uncertainty that will naturally arise from administering a major defined benefit pension plan.

We segment enterprise risks into three principal categories:

1. **Strategic** – These are risks taken to pursue and capture long-term value for the Plan. They generally represent the risks with the highest overall potential to affect achievement of OPB's objectives. These risks are actively managed by ensuring that the development of corporate strategy is aligned with OPB's risk profile.
2. **Operational** – These are risks that arise from day-to-day business, emergency planning and project processes. In the normal course of service delivery, we face threats and vulnerabilities. To manage these risks, operational risk management is embedded at the business unit level through awareness training and targeted assessments.

3. **Emergent** – These are primarily external and uncontrollable trends that may impact OPB over a long-term horizon. Routine surveillance of emerging trends allows us to assess the business impact of threats and opportunities presented by changes in the external environment.

2022 Developments

Business continuity, operational challenges, the risk of fraud, and the health, safety and well-being of employees were our priorities in 2022. For much of the year, employees continued to work remotely, with planning for a partial return to the office followed by implementation of a hybrid work program late in the year.

We made progress integrating risk management with business operations, particularly with program/project management and internal audit, with the objective of creating a more mature ERM framework and becoming an organization with a resilient, informed and risk-aware mindset.

To build a stronger ERM foundation, we took the following steps in 2022:

1. Implemented a new cloud-based ERM tool that will provide greater awareness of risks across the entire organization captured in a single repository. It will also improve our risk reporting by enhancing our risk analytics capability, standardize our risk taxonomy, and enhance our operational efficiency.
2. Collaborated with IT and Finance to improve our procurement procedures by creating a risk-based vendor management framework for onboarding new vendors and maintaining relationships with existing vendors, which will help to mitigate third-party concentration and other risks.
3. Continued to evolve the pension modernization risk program to ensure that risks are identified, assessed, mitigated, monitored, and reported in a timely manner.
4. Facilitated "top-down" and "bottom-up" discussions across OPB to gain insights on potential issues and systemic or new risks.

Our ERM team helps build a risk-aware culture at OPB by creating learning opportunities about risk management and key emerging trends, both global and local in nature. We are utilizing OPB's Global Risk Institute membership to conduct tailored sessions on key risks and emerging trends and to host risk workshops. We also provide all OPB staff with access to virtual risk workshops during the annual Risk Awareness Week in October, where they can learn about topics including risk identification, project risk management, decision making, strategy planning and psychology of risk.

KEY RISKS AND MITIGATION ACTIVITIES

Our top three risks and mitigation activities are as follows.

1. **Plan sustainability** – Defined benefit pension plans face the risk that they may be unable to meet all current and future obligations while remaining affordable over the long term. We conduct various studies and analyses to better understand the funding risks facing the Plan and to develop recommendations to mitigate these risks.
2. **Investment performance** – We rely on our investment manager, IMCO, to execute OPB's SAA with the objective of achieving performance that can meet or exceed our target returns. We have a monitoring program to oversee our relationship with IMCO. We receive regular reporting on requirements under the Investment Management Agreement, IMCO's risk management activities, and detailed fund performance reports. See the Investments section for more information on investment risk management.
3. **Modernization of core systems** – Pension modernization presents a significant opportunity while at the same time introducing enterprise-wide, program-level risks such as unexpected program costs or delays, breakdowns in change management and data governance processes or failure to deliver expected outcomes. Our pension modernization program will update our service offerings, introduce efficiencies and address at-risk legacy technology. We address potential risks by using a combination of our enterprise program management framework and a deliberate, incremental approach to pension modernization.

Operational Risk Management

Operational risk management (ORM) provides a practical, business objective-based approach to identifying, assessing, mitigating and continuously reporting on risk inherent in OPB's day-to-day operations. ORM focuses on how we apply management controls in areas such as compliance and conduct, business continuity, project delivery and service quality.

Systems Risk

We regularly review our IT systems for operational performance and scalability to meet future requirements. We also work very closely with our managed service providers, IT advisors and independent research firms.

OPB's information technology and security infrastructure remained strong and digital enhancements are ongoing. Security education and awareness measures continued with organization-wide phishing exercises and online information security training on a regular basis.

We implemented a new web-based system that meets a range of human resource (HR) administration needs. It processes and maintains records of HR transactions such as payroll, employee benefits, time and attendance, in one place.

Legal Risk

Occasionally, OPB is involved in legal actions arising from the ordinary course of business. All significant legal matters are reported to the Audit Committee of the Board of Directors.

Internal Audit

We routinely conduct internal audits of key business functions and operational processes. The internal audit function reports to the Board of Directors through the Audit Committee. The annual internal audit plan is approved by the Audit Committee.

Privacy Protection

OPB recognizes the importance of protecting the privacy of its members, stakeholders and employees. Safeguarding personal information in our care is core to the trusted delivery of our mandate. In 2022, we updated key internal controls to support ongoing transparency, risk mitigation and efficiency in the collection and use of personal information in increasingly complex digital environments. Our Privacy Office maintains an organization-wide program to ensure ongoing training, awareness and vigilance in the handling and use of personal information.

Information Security and Compliance

Like other public institutions and financial services organizations, OPB carefully manages risks related to information/cybersecurity and compliance. We continue to invest in and monitor controls and maintain an enterprise-wide compliance program, using a combination of policy training and ongoing review of reputational reporting and attestations.

Project Delivery

A large program or individual projects can introduce both business and financial risks. We monitor projects using governance processes and regular reporting. This helps provide assurance that internal controls and project procedures are being followed. We also conduct project-specific risk assessments throughout a project's life cycle to identify and mitigate potential uncertainties, threats and vulnerabilities.

In 2022, we continued to expand our use of our project and portfolio management tool and our balanced approach when prioritizing initiatives and allocating resources. A review, assessment and prioritization of business plan initiatives was performed to ensure we were well positioned for the scope and work ahead.

What We Did	Why It Matters
Uploaded risk registries to our new ERM cloud-based tool.	This tool will enhance risk awareness and risk reporting capabilities. It will also increase the efficiency and effectiveness of our risk mitigation strategies.
Updated our Governance, Risk and Compliance Policy and Hospitality and Travel Policy, and prepared to roll out Code of Conduct training.	These policies help to ensure OPB employees act with integrity and comply with expectations for ethical conduct.
Continued our regular cybersecurity education and awareness measures with organization-wide exercises and mandatory training.	Systems and cybersecurity risks rose during the COVID-19 pandemic. Ongoing employee awareness and training helps mitigate these risks.
Reprioritized some initiatives in our multi-year pension modernization program to manage risks due to staffing shortages.	We take a balanced approach to prioritizing initiatives and allocating resources. We monitor risks that need to be addressed and adjust the modernization roadmap accordingly.
Made a successful business recovery following Rogers Communications' national network outage in July 2022.	We have preventive controls as well as recovery procedures to mitigate the impact of an interruption to our operations.
Surveyed employees to help shape the new work environment and provided resources and support to facilitate a smooth transition from working at home to OPB's hybrid work model.	Careful planning and support for a hybrid workplace is important to employee health, well-being and engagement, and to delivering our commitments to Plan members.

FINANCIAL MANAGEMENT

OPB is committed to efficient management and to offering value-added service at a cost-effective price. As an agency of the Province of Ontario, we operate in an environment of cost constraint, and we judiciously manage the Plan's expenses. In recent years, we have expanded our range of member services and added new members by consolidating other pension plans, yet our overall expense ratio remains very competitive in the industry.

To efficiently manage the Plan, we routinely:

- focus on priorities and work smart;
- re-engineer and redeploy resources where it makes sense to do so;
- enhance our abilities, through staffing and training, to perform more value-added services in-house rather than pay premiums in the open markets; and
- increase our digital offerings.

Our overall consolidated (investments and pension administration) expense ratio for 2022 was 0.53% (or 53 cents per $100 of average net assets available for benefits). This compares to 0.55% in 2021.

Our objective is to keep our consolidated expense ratio at or below 66 basis points, with OPB's operating expenses at or below 16 basis points and IMCO's costs at or below 50 basis points.

In recent years, with members both joining and leaving the Plan and new regulatory and risk mitigation requirements, OPB has managed costs and expenses while dealing with a tremendous amount of change.

Managing Costs

At OPB, we are committed to disciplined cost management, and we strive to stay within budgeted expenses each year.

Our goal is to ensure we spend strategically where it is in the best interests of our members and stakeholders. The Plan's expenses are a combination of investment management costs and operating costs for pension administration.

Investment fees – IMCO incurs investment management and custodial fees on OPB's behalf. In addition, a share of the cost of IMCO's operations is charged to OPB on a cost-recovery basis. In 2022, these two costs were 0.38% (or 38 cents per $100 of average net assets available for benefits), compared to 0.41% (or 41 cents per $100 of average net assets available for benefits) in 2021. These fees are deducted from total investment income.

Operating expenses – OPB has direct operating expenses, which are the internal costs associated with managing the pension plan, pension administration, and investment monitoring/oversight activities. These costs represent 0.15% (or 15 cents per $100 of average net assets available for benefits) in 2022, compared to 0.14% (or 14 cents per $100 of average net assets available for benefits) in 2021.

The above sets of costs add up to a 0.53% expense ratio in 2022, compared to 0.55% in 2021.

CONTRIBUTIONS

Contribution rates for the PSPP are set by the *Public Service Pension Act, 1990* (PSP Act). They are adjusted as needed to keep pension benefits affordable and sustainable over the long term.

Members contribute 7.4% of their salary below the Year's Maximum Pensionable Earnings (YMPE) and 10.5% of their salary above the YMPE (which was $64,900 for 2022 and is $66,600 for 2023). Employers contribute a matching amount.

Ontario Provincial Police (OPP) officers in the PSPP 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 9.7% of salary up to the YMPE and 12.8% of salary above the YMPE. For OPP civilians, the contribution rates are 8.545% of salary up to the YMPE and 11.645% of salary above the YMPE. These contribution rates are matched by the employer.

During 2022, contributions for all OPB members, employers and sponsors totalled $1.245 billion, compared to $1.496 billion in 2021. The amounts were higher in 2021 owing to an additional prior year credit balance funding payment of $385 million received from the Plan Sponsor in 2021.

PENSIONS PAID

OPB made pension payments totalling $1.495 billion in 2022, up from $1.43 billion in 2021.

The increase is (partly) attributable to a 2.4% inflation protection adjustment (Escalation Factor) that was applied to pensions on January 1, 2022. The remainder is attributable to increases in the average pension amounts and the number of new retired members.

Executive Compensation

OPB recognizes compensation as a key component in achieving its long-term strategies and organizational effectiveness. As an agency of the Government of Ontario, OPB is committed to providing excellent service and value for money to our clients and stakeholders while operating in a public sector fiscal environment.

Executive compensation is carefully overseen and approved by the Board's Human Resources Committee and follows the Province's direction on broader public sector wages. Effective February 28, 2018, OPB implemented its Executive Compensation Program, which is compliant with Ontario regulation 3014/16: Executive Compensation Framework, introduced in September 2016. The regulation sets out how all employers designated under the *Broader Public Sector Executive Compensation Act, 2014*, including OPB, must establish and publish compensation programs for executives. The program must include the compensation philosophy, salary and performance-related pay caps, comparative analysis details and a description of other elements of compensation.

Executives receive an annual base salary that is within the salary range assigned for the corresponding classification. In addition to base salary, executives are eligible to participate in the annual compensation plan (short-term incentive). OPB conducts annual performance and salary reviews for executives, and the rate of salary adjustment for performance-based incentives is in line with appropriate market-based ranges. OPB regularly participates in third-party external compensation surveys and typically trends below market average.

Base salaries and incentive pay for executives in designated positions are within OPB's approved Executive Compensation Program. A regulation, 406/18: Compensation Framework, was introduced on August 13, 2018, that sets out new requirements for compensation for those in designated executive positions. OPB is in compliance with the regulation and, specifically, base salaries were not increased for those in designated positions beyond their current amount (as of the date of regulation).

The table below sets out the compensation for the CEO, the three senior executives who report directly to the CEO and the most senior Finance position. The figures in the table include the components of compensation and the total compensation (excluding only retirement benefits) paid to the listed executives.

For the year ended December 31	Year	Base Salary[1]	Short-Term Incentive[2]	Taxable Benefits & Allowances[3]	Total
Mark Fuller, President & CEO	2022	$ 526,165	$ 300,284	$ 572	$ 827,021
	2021	$ 526,165	$ 302,300[4]	$ 572	$ 829,037
Valerie Adamo, Chief Technology Officer	2022	$ 323,093	$ 121,576[5]	$ 373	$ 445,042
	2021	$ 323,093	$ 121,576	$ 373	$ 445,042
Armand De Kemp, Vice-President, Finance	2022	$ 205,912	$ 72,317	$ 259	$ 278,488
	2021	$ 205,912	$ 70,000[4]	$ 259	$ 276,171
Christian Kautzky, Chief Investment Officer	2022	$ 338,836	$ 138,125	$ 389	$ 477,350
	2021	$ 338,836	$ 138,295[4]	$ 389	$ 477,520
Peter Shena, Executive Vice-President & Chief Pension Officer	2022	$ 342,479	$ 139,610	$ 392	$ 482,481
	2021	$ 342,479	$ 154,200[4]	$ 392	$ 497,071

1 Base salary is based upon amounts paid during the year. In 2021 and 2022, there were 26 bi-weekly pays.

2 Short-term incentive earned is paid in March of the following year and is within the established Executive Compensation Envelope as per Regulation 406/18: Compensation Framework.

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

4 Per footnote 2, the total performance-related pay for all designated executives must be less than or equal to the employer's performance-related pay envelope. As a result, the incentive pay for OPB executives was decreased to ensure compliance.

5 The total compensation is capped for the Chief Technology Officer as per the Executive Compensation Framework. As a result, Ms. Adamo's incentive is capped accordingly.

The above-noted individuals are entitled to pension benefits on their base salary from both the PSPP and the RCA. Having the executives as members of the same pension plans as the clients that they serve builds strong alignment.

Three executives (President & CEO, EVP & CPO, and CTO) currently 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.

GOVERNANCE

A robust governance structure keeps OPB strong and is the foundation of our 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 oversight of 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.

A series of documents define our organizational structure, roles and responsibilities, and governance practices. Collectively referred to as the governance documents, these documents include a Statement of Governance Principles; a General By-law; a Governance, Risk Management & Compliance Policy; and a Code of Conduct & Ethics.

Our governance documents 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. The Board has delegated to management the responsibility for the day-to-day operations required to administer the Plan and manage the Fund.

The Board has also delegated specific responsibilities to six committees of the Board: the Governance, Investment, Audit, Pensions, Managed Plans, and Human Resources committees.

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;
- oversees OPB's sustainability plans;
- approves any recommendations made to the Plan Sponsor regarding Plan amendments and funding;
- conducts performance and compensation reviews for the President & CEO;
- oversees and monitors IMCO;
- approves the SAA, which drives investment management asset mix decisions;
- conducts an annual review of OPB's Statement of Investment Policies & Procedures;
- approves non-ministerial appointments to the IMCO board of directors;
- approves material amendments to the IMA and ISA;
- supervises and approves all audit and risk management matters;
- ensures that management is maintaining a culture of integrity;
- is accountable for leadership succession and monitors talent management and employee engagement;
- monitors client service; and
- monitors compliance with OPB's governance documents, including government directives and policies.

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 Regulatory Authority (the organization that oversees registered pension plans in Ontario); and
- the Government of Ontario (the Plan Sponsor).

IMCO is OPB's sole and exclusive investment manager, managing the investment and reinvestment of the Fund. It also acts as OPB's non-exclusive investment advisor. The Board has delegated to management (primarily to the Chief Investment Officer) the responsibility to monitor, assess and report on IMCO in respect of its investment products, returns and risk management, and its performance in fulfilling its duties, responsibilities and obligations under the following key agreements:

- the Investment Management Agreement (IMA), which governs the investment management relationship between IMCO and OPB and focuses largely on investment-related matters; and
- the Implementation and Support Agreement (ISA), which deals with operating and governance matters such as IMCO governance policies, budgeting and cost allocation, development of asset pools and cost containment principles.

ESG matters are a strong focus for the Board and management as OPB continues to strengthen practices and collaborate with peers. A Board-approved policy for ESG investment issues articulates how OPB addresses ESG issues, including climate risk. IMCO has committed to reach net-zero greenhouse gas emissions by 2050 or sooner, has published interim targets to reach this goal, and is disclosing climate risks in alignment with the Task Force on Climate-related Financial Disclosures (TCFD).

In 2020, OPB signed The BlackNorth Initiative, a commitment made by industry leaders across Canada to end anti-Black racism by removing systemic barriers and reshaping corporate structures to create better representation for Black Canadians. The CEO is accountable to our Board for the development and evaluation of concrete, strategic action plans to prioritize and drive accountability around diversity, equity and inclusion.

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.

The Board and its committees met a total of 39 times in 2022.

Board of Directors

Effective governance and oversight demand a committed board with the right mix of skills and expertise to govern effectively.

In addition, Board members must continue to develop skills to ensure that the Board collectively is well equipped to govern in a rapidly changing world. The Board invites external experts to present education sessions throughout the year. In 2022, the Board invited subject matter experts in to provide education sessions on important topics including responsible investment, geopolitical risk management in a changing world, and gender and sexual diversity.

OPB Board members are appointed by the Ontario Lieutenant Governor in Council.

Shawn Leis was appointed to the OPB Board effective March 4, 2022.

Biographies of all Board members are below.

BOARD MEMBERS

Geri Markvoort (Chair)
Geri Markvoort is Chair of the Ontario Pension Board and a member of the Human Resources, Investment, and Governance committees. She 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 sectors (natural resources, manufacturing, banking and professional services). Significant organizational change, global service models, total rewards delivery, effective client relationships, and the evolution of the human resources function have challenged and engaged her throughout her career. A passionate champion for change and strong human resources 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. Geri holds an ICD.D designation from the Institute of Corporate Directors.

Patti Croft (Vice-Chair)
Patti Croft is Vice-Chair of the Ontario Pension Board as well as Chair of the Investment Committee and a member of the Audit and Governance committees. She is also a member of the Ontario Teachers' Pension Plan Board, where she is Chair of the Governance Committee, as well as a member of both the Investment Committee and Human Resources and Compensation Committee. She is the former Chief Economist of RBC Global Asset Management. Her community involvement has included the Oakville Humane Society and the Oakville Fairshare Food Bank. She is currently providing pet therapy visits in Toronto through the St. John Ambulance program. Patti has been a member of the Ontario Pension Board since 2013. She holds a Bachelor of Arts degree in Economics from the University of Toronto, an ICD.D designation from the Institute of Corporate Directors and a GCB.D designation from the Global ESG Competent Boards Certificate and Designation Program.

Dave Bulmer
Dave Bulmer is Chair of OPB's Governance Committee and a member of the Human Resources and Pensions committees. He is the President and Chief Executive Officer of AMAPCEO – Ontario's Professional Employees (15,000 members) 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 Ontario Public Service is within the Emergency Health Services Branch of the Ministry of Health & Long-Term Care. Dave has completed SHARE's Pension Investment and Governance certification and Trustee Master Class certification. Dave lectures on labour relations at several Ontario universities and is a long-time community activist who has volunteered his time as a coach in elite-level sports and as a volunteer with PFLAG and Crohn's & Colitis Canada. Dave holds an ICD.D designation from the Institute of Corporate Directors.

Lynne Clark
Lynne Clark is Chair of OPB's Audit Committee and a member of the Pensions and Investment committees. She is a 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 holds a Master of Business Administration from the Schulich School of Business and a Bachelor of Science from the University of Toronto. Lynne holds an ICD.D designation from the Institute of Corporate Directors.

Earl Dumitru
Earl Dumitru is the Chair of the Managed Plans Committee and a member of the Governance and Pensions committees. He has been a legal and policy advisor with the Government of Ontario for more than 20 years. He brings breadth and depth in legal practice attained in increasingly complex and senior portfolios under five governments with diverse missions. Some notable files include liability reform, amendments to the *Class Proceedings Act*, developing a new *Legal Aid Services Act*, agency and industry governance, and oversight of capital projects. Earl has also served on the Board of the Association of Law Officers of the Crown (ALOC) for over 10 years and was President of ALOC from 2014–2018. As President, his responsibilities included collective bargaining, managing staff, budgets and audits, day-to-day operations, and developing a sustainable organization capable of meeting its fiduciary responsibilities to its members.

Shawn Leis
Shawn Leis is a member of OPB's Pensions, Audit, and Managed Plans committees. He is the Executive Officer – Finance at Ontario Provincial Police Association. His career spans more than 25 years, including senior financial and operational leadership roles at several manufacturing companies, a sawmill distribution company, and a sub-prime automotive financing company. Shawn is a part-time finance instructor at Georgian College and serves as Treasurer on the Georgian Bay Cancer Support Centre. Past board experience includes Penetang Minor Hockey (four years), school board trustee (eight years), church trustee (eight years) and church stewardship (14 years). He attended the University of Waterloo to obtain an Honours Degree in Co-op Accountancy Studies and subsequently earned a CPA designation, as well as a master's degree in management. Shawn also completed four modules of the Director's College at DeGroote School of Business.

Geoffrey Melbourne
Geoffrey Melbourne is Chair of OPB's Pensions Committee and a member of the Managed Plans Committee. He is a seasoned actuary and client relationship manager, with experience leading strategic initiatives and articulating complex subject matter to stakeholder groups. Geoffrey is a partner and Wealth Growth Leader at Mercer Canada. His career highlights include driving the multi-year process of the first Ontario jointly sponsored pension plan conversion under the new regulatory framework. Geoffrey completed a term on the Actuarial Standards Board in 2020. He currently chairs the Project Oversight Group for an update of Canadian Pensioners' Mortality, and leads the Diversity, Equity, and Inclusion Advisory Group of the Canadian Institute of Actuaries. He has served on multiple Financial Services Regulatory Authority of Ontario committees.

Suzann Pennington

Suzann Pennington is Chair of OPB's Human Resources Committee and a member of the Audit and Investment committees. She is a retired senior finance executive with over 30 years' experience in strategic planning, complex investments, M&A, risk management and ESG in public and private companies. As Managing Director and Chief Investment Officer of CIBC Global Asset Management, Suzann was responsible for over $110 billion in financial assets. She has held a number of senior finance positions including Vice-President of Mackenzie Financial and was a founding partner of a mutual fund company. Suzann holds a Bachelor of Mathematics degree from the University of Waterloo, a Chartered Financial Analyst designation, and the ICD.D designation from the Institute of Corporate Directors.

Rob Ritchie

Rob Ritchie will be assuming the role of Chair of the Investments Committee when Patti Croft steps down from the Board. He is also a member of the Audit and Managed Plans committees. Rob recently retired from his position of Chief Executive Officer of a defined benefit plan, with over 35 years of experience in the insurance, pension, and financial services industries. He spent 27 years with a major Canadian life insurance group with both domestic and international assignments and has extensive experience in investment management and delivering total return and liability-oriented investment solutions. He also has a strong track record of building and operating successful business units and recruiting and developing high-performing teams. Rob holds a Bachelor of Business Administration from Wilfrid Laurier University and a Master of Business Administration from the University of Toronto.

BOARD TERMS AND REMUNERATION

Appointee Name	Appointment Start Date	Appointment End Date	Position	2022 Total Remuneration
Geri (Geraldine) Markvoort	1/5/2015	2/1/2023	Chair of the Board	$86,676.00
Patti Croft	5/1/2013	12/15/2024	Vice-Chair	$51,695.50
Dave Bulmer	11/16/2016	11/15/2022	Member	Nil
Lynne Clark	6/22/2016	12/8/2023	Member	$38,468.00
Earl Dumitru	7/9/2020	7/8/2023	Member	Nil
Shawn Leis	3/4/2022	3/3/2025	Member	Nil
Geoffrey Melbourne	12/22/2021	12/21/2024	Member	$37,404.00
Suzann Pennington	6/25/2020	6/24/2023	Member	$38,468.00
Rob Ritchie	7/16/2020	7/15/2023	Member	$41,731.00

The Management Board of Cabinet Agencies & Appointments Directive (the "Directive") sets out the principles and high-level criteria for the compensation of Board members. By Order in Council 1150/2007, the per diem compensation rates payable to OPB Board members are set at the rates payable to appointees to Regulatory and Adjudicative Agencies specified in the Directive, as may be amended from time to time. The current per diem compensation rates payable to the Chair, the Vice-Chair and members are:

Chair: $744

Vice-Chair: $583

Member: $472

The number of days compensated is based upon attendance at Board and management meetings as well as preparation, training and debriefing activities.

Members employed by the Government of Ontario or employed by bargaining agents who receive their normal salaries while participating as an OPB Board member do not receive any additional compensation.

Five-Year Review

(in millions of dollars)	**2022**	2021	2020	2019	2018
Opening net assets	**$ 33,834**	$ 31,000	$ 29,338	$ 26,561	$ 26,482
Investment income (loss)	**(2,560)**	2,871	2,052	2,723	361
Contributions	**1,245**	1,496	1,106	889	887
Transfers from other plans	**254**	134	90	644	234
	(1,061)	4,501	3,248	4,256	1,482
Pension payments	**1,496**	1,427	1,368	1,275	1,211
Terminations	**200**	196	177	166	156
Operating expenses	**46**	44	41	39	36
	1,742	1,667	1,586	1,480	1,403
Closing net assets	**$ 31,031**	$ 33,834	$ 31,000	$ 29,337	$ 26,561

Annual net rate of return	**(7.6%)**	9.4%	7.0%	10.2%	1.3%

Key Performance Indicators and Metrics

OPB has adopted a number of key performance indicators (KPIs) to measure progress as we execute our strategies. The KPIs represent the outcomes relating to the Plan that are most important to the Plan stakeholders. The KPIs are set forth in the following table.

Business Objective	Defined Output	Performance Metric	2022 Outcome	Discussion of Outcome
Investment execution	OPB's investment return versus the Strategic Asset Allocation benchmark	Outperform the benchmark	Investment return exceeded the benchmark return	Total Plan performance was driven by strong results in Global Credit, Infrastructure and Private Equity
Investment risk management	OPB's active risk	Target of 2% and less than 3.2% for past five years	Active risk was on target and ranged from 1.9% to 2.2%	Risk was regularly monitored and was stable near the target level during 2022
Member and pensioner service	Overall satisfaction with client services	8.7 or higher	8.6	Slightly below performance benchmark target
Employer service	Employer satisfaction scores	8.1 or higher	8.8	Exceeded performance benchmark target
Business Plan achievement	Advancement of strategies and initiatives (both planned and emergent)	Substantial delivery/ achievement of Business Plan initiatives	Substantial achievement of initiatives outlined in the 2022 Business Plan, including many emergent initiatives	Completion of some in-progress initiatives have carried over to early 2023. Eight new or carry-over initiatives from 2021 were added to 25 proposed in the 2022 Business Plan in addition to two recoverable initiatives.
Managing to budget	Actual versus budgeted expenses	Within budget	2022 actual operating expenses were 2.6% under budget	Achieved performance target
Cost-efficiency	Expense management ratios (cost per net assets available for benefits): 1. OPB operating expenses 2. IMCO costs 3. Consolidated	1. 16 basis points or lower 2. 50 basis points or lower 3. 66 basis points or lower	1. 15 basis points for operating expenses 2. 38 basis points for IMCO costs 3. 53 basis points for consolidated expenses	Expense management ratios are within acceptable target ranges
Financial health of PSPP	Level of, and year-over-year change in, going-concern funded status	Plan remaining 90% or more funded on a going-concern basis	In 2022, the funded status of the Plan is 89% on a financial statement basis	The 10-year funding plan in place means that the PSPP remains well funded

Actuaries' Opinion to the Directors of the Ontario Pension Board

Aon 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, 2021, as described in Note 11 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, 2021 was then rolled forward to December 31, 2022 to determine the pension obligations as at December 31, 2022 for financial statement purposes.

The actuarial valuation of the PSPP prepared on a funding basis as at December 31, 2021 was based on membership data provided by OPB as at December 31, 2021.

We have prepared a valuation of the liabilities as of December 31, 2021 on the basis of the accounting methodology required by the CPA Canada Handbook, Section 4600, as disclosed in Note 11, and extrapolated the liabilities to December 31, 2022. The valuation and extrapolation were based on assumptions that reflect OPB's best estimates of future events as of December 31, 2022 such as future rates of inflation, future retirement rates and future rates of return on the pension fund. The valuation reflects Ontario Regulation 250/18 that requires the funding of a reserve in the plan, referred to as a Provision for Adverse Deviations ("PfAD"). 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, 2021 is 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

Allan H. Shapira

Allan H. Shapira
Fellow of the Canadian Institute of Actuaries

Andrew Hamilton
Fellow of the Canadian Institute of Actuaries

March 9, 2023

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

Armand de Kemp
Vice President, Finance

March 9, 2023

Independent Auditor's Report

To the Directors of Ontario Pension Board

Opinion

We have audited the financial statements of Ontario Pension Board ("OPB"), which comprise the statement of financial position as at December 31, 2022, the statement of changes in net assets available for benefits and statement of changes in pension obligations for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of OPB as at December 31, 2022, and the changes in its net assets available for benefits and the changes in its pension obligations for the year then ended in accordance with Canadian accounting standards for pension plans.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of OPB in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for pension plans, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing OPB's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate OPB or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing OPB's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of OPB's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on OPB's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause OPB to cease to continue as a going concern.
- Evaluate the overall presentation, structure, and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Ernst & Young LLP

Chartered Professional Accountants
Licensed Public Accountants

Toronto, Canada
March 9, 2023

Statements of Financial Position

As at December 31 (in thousands of dollars)		**2022**		2021
Assets				
Cash	**$**	**5,237**	$	4,810
Investments (Note 4)		**32,592,758**		33,691,081
Investment-related assets (Note 4)		**45,243**		119,032
Contributions receivable				
Members		**34,511**		32,577
Employers		**49,270**		48,156
Accounts receivable and prepaid expenses (Note 16)		**10,014**		11,965
Capital assets, net (Note 10)		**317**		212
Total assets		**32,737,350**		33,907,833
Liabilities				
Investment-related liabilities (Note 4)		**1,615,621**		17,139
Accounts payable and accrued charges		**90,482**		55,126
Contributions payable		**–**		1,825
Total liabilities		**1,706,103**		74,090
Net assets available for benefits		**31,031,247**		33,833,743
Pension obligations, excluding PfAD		**32,902,978**		32,610,220
Provision for Adverse Deviations (PfAD)		**2,089,710**		2,075,436
Pension obligations (Note 11)		**34,992,688**		34,685,656
Deficit	**$**	**(3,961,441)**	$	(851,913)

See accompanying notes

On behalf of the Board:

Geri Markvoort
Chair, Board of Directors

Lynne Clark
Chair, Audit Committee

Statements of Changes in Net Assets Available for Benefits

For the year ended December 31 (in thousands of dollars)	2022	2021
Net assets available for benefits, beginning of year	**$ 33,833,743**	$ 31,000,079
Increase in net assets		
Net investment income (Note 6)	**-**	2,870,903
Contributions (Note 12)		
Members	**472,972**	432,091
Employers and sponsor	**771,888**	1,063,422
Transfer of service from other plans (Note 15)	**254,407**	134,331
Increase in net assets	**1,499,267**	4,500,747
Decrease in net assets		
Net investment loss (Note 6)	**2,560,164**	–
Retirement pension benefits	**1,495,279**	1,427,272
Termination and other benefits (Note 14)	**200,256**	196,189
Operating expenses (Note 13)	**46,064**	43,622
Decrease in net assets	**4,301,763**	1,667,083
Change in net assets available for the year	**(2,802,496)**	2,833,664
Net assets available for benefits, end of year	**$ 31,031,247**	$ 33,833,743

See accompanying notes

Statements of Changes in Pension Obligations

For the year ended December 31 (in thousands of dollars)	**2022**	2021
Pension obligations, beginning of year	**$ 34,685,656**	$ 34,464,985
Increase in pension obligations		
Interest on pension obligations (including PfAD)	**1,892,245**	1,845,558
Benefits accrued		
Service accrual (including PfAD)	**894,674**	865,244
Transfer of service from Agricorp (Note 15)	**79,196**	–
Transfer of service from other plans (Note 15)	**164,758**	134,331
Prior service buybacks	**73,703**	47,916
2023 indexation loss	**592,786**	–
Other net experience losses (Note 11)	**151,183**	228,506
Reserve for future indexation	**–**	260,000
Total increase	**3,848,545**	3,381,555
Decrease in pension obligations		
Benefits paid	**1,695,535**	1,623,461
Net assumption gains (Note 11)	**1,690,752**	231,579
Net change in Provision for Adverse Deviations	**155,226**	1,305,844
Total decrease	**3,541,513**	3,160,884
Net increase in pension obligations	**307,032**	220,671
Pension obligations, end of year	**$ 34,992,688**	$ 34,685,656

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, R.S.O. 1990* ("PSP Act") 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 PSP Act. Ontario Pension Board ("OPB") is the administrator of the PSPP. The Government of Ontario is the sponsor of the PSPP (the "Plan Sponsor"), acting through the member of the Executive Council to whom the responsibility for the administration of the PSP Act is assigned under the *Executive Council Act, R.S.O. 1990*.

Note 2: Description of the Plan

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

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 PSP Act. 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 Regulatory Authority of Ontario ("FSRA"), and the Canada Revenue Agency (Registration Number 0208777) as a registered pension plan not subject to income taxes.

In 2015, the *Investment Management Corporation of Ontario Act* was proclaimed by the Province, creating the Investment Management Corporation of Ontario ("IMCO"), a new investment management entity providing 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. IMCO has responsibility for OPB's day-to-day investment management functions. OPB retains responsibility for setting its Strategic Asset Allocation ("SAA") of the Plan's investments and for oversight of IMCO.

RETIREMENT COMPENSATION ARRANGEMENT

Effective January 1, 2022, OPB was appointed the trustee of the Retirement Compensation Arrangement Trust Fund ("RCA"), which continues the Public Service Supplementary Benefits Account ("PSSBA"). The purpose of the RCA is to provide additional pension benefits to members and former members whose contributions and benefits under the PSPP are limited by the *Income Tax Act (Canada) R.S.C., 1985* ("ITA") and regulations under that Act. The right to Supplementary Benefits is effective January 1, 1992. The RCA is a separate trust arrangement and is not governed by the *Pension Benefits Act* ("PBA") or the Financial Services Regulatory Authority of Ontario ("FSRA") and is not a registered pension plan under the ITA. The RCA is governed by the *Public Service Pension Act*, the ITA and other applicable legislation.

As trustee, OPB acts as administrator of the RCA, trustee of the RCA assets and oversees the investments of the RCA. IMCO was appointed by OPB as investment manager for the RCA.

Governed by the RCA Plan Text, as set out in *Order in Council 1298/2021*, the RCA Trust Fund Agreement and the federal ITA, the RCA is supported by a trust agreement that is separate from the PSPP Fund. As a result, the RCA is therefore not included in these financial statements of the PSPP. The RCA assets are invested and accounted for separately from the PSPP, and the accrued pension obligation of the RCA is valued separately from the PSPP accrued pension obligations. Expenses for the RCA are paid from the RCA assets.

The Government of Ontario is the sponsor of the RCA and must, along with other employers of members, remit required contributions in respect of the RCA. A PSPP member must contribute to the RCA for that portion of their annual salary that exceeds the annual threshold that corresponds to the ITA benefit limit for that year.

FUNDING POLICY

The PSPP is a contributory defined benefit pension plan covering eligible employees of the Ontario Public Service and other designated employers. It is funded by contributions from members, deducted from their salaries and remitted by their employers, and by matching contributions from employers. The benefits and contribution rates of the PSPP are set, and may be amended, by the Plan Sponsor through an Order-in-Council.

CONTRIBUTIONS

The PSPP is integrated with the Canada Pension Plan ("CPP"). Contribution rates are 7.4% of the salary on which contributions are made up to the Year's Maximum Pensionable Earnings ("YMPE") and 10.5% of the salary above the YMPE. Employers contribute matching amounts.

Ontario Provincial Police ("OPP") officers are required to contribute an additional 2.3% 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 and to fund the change in the final average salary to the best consecutive 36-month period. The contribution rates for OPP officers, inclusive of the additional 2.3% of salary, are 9.7% of the salary on which contributions are made up to the YMPE, and 12.8% of the salary above the YMPE. The contribution rates for OPP civilians ("OPPC") are 8.545% of the salary on which contributions are made up to the YMPE, and 11.645% of the salary above the YMPE. These additional contributions are used to fund a Factor 85 unreduced early retirement benefit, as described in Pensions below.

Contributions from members and employers, which are required contributions, are remitted to OPB. The portion of these contributions that exceeds the ITA limits is remitted to the RCA, separately administered by OPB and funds benefits previously paid from the PSSBA.

PRIOR SERVICE

When a member joins the PSPP, they may be able to transfer credit from a pension plan that has a transfer agreement with the PSPP or buy additional pension credit for an eligible period of prior service. The PSPP allows members to continue, if they choose, to earn pension credit when they go on an authorized leave of absence or qualify for Long Term Income Protection if contributions are continued.

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 annual 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 officers are eligible for a 50/30 unreduced early retirement benefit if they reach at least 50 years of age with at least 30 years of pension credit. OPPC are eligible for a pension payable based on the average annual salary during the best 48-month period. Effective January 1, 2020, OPPC are eligible for a Factor 85 unreduced early retirement benefit if they reach an age-plus-pension credit totaling 85 years or more and retire as an OPP civilian.

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.

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 annual salary.

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 a life income fund, to another registered pension plan, or to purchase a life annuity.

TRANSFERS

OPB participates in transfer agreements with several public and private sector pension plans. Transfer agreements allow eligible members to move their pension credit from one participating plan to another. To be eligible for a transfer, there must be a transfer agreement or provision with the former pension plan, the transfer must be applied for within the time limit and the pension credit must still be in the former plan. OPB participates in the Major Ontario Pension Plans ("MOPPs") Pension Portability Agreement, the National Public Service Pension Transfer Agreement, the Ontario Public Service Employees Union Pension Plan ("OPSEU") transfer provision, and various bilateral Reciprocal Transfer Agreements ("RTAs").

INFLATION PROTECTION

Pension amounts are protected against inflation to help pensioners maintain their purchasing power throughout retirement through a cost-of-living adjustment. 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 financial statements of the PSPP as a separate entity independent of the employers, Plan Sponsor and Plan members.

In accordance with Section 4600, "Pension Plans", of the CPA Canada Handbook – Accounting, Canadian accounting standards for private enterprises in Part II of the CPA Canada Handbook – Accounting 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 the entities that OPB has an ownership interest in, regardless of whether OPB can control or exercise significant influence, are investment assets which are presented on a non-consolidated basis.

Certain amounts have been reclassified in Note 6 and Note 12 to the financial statements to conform to the current year's presentation.

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, the 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 (Note 11) and the fair values of the Plan's Level 3 investments (Note 4b).

INVESTMENTS

Valuation

Investments are stated at their fair values, 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. Cash and cash in trust is recorded at cost, which approximates fair value.

ii. Short-term money market investments such as commercial paper, T-Bills, banker's acceptances and certificate of deposits (excluding corporate bonds) are recorded at cost, with accrued interest or amortized discount or premium, which approximates fair value.

iii. Repurchase agreements and reverse repurchase agreements are recorded at cost, which together with accrued interest or amortized discount or premium, approximates fair value.

iv. Fixed income instruments and bonds are valued at quoted market prices where available. Where there are no quoted prices on an active market, fair value is determined using a variety of pricing methodologies including evaluated bid-ask pricing, evaluated broker pricing, discounted cash flows based on current market yields for comparable securities (e.g., similar credit ratings, duration, etc.), or calculated using discounted cash flows based on market yield curves and credit spreads of the issuer.

v. Private debt is valued using discounted future cash flows based on year-end market yields and credit spreads of the issuer (e.g., similar credit ratings of the borrower or financial incentives associated with the instrument).

   Private debt funds are valued using the most recently available financial information provided by the investment managers and adjusted for any relevant transactions during the interim period up to the reporting date.

vi. Public equities are valued at quoted closing market prices in an active market where available. Where quoted market prices in an active market are not available, other industry pricing conventions that are used by market participants such as ask price are used to estimate the values.

vii. Pooled funds including hedge funds and managed futures accounts are valued using the most recently available financial information including net asset values or estimates provided by the fund managers and general partners and based upon fair value quotations.

viii. Exchange-traded derivatives are valued at quoted closing market prices if actively traded. Over-the-counter derivative instruments for which there is no active market are valued using appropriate valuation models based on industry-recognized methodologies, including discounted cash flows, Black-Scholes pricing models and Monte Carlo simulation models. The inputs used in the valuation models depend on the type of the derivative and the nature of the underlying instrument and are specific to the instrument being valued. Inputs can include, but are not limited to, interest rate yield curves, foreign exchanges rates, dividend yield projections, commodity spot and forward prices, recovery rates, volatilities, spot prices and correlation.

ix. Real estate investments are either wholly or partially owned, directly or indirectly.

Directly owned income-producing real estate properties and related investments are valued based on the appraisals performed by qualified independent appraisers, performed at least annually, with quarterly updates. The appraisals use industry accepted valuation methodologies, including discounted cash flows, capitalization of revenue, and other valuation techniques. Inputs can include, but are not limited to, discount rates and capitalization rates, unless in limited circumstances where an appraisal is not required in order to arrive at the fair value (e.g., assets acquired during the year where cost is determined to approximate fair value, or when an asset is in a sale process with a strong indicative price which the sale will be closed at).

Non-operating real estate investments, such as vacant land and real estate assets under construction, are carried at cost or their latest independently appraised values, plus any additional development costs incurred since the appraisal date until such time as a change in fair value can be supported by external evidence.

Real estate related investment funds are valued based on the most recent net asset values provided by investment managers and adjusted for any relevant transactions during the interim period up to the reporting date of these financial statements.

x. Infrastructure and private equity investments are valued using independent valuations or the most recently available information and adjusted for any transactions during the interim period up to the reporting date based on industry accepted valuation methodologies, including discounted cash flows, market comparables, and other valuation techniques. Inputs can include, but are not limited to, discount rates, and multiples of revenue, EBITDA or earnings, unless in limited circumstances where valuation using a valuation technique is not required in order to arrive at fair value (e.g., assets acquired during the year where cost is determined to approximate fair value, or when an asset is in a sale process with a strong indicative price which the sale will be closed at).

   Infrastructure and private equity related investment funds are valued based on the most recent financial information provided by investment managers and adjusted for any relevant transactions during the interim period up to the reporting date of these financial statements.

Net investment income

Investment transactions are recorded on the 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 and limited partnerships are recognized when declared by the fund managers and general partners. 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 change in the estimated fair values of the properties.

Net investment income 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.

Transaction costs are costs attributable to the acquisition, issue, or disposal of investments and are expensed as incurred. External investment management fees, custodial fees, and IMCO investment management fees are recognized on an accrual basis and expensed as incurred. Transaction costs, external investment management fees and IMCO investment management fees are reported as a component of net investment income.

Foreign currency translation

Foreign currency transactions impacting income and expenses 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. Realized exchange gains and losses from investment transactions are included in realized gains and losses at the time of sale of the investments. Unrealized exchange gains and losses from investment transactions are included in the change in unrealized gains and losses on investments.

PENSION OBLIGATIONS

Pension obligations are determined based on an actuarial valuation prepared by an independent firm of actuaries using an actuarial valuation report prepared for funding purposes. This valuation uses the projected benefit cost method pro-rated based on service and management's best estimate of various economic and non-economic assumptions. The year-end valuation of pension obligations is based on data extrapolated to the current financial statement year-end date.

CASH AND CASH IN TRUST

Cash is held directly by both OPB and IMCO. Cash held by IMCO is held in their bank accounts in trust for OPB.

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.

RETIREMENT PENSION PAYMENTS AND BENEFITS

Retirement pension payments, commuted value transfers, refunds to former members, and transfers to other pension plans are recorded when paid.

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

Note 4: Investments

The Plan's investments consist of the following:

As at December 31 (in thousands of dollars)		2022 Fair Value		2021 Fair Value
Cash held in trust and short-term investments (Note 4d)				
Canada	$	**300,542**	$	680,321
Global		**64,411**		566,682
		364,953		1,247,003
Fixed income				
Canada		**6,673,149**		7,477,155
Global		**3,358,336**		2,256,786
		10,031,485		9,733,941
Public equities				
Canada		**6,476**		10,451
Global		**45,321**		620,258
		51,797		630,709
Pooled funds (Note 4h)		**12,216,058**		10,853,396
Real estate (net of financing, Note 4e)		**5,789,778**		5,036,310
Infrastructure (Note 4h)		**7,674**		2,669,431
Private equity		**4,131,013**		3,520,291
Total investments		**32,592,758**		33,691,081
Investment-related assets				
Pending trades		**12,860**		1,131
Derivatives receivable (Note 5)		**32,383**		117,901
Total investment-related assets		**45,243**		119,032
Investment-related liabilities				
Pending trades		**16,356**		–
Repurchase agreements		**1,575,925**		–
Derivatives payable (Note 5)		**23,340**		17,139
Total investment-related liabilities		**1,615,621**		17,139
Total net investments	$	**31,022,380**	$	33,792,974

a) INVESTMENT ASSET MIX

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

	2022		2021		
	Asset Allocation %		Asset Allocation %		2022
	Total Plan[1]	**Target[1]**	Total Plan	Target	SIP&P Range
Asset categories[1]					
Cash	**0.7%**	**0.0%**	1.9%	0.5%	0.0%–10.0%
Fixed income[2]	**32.8%**	**35.0%**	29.2%	30.0%	30.0%–40.0%
Public equities[3]	**22.9%**	**29.0%**	31.8%	34.0%	24.0%–34.0%
Real estate	**18.8%**	**15.0%**	15.1%	14.5%	10.0%–20.0%
Infrastructure[4]	**12.2%**	**11.5%**	8.4%	8.0%	6.5%–16.5%
Private equity	**13.3%**	**9.5%**	10.4%	9.0%	4.5%–14.5%
Public market alternatives[5]	**4.4%**	**7.0%**	3.2%	4.0%	0.0%–9.0%
Total investments	**105.1%**	**107.0%**	100.0%	100.0%	
Portfolio leverage[6]	**(5.1)%**	**(7.0)%**	–		
Net investments	**100.0%**	**100.0%**	100.0%		

1 The asset categories and asset allocations reflect the employment of portfolio leverage and allocations of derivative positions, pooled funds, investment-related receivables and investment-related liabilities.

2 Fixed income includes government nominal and inflation-linked bonds, publicly traded corporate bonds, and privately held debt.

3 Public equities include Canadian equity, global equity, emerging markets equity, and public equity pooled funds.

4 Infrastructure includes directly held infrastructure investments and infrastructure pooled funds.

5 Public market alternatives include a broad range of assets, including pooled funds, equities, fixed income, credit, and currencies, as well as derivatives, seeking to offer low correlation to public equities.

6 Portfolio leverage is the amount of borrowed funds and synthetic financing used to increase the amount of physical and synthetic invested assets, through derivatives, borrowed cash, repurchase agreements, or reverse repurchase agreements.

OPB's Statement of Investment Policies and Procedures ("SIP&P") was amended and approved on December 1, 2022. The SIP&P was updated for changes in the SAA. The SAA does not allocate any assets to pooled funds as an asset class, although pooled funds are used to achieve allocations to the investment categories indicated above. At December 31, 2022, the allocation of public equities was outside the ranges as specified in the SIP&P as at the 2022 financial statement year-end date, although this is permitted in certain circumstances. The deviation from the target ranges was mainly driven by challenging investment conditions for investing in public markets. At December 31, 2021, the asset mix of the Plan's investments was within the target ranges as specified in the SIP&P as at the financial statement year end date.

b) FAIR VALUE HIERARCHY

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 year-end 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 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 real estate properties, infrastructure, private equity, and securities that have liquidity restrictions.

The following tables present the level within the fair value hierarchy for investments and derivatives, excluding pending trades, for which a fair value hierarchy is not required.

As at December 31, 2022 (in thousands of dollars)	Level 1	Level 2	Level 3	Total Fair Value
Financial assets				
Cash in trust and short-term investments				
Canada	$ 40,864	$ 259,678	$ –	$ 300,542
Global	64,411	–	–	64,411
Fixed income				
Canada	408,016	6,029,598	235,535	6,673,149
Global	–	1,651,820	1,706,516	3,358,336
Public equities				
Canada	253	–	6,223	6,476
Global	45,321	–	–	45,321
Pooled funds	–	8,453,007	3,763,051	12,216,058
Real estate	–	–	5,789,778	5,789,778
Infrastructure	–	–	7,674	7,674
Private equity	197,285	–	3,933,728	4,131,013
Forwards	–	32,264	–	32,264
Futures	119	–	–	119
	$ 756,269	$ 16,426,367	$ 15,442,505	$ 32,625,141
Financial liabilities				
Repurchase agreements	$ –	$ 1,575,925	$ –	$ 1,575,925
Forwards	–	21,344	–	21,344
Futures	1,996	–	–	1,996
	$ 1,996	$ 1,597,269	$ –	$ 1,599,265

As at December 31, 2021 (in thousands of dollars)	Level 1	Level 2	Level 3	Total Fair Value
Financial assets				
Cash in trust and short-term investments				
Canada	$ 21,813	$ 658,508	$ –	$ 680,321
Global	566,682	–	–	566,682
Fixed income				
Canada	673,716	6,517,776	285,663	7,477,155
Global	–	1,377,189	879,597	2,256,786
Public equities				
Canada	4,489	–	5,962	10,451
Global	620,258	–	–	620,258
Pooled funds	–	10,853,396	–	10,853,396
Real estate	–	–	5,036,310	5,036,310
Infrastructure	–	–	2,669,431	2,669,431
Private equity	289,298	–	3,230,993	3,520,291
Forwards	–	97,824	–	97,824
Futures	8,134	–	–	8,134
Credit default swaps	–	11,943	–	11,943
	$ 2,184,390	$ 19,516,636	$ 12,107,956	$ 33,808,982
Financial liabilities				
Forwards	$ –	$ 1,860	$ –	$ 1,860
Credit default swaps	–	12,558	–	12,558
Futures	2,721	–	–	2,721
	$ 2,721	$ 14,418	$ –	$ 17,139

Transfers between levels of the fair value hierarchy are deemed to have occurred at the beginning of the reporting period. During the year ended December 31, 2022, there were no transfers between Level 1 and Level 2. During the year ended December 31, 2021, $596 million of private equity was transferred from Level 2 to Level 1. Transfers in and out of Level 3 are shown in the Level 3 investment reconciliation on the next page.

c) LEVEL 3 INVESTMENT RECONCILIATION

The following tables present a reconciliation of Level 3 assets and liabilities measured at fair value.

(in thousands of dollars)	Fair Value as at January 1, 2022	Net Transfers In/(Out)[1,2]	Acquisitions	Dispositions	Retirement of Debt	Fair Value Changes	Fair Value as at December 31, 2022
Financial assets							
Fixed income							
Canada	$ 285,663	$ -	$ 47	$ (16,689)	$ -	$ (33,486)	$ 235,535
Global	879,597	-	827,781	(99,986)	-	99,124	1,706,516
Public equities	5,962	-	-	-	-	261	6,223
Pooled funds	-	-	3,763,051	-	-	-	3,763,051
Real estate	5,036,310	-	778,407	(375,977)	500,000	(148,962)	5,789,778
Infrastructure	2,669,431	-	972,421	(3,074,965)	-	(559,213)	7,674
Private equity	3,230,993	-	851,607	(274,099)	-	125,227	3,933,728
	$12,107,956	$ -	$ 7,193,314	$(3,841,716)	$ 500,000	$ (517,049)	$15,442,505

1 Transfers between levels of the fair value hierarchy are deemed to have occurred at the beginning of the reporting period.

2 Gross transfers out of Level 3 amounted to $nil and gross transfers in amounted to $nil.

(in thousands of dollars)	Fair Value as at January 1, 2021	Net Transfers In/(Out)[3,4]	Acquisitions	Dispositions	Fair Value Changes	Fair Value as at December 31, 2021
Financial assets						
Fixed income						
Canada	$ 233,101	$ –	$ 106,763	$ (45,477)	$ (8,724)	$ 285,663
Global	514,868	–	460,072	(143,347)	48,004	879,597
Public equities	6,535	–	–	–	(573)	5,962
Real estate	4,094,759	–	953,939	(292,290)	279,902	5,036,310
Infrastructure	2,551,855	–	299,772	(244,404)	62,208	2,669,431
Private equity	1,950,373	–	899,939	(274,304)	654,985	3,230,993
	$ 9,351,491	$ –	$ 2,720,485	$ (999,822)	$ 1,035,802	$ 12,107,956

3 Transfers between levels of the fair value hierarchy are deemed to have occurred at the beginning of the reporting period.

4 Gross transfers out of Level 3 amounted to $nil and gross transfers in amounted to $nil.

d) CASH IN TRUST AND SHORT-TERM INVESTMENTS

The following table provides a breakdown of the cash in trust and short-term investments.

As at December 31 (in thousands of dollars)		2022		2021
Canada				
Cash in trust	$	**40,863**	$	21,813
Short-term notes and treasury funds		**259,263**		658,492
Accrued interest		**416**		16
	$	**300,542**	$	680,321
Global				
Cash in trust	$	**64,411**	$	566,683
Accrued interest		**-**		(1)
	$	**64,411**	$	566,682

e) 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)		2022		2021
Assets				
Wholly owned real estate[1]	$	**1,404,500**	$	1,360,750
Partially owned investments[2]		**5,908,583**		5,964,332
Participating mortgages[3]		**152,313**		149,305
Total assets		**7,465,396**		7,474,387
Liabilities				
Debentures[4]		**1,663,521**		2,431,688
Other liabilities, net[5]		**12,097**		6,389
Total liabilities		**1,675,618**		2,438,077
Net investment in real estate	$	**5,789,778**	$	5,036,310

1 Real estate investments that are 100% directly owned.

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

3 Participating mortgages are held directly by OPB.

4 The debentures represent securities issued by OPB Finance Trust and are guaranteed by OPB. See Note 9.

5 Working capital held in wholly owned real estate investments.

f) OFFSETTING FINANCIAL ASSETS AND LIABILITIES

The following table presents the financial instruments subject to enforceable master netting arrangements and other similar agreements but not offset. The Plan presents these financial instruments as a gross amount in the investment breakdown presented in Note 4. The column "net amount" shows the impact on the Plan's statement of financial position if all set-off rights were exercised.

				2022
		Related Amounts Not Offset		
As at December 31 (in thousands of dollars)	**Gross Amounts Presented in the Statement of Financial Position**	**Amounts Subject to Master Netting Arrangements**	**Financial Collateral (Received)/ Pledged[1]**	**Net Amount**
Financial assets				
Derivatives	**$ 32,383**	**$ (5,460)**	**$ –**	**$ 26,923**
Securities lending[2]	**269,822**	**–**	**(269,822)**	**–**
Total financial assets	**$ 302,205**	**$ (5,460)**	**$ (269,822)**	**$ 26,923**
Financial liabilities				
Repurchase agreements	**(1,575,925)**	**–**	**1,571,500**	**(4,425)**
Derivatives	**(23,340)**	**5,460**	**5,212**	**(12,668)**
Total financial liabilities	**$ (1,599,265)**	**$ 5,460**	**$ 1,576,712**	**$ (17,093)**

1 Refer to Note 8 for information relating to collateral received and pledged.

2 Included within fixed income and public equity investment assets in Note 4.

				2021
		Related Amounts Not Offset		
As at December 31 (in thousands of dollars)	Gross Amounts Presented in the Statement of Financial Position	Amounts Subject to Master Netting Arrangements	Financial Collateral (Received)/ Pledged[3]	Net Amount
Financial assets				
Derivatives	$ 117,901	$ (32)	$ –	$ 117,869
Securities lending[4]	742,789	–	(742,789)	–
Total financial assets	$ 860,690	$ (32)	$ (742,789)	$ 117,869
Financial liabilities				
Derivatives	(17,139)	32	9,740	(7,367)
Total financial liabilities	$ (17,139)	$ 32	$ 9,740	$ (7,367)

3 Refer to Note 8 for information relating to collateral received and pledged.

4 Included within fixed income and public equity investment assets in Note 4.

g) SIGNIFICANT INVESTMENTS

The following table summarizes where the fair value of an individual investment, excluding derivatives, exceeds 1% of the fair value of the Plan. As at December 31, 2022, 1% of the Plan was approximately $310 million and as at December 31, 2021 it was $338 million.

As at December 31 (in thousands of dollars)	**2022** **Fair Value**	2021 Fair Value
Fixed income		
2187427 Ontario Inc.[1]	**$ 405,188**	$ 675,138
2742627 Ontario Inc.[1]	**941,499**	365,092
Government of Canada Bond	**-**	383,342
Government of Ontario Bond	**-**	388,488
Pooled funds[2]	**12,216,058**	10,853,396
Real estate, gross of financing[3]	**3,877,464**	3,699,022
Private equity[1]		
OPB Private Equity 3 Limited	**469,735**	604,264
OPB Private Equity 5 Limited	**676,711**	649,856
OPB Private Equity 6 Limited	**433,415**	462,746
OPB Private Equity 8 Limited	**353,415**	-
OPB Private Equity 9 Limited	**331,770**	-
OPB Private Equity (KBI IX) Limited	**499,498**	342,730
Infrastructure[1]		
OPB Infrastructure 2 Limited	**-**	756,032
OPB Infrastructure 4 Limited	**-**	615,701

1 100% OPB owned holding companies.

2 Refer to Note 4h for additional information.

3 Includes the following holding companies in 2022, which are 100% owned: OPB Realty Inc., OPB (TDC) Inc., OPB (Van Centre) Inc., OPB (155 Wellington) Inc., OPB Real Estate Investments and OPB Real Estate Investments (US) 2 Ltd. The last valuation of each real estate investment was as at December 31, 2022. Includes the following holding companies in 2021, which are 100% owned: OPB Realty Inc., OPB (TDC) Inc., OPB (Van Centre) Inc., OPB (155 Wellington) Inc., and OPB Real Estate Investments (US) 2 Ltd.

h) POOLED FUNDS

A pooled fund unit gives its holder a proportionate share in the value of the net assets of the pooled fund. Each pooled fund has a specific mandate; however, the fund may hold cash, short-term investments, accrued interest income and pending trades of investments.

In February 2021, IMCO launched the IMCO Global Public Equity LP. There was a sale of assets, at fair value, by OPB into the pooled fund. The fair value of assets transferred into the pooled fund amounted to $5,303 million and 53,295,413 units were issued to OPB in return.

In March 2021, IMCO launched the IMCO Emerging Markets Public Equity LP. There was a sale of assets, at fair value, by OPB into the pooled fund. The fair value of assets transferred into the pooled fund amounted to $2,549 million and 26,844,389 units were issued to OPB in return.

In November 2021, IMCO launched the IMCO Public Market Alternatives LP. There was a sale of assets, at fair value, by OPB into the pooled fund. The fair value of assets transferred into the pooled fund amounted to $810 million and 8,096,150 units were issued to OPB in return.

On December 30, 2022, IMCO launched the IMCO Infrastructure LP. On the execution of the pooled fund, there was an in-kind transfer of assets at fair value of cash and indirect and direct infrastructure investments held by OPB into the pooled fund. A fair value of $3,763 million was transferred into the pool and 37,630,505 units were issued to OPB in return.

Fund	Investment Objective
Canadian Public Equity LP	To provide long-term growth through capital appreciation and dividend income by investing directly or indirectly in entities that are publicly traded in Canada and mostly based in Canada.
Global Public Equity LP	To provide long-term growth through capital appreciation and dividend income by investing directly or indirectly in entities that are publicly traded in developed market economies.
Emerging Markets Public Equity LP	To provide long-term growth through capital appreciation and dividend income by investing directly or indirectly in entities that are publicly traded in developing market economies.
Public Market Alternatives LP	To enhance risk-adjusted expected returns by providing exposure to alternative risk premiums and active investment mandates that offer low correlation with public equities.
Infrastructure LP	To generate long-term inflation linked total returns comprised of a combination of stable income yield and some capital appreciation over time by investing in a diversified portfolio of global infrastructure assets.

(in thousands of dollars)	**December 31, 2022** Ownership	**December 31, 2022** Market Value	December 31, 2021 Ownership	December 31, 2021 Market Value
Fund				
IMCO Canadian Public Equity LP	**63.89%**	**$ 970,542**	72.13%	$ 1,877,031
IMCO Global Public Equity LP	**27.99%**	**3,754,377**	28.99%	5,326,848
IMCO Emerging Markets Public Equity LP	**65.19%**	**2,330,043**	60.19%	2,565,768
IMCO Public Market Alternatives LP	**30.45%**	**1,398,045**	27.71%	1,083,749
IMCO Infrastructure LP	**44.66%**	**3,763,051**	–	–
Total pooled funds		**$ 12,216,058**		$ 10,853,396

i) SENSITIVITY TO CHANGES IN ASSUMPTIONS

The following table presents the Plan's assets recognized at fair value and classified as Level 3, together with the significant inputs used in the valuation technique that are considered unobservable, and a range of values for those unobservable inputs. The range of values represents the highest and lowest inputs used in calculating the fair value. The change in significant inputs and increase or decrease to fair value illustrates the impact to fair value when the significant inputs are changed to reasonable alternative assumptions.

As at December 31, 2022 (in thousands of dollars)	**Significant Unobservable Inputs**	**Range of Inputs**	**Change in Significant Inputs**	**(Decrease) Increase to Fair Value**
Private debt	Discount rate	6.2%–18.3%	+/- 0.25%	$ (1,477) / 1,516
Private equity	EBITDA multiple[1]	6.3x–25.9x		
	Revenue multiple	4.2x	+/- 0.5x	(57,278) / 57,243
	P/E multiple[2]	8.6x		
Real estate	Discount rate	5.5%–10.0%	+/- 0.25%	(79,248) / 80,827

1 EBITDA is defined as earnings before interest, taxes, depreciation, and amortization.

2 P/E is defined as price-to-earnings.

As at December 31, 2021 (in thousands of dollars)	Significant Unobservable Inputs	Range of Inputs	Change in Significant Inputs		(Decrease) Increase to Fair Value
Private debt	Discount rate	4.0%–12.1%	+/-	0.25%	$ (2,111) / 2,167
Private equity	EBITDA multiple[1]	10.9x–23.7x			
	Revenue multiple	6.1x	+/-	0.5x	(39,445) / 39,514
	P/E multiple[2]	9.4x			
Infrastructure	Discount rate	7.2%–13.5%x	+/-	0.25%	(47,504) / 48,743
	EBITDA multiple[1]	25.2x	+/-	0.5x	(7,129) / 7,130
Real estate	Discount rate	5.1%–8.8%	+/-	0.25%	(101,740) / 104,401

1 EBITDA is defined as earnings before interest, taxes, depreciation, and amortization.

2 P/E is defined as price-to-earnings.

The above sensitivity excludes investment funds which utilize net asset values reported by the general partners or external fund managers, unless there is a specific and objectively verifiable reason to vary from the value provided. The range for net asset values per unit or price per share has not been disclosed for these investments since the valuations are not model-based. In addition, it excludes investments where cost, direct comparisons or proceeds from sale is used as an approximation for fair value.

Note 5: Derivative contracts

Derivatives are financial or commodity contracts, whose market price, value, delivery obligations, payment obligations or settlement obligations are derived from, referenced to or based on, an underlying interest that may include stocks, bonds, commodities, currencies, interest rates and market indices. Derivative strategies can be implemented using a wide range of instruments including, but not limited to, forwards, futures, swaps and options.

Derivatives may be used for various purposes including to:

- Hedge (fully or partly) any investment risk, including market, interest rate, credit, liquidity or currency risk;
- Alter the risk and return profile of investments, replicate investments in the underlying assets or groups of assets (e.g., indices) so as to achieve some advantage of lower cost, transactional ease, or market exposure;
- Improve the efficiency of achieving investment objectives;
- Create unique risk and return payoffs; or
- Implement systematic and/or active (i.e., transient) leverage.

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 purchasing or selling the underlying assets.

FORWARD CONTRACTS

Currency 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. Currency forward contracts are used by OPB to modify currency exposure for both passive and active hedging.

SWAPS

In an interest rate swap, the parties exchange cash flows based on a notional principal amount (this amount is not actually exchanged) in order to hedge against interest rate risk.

In a total return swap, the total return from an asset is exchanged for another defined asset or portfolio of assets. This gives the party exposure to the underlying asset without having to expend the capital to hold it.

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, to either buy (call option) or sell (put option) an underlying asset at a predetermined price on or before a specified future date. Conversely, the seller has the obligation to sell (call option) or buy (put option) an underlying asset at a predetermined price if the option is exercised by the buyer on or before a specified future date.

a) DERIVATIVE NOTIONAL AND FAIR VALUES

The following schedule summarizes the notional amounts and fair values of the Plan's directly held derivative positions.

As at December 31 (in thousands of dollars)	2022 Notional Value	2022 Fair Value Assets	2022 Fair Value Liabilities	2021 Notional Value	2021 Fair Value Assets	2021 Fair Value Liabilities
Equity						
Futures	**$ 38,661**	**$ 119**	**$ (223)**	$ 1,073,857	$ 7,543	$ (1,616)
Currency						
Forwards	**13,617,684**	**32,264**	**(21,344)**	6,536,649	97,824	(1,860)
Fixed income						
Futures	**56,986**	**-**	**(1,773)**	122,393	591	(1,105)
Credit						
Credit default swaps	**-**	**-**	**-**	638,270	11,943	(12,558)
Total	**$ 13,713,331**	**$ 32,383**	**$ (23,340)**	$ 8,371,169	$ 117,901	$ (17,139)

b) DERIVATIVE NOTIONAL VALUES BY TERM TO MATURITY

The maturities of the Plan's notional values for the Plan's derivative positions are as follows:

As at December 31 (in thousands of dollars)	2022 < 1 year	2022 ≥ 1-3 years	2022 > 3-5 years	2022 Total	2021 < 1 year	2021 ≥ 1-3 years	2021 > 3-5 years	2021 Total
Currency forwards	**$13,617,684**	**$ -**	**$ -**	**$13,617,684**	$ 6,536,649	$ –	$ –	$ 6,536,649
Equity futures	**38,661**	**-**	**-**	**38,661**	1,073,857	–	–	1,073,857
Fixed income futures	**56,986**	**-**	**-**	**56,986**	122,393	–	–	122,393
Credit default swaps	**-**	**-**	**-**	**-**	–	–	638,270	638,270
Total	**$13,713,331**	**$ -**	**$ -**	**$13,713,331**	$ 7,732,899	$ –	$ 638,270	$ 8,371,169

Note 6: Net investment income

The Plan's net investment income is as follows:

For the year ended December 31 (in thousands of dollars)	**2022** Income[1,2]	**Fair Value Changes[3]**	**Net Investment Income**	2021 Income[1,2]	Fair Value Changes[3]	Net Investment Income
Cash in trust and short-term investments						
Canada (Note 6a)	**$ 8,544**	**$ (915)**	**$ 7,629**	$ 2,015	$ 548	$ 2,563
Global[4] (Note 6a)	**27**	**(310,143)**	**(310,116)**	95	108,196	108,291
	8,571	**(311,058)**	**(302,487)**	2,110	108,744	110,854
Fixed income						
Canada	**210,390**	**(1,643,088)**	**(1,432,698)**	200,898	(474,019)	(273,121)
Global	**58,006**	**(15,656)**	**42,350**	52,852	90,785	143,637
	268,396	**(1,658,744)**	**(1,390,348)**	253,750	(383,234)	(129,484)
Public equities						
Canada	**484**	**7,674**	**8,158**	298	20,357	20,655
Global	**1,678**	**(225,581)**	**(223,903)**	62,463	219,005	281,468
	2,162	**(217,907)**	**(215,745)**	62,761	239,362	302,123
Pooled funds (Note 6c)	**–**	**(1,136,766)**	**(1,136,766)**	–	1,410,479	1,410,479
Real estate	**286,778**	**(185,008)**	**101,770**	246,378	273,718	520,096
Infrastructure	**831,719**	**(566,201)**	**265,518**	164,691	62,925	227,616
Private equity	**294,136**	**8,878**	**303,014**	298,279	270,295	568,574
Reverse repurchase agreements	**4**	**109**	**113**	–	–	–
Repurchase agreements	**(21,260)**	**(40,526)**	**(61,786)**	–	–	–
Total investment income (loss)	**$1,670,506**	**$(4,107,223)**	**$(2,436,717)**	$1,027,969	$1,982,289	$3,010,258
Investment management and related fees (Note 6b)			**(123,447)**			(139,355)
Net investment income (loss)			**$(2,560,164)**			$2,870,903

1 Income includes interest on cash and short-term investments, fixed income and participating mortgages, dividend income on equities, and distributions from pooled funds and limited partnerships.

2 Net of management fees incurred on investments in real estate, infrastructure, private equity, and private debt that are deducted from the managed assets.

3 Includes realized losses of $505 million and unrealized losses of $3,602 million in 2022 and realized gains of $2,498 million and unrealized losses of $516 million in 2021.

4 Fair value changes on cash and short-term investments include gains (losses) on currency forward contracts.

a) CASH IN TRUST AND SHORT-TERM INVESTMENTS

Earnings from pooled short-term investment funds are included within short-term notes and treasury funds. Interest income from cash in trust and short-term investments is as follows:

For the year ended December 31 (in thousands of dollars)		**2022**		2021
Canada				
Cash in trust	**$**	**2,286**	$	1,156
Short-term notes and treasury funds		**6,258**		859
	$	**8,544**	$	2,015
Global				
Short-term notes and treasury funds		**27**		95
	$	**27**	$	95

b) INVESTMENT MANAGEMENT AND RELATED FEES

The following table provides a breakdown of the investment management and related investment fees.

For the year ended December 31 (in thousands of dollars)		**2022**		2021
IMCO management fees[1]	**$**	**114,676**	$	97,717
External investment management fees[2]		**4,866**		30,160
Transaction costs[3]		**1,942**		8,832
Custodial fees[2]		**1,963**		2,589
Private market expenses[2]		**–**		57
	$	**123,447**	$	139,355

1 IMCO management fees represent OPB's share of the operating expenses incurred by IMCO, which are charged back to its clients on a cost recovery basis.

2 The external investment management fees invoiced by third parties, custodial fees and private market expenses were paid by IMCO on behalf of OPB and reimbursed by OPB (Note 17).

3 Transaction costs consist primarily of commissions and fees on public equity trades.

c) POOLED FUNDS NET INVESTMENT INCOME (LOSS)

The following schedule summarizes the net investment income (loss) of the Plan's pooled funds:

For the year ended December 31 (in thousands of dollars)	2022	2021
IMCO Canadian Public Equity LP	**$ (59,488)**	$ 583,019
IMCO Global Public Equity LP	**(695,971)**	858,915
IMCO Emerging Markets Public Equity LP	**(404,203)**	(28,054)
IMCO Public Market Alternatives LP	**22,896**	4,132
IMCO Infrastructure LP[1]	**–**	–
Total IMCO pooled funds	**(1,136,766)**	1,418,012
Other pooled funds	**–**	(7,533)
Total pooled funds net investment income (loss)	**$ (1,136,766)**	$ 1,410,479

1 IMCO Infrastructure LP commenced operations December 30, 2022.

Note 7: Risk management

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, currency risk and other price risk), credit and counterparty risk, liquidity risk, and others as applicable. As Plan administrator, OPB is responsible for the management of the Plan and the policies that govern the Plan. OPB manages these risks in accordance with the SIP&P, which prescribes the SAA, performance measurement, permitted investments, shareholder rights and environmental, social and governance issues, conflicts of interest and related party transactions, and valuation of infrequently traded assets. OPB has delegated the investment of substantially all of the Plan assets to IMCO, which may further sub-delegate to other investment managers and service providers. IMCO must act in accordance with any written directions of OPB, certain specified policies of OPB, as well as all applicable IMCO policies. In investing the assets of the Plan, IMCO must comply with the SIP&P, IMCO's internal policies and all relevant laws and regulations.

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:

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.

Management
The Plan has established an asset mix policy that balances interest-rate-sensitive investments with other investments. OPB's fixed income investments, real estate debentures, interest rate derivatives, repurchase agreements and reverse repurchase agreements have exposure to interest rate risk. Duration and weighting for the fixed income portfolio are actively managed.

Measurement
Effective duration is a measure of the sensitivity of the price of a financial instrument to a change in interest rates. Given the effective duration of 14 years at December 31, 2022 (2021 – 14 years) and a total net fair value of $7,118 million (2021 – $8,048 million), a parallel shift in the interest rate curve of +/-1% would result in an approximate impact of +/-$958 million (2021 – +/-$1,066 million) on net investments with all other variables held constant. This calculation includes fixed income investments, real estate debentures, interest rate derivatives, repurchase agreements and reverse repurchase agreements. In practice, actual results may differ materially from this sensitivity analysis.

Currency risk
Currency exposure arises from the Plan holding foreign currency denominated investments and entering 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.

Management
Currency risk is managed by IMCO through currency hedging. Implementation of any currency hedging strategy is accomplished through the use of instruments such as forwards, futures, options, and swaps.

Measurement

The impact to the Plan of a 5% absolute change in foreign exchange rates relative to the Canadian dollar are as follows:

As at December 31, 2022 (in thousands of dollars)	**Gross Exposure**	**Currency Contracts Receivable**	**Currency Contracts Payable**	**Net Exposure**	**Impact of +/- 5% Change**
U.S. dollar	**$ 2,894,974**	**$ 1,893,425**	**$ (7,639,183)**	**$ (2,850,784)**	**+/- $142,539**
Euro currency unit	**818**	**672,682**	**(1,436,866)**	**(763,366)**	**+/- 38,168**
Australian dollar	**6,103**	**418,981**	**(821,343)**	**(396,259)**	**+/- 19,813**
Pound sterling	**921**	**247,811**	**(463,605)**	**(214,873)**	**+/- 10,744**
Chinese renminbi	**49,853**	**–**	**(578)**	**49,275**	**+/- 2,464**
Other	**3,062**	**–**	**–**	**3,062**	**+/- 153**
Total foreign	**2,955,731**	**3,232,899**	**(10,361,575)**	**(4,172,945)**	**+/- $208,647**
Canadian dollar	**28,055,729**	**10,378,640**	**(3,239,044)**	**35,195,325**	
	$ 31,011,460	**$ 13,611,539**	**$(13,600,619)**	**$ 31,022,380**	

As at December 31, 2021 (in thousands of dollars)	Gross Exposure	Currency Contracts Receivable	Currency Contracts Payable	Net Exposure	Impact of +/- 5% Change
U.S. dollar	$ 3,434,072	$ 77,541	$ (4,706,495)	$ (1,194,882)	+/- $ 59,744
Euro currency unit	28,251	1,324	(917,274)	(887,699)	+/- 44,385
Chinese renminbi	632,853	–	(583)	632,270	+/- 31,614
Pound sterling	137,616	115,676	(565,595)	(312,303)	+/- 15,615
Australian dollar	594	–	(41,749)	(41,155)	+/- 2,058
New Zealand dollar	–	–	(13,083)	(13,083)	+/- 654
Hong Kong dollar	11,787	–	–	11,787	+/- 589
Other	7,759	25,988	(26,641)	7,106	+/- 355
Total foreign	4,252,932	220,529	(6,271,420)	(1,797,959)	+/- $ 89,898
Canadian dollar	29,444,078	6,315,096	(168,241)	35,590,933	
	$ 33,697,010	$ 6,535,625	$ (6,439,661)	$ 33,792,974	

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.

Management

IMCO manages other price risk through diversification and regular monitoring of the performance of the Plan against approved benchmarks.

Measurement

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 public equities or pooled funds holding public 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:

(in thousands of dollars) — Change in Net Assets as at

	Stock Market Benchmark	Change in Price Index	**December 31, 2022**	December 31, 2021
Canadian	S&P/TSX Composite Index	+/- 10%	**+/- $ 97,499**	+/- $ 193,826
Global	MSCI World Index (C$)	+/- 10%	**+/- 376,488**	+/- 526,925
Emerging	MSCI Emerging Markets Index (C$)	+/- 10%	**+/- 234,947**	+/- 356,271
			+/- $ 708,934	+/- $ 1,077,022

The sensitivity analysis is performed using the total Plan actual investment asset mix weights summarized in Note 4a as at December 31, 2022 and 2021.

CREDIT AND COUNTERPARTY RISK

Credit risk is the risk of loss resulting from a borrower's failure to repay or meet contractual obligations. The Plan is exposed to credit risk through investments in fixed income instruments as there is a risk of default. Counterparty risk is the risk of loss arising from a counterparty defaulting on its obligations, the insolvency of a counterparty, or the risk of a market decline resulting from the deterioration in the credit quality of a counterparty. The Plan is exposed to counterparty risk through investments in derivatives, reverse repurchase agreements, and securities lending transactions.

Management
IMCO manages credit risk by creating a diversified portfolio of investments and employing a multi-sector strategy. In creating a diversified portfolio, IMCO will invest according to a risk strategy outlining specified target allocation ranges by risk strategy (i.e., investment grade), geographical focus and investment vehicle.

In mitigating counterparty risk, IMCO will initiate counterparty transactions with parties on its approved counterparty list, which meet a minimum credit rating requirement. IMCO is responsible for monitoring the credit ratings of counterparties and reviewing those who suffer a downgrade.

Derivatives
Counterparty risk from derivatives is managed through due diligence on potential counterparties, use of appropriate legal documentation such as International Swaps and Derivatives Association ("ISDA") master agreements, by imposing counterparty risk exposure limits, or by the use of a Credit Support Annex ("CSA") under an ISDA master agreement. IMCO maintains and reviews a list of approved counterparties which, at a minimum, have a long-term credit rating of A or higher as rated by S&P (or equivalent Moody's or Fitch long-term rating) and a short-term rating of A1 or higher as rated by S&P (equivalent Moody's or Fitch short-term rating). IMCO also reviews counterparties who suffer a credit rating downgrade, even if they continue to meet the minimum credit ratings noted and maintains and reviews counterparty exposure limits, considering current exposure, with limits commensurate with the credit rating of the counterparty. Liquidity and collateral management processes are also in place by IMCO. See Note 8 for details of collateral held or pledged pertaining to derivatives.

Reverse repurchase agreements
In a reverse repurchase agreement, OPB is the buyer/lender and gives a third-party (the seller/borrower) cash in exchange for collateral and a promise to repurchase the assets in the future. Credit risk exists in a reverse repurchase agreement even if the collateral is of very high quality. There is a risk that the seller/borrower will not have sufficient funds to repay the loan (repurchase the securities) at the end of the term. To mitigate this risk, IMCO diversifies across no less than three counterparties, and has legal agreements that set out the remedies in the event of default and requires additional margin collateral to be exchanged if the value of the collateral increases or declines resulting in the loan being over or under collateralized.

Securities lending
On behalf of the Plan, IMCO may lend investments in accordance with its securities lending program. The IMCO securities lending program is managed pursuant to written agreements with securities lending agents. The securities lending agents shall have a minimum long-term credit rating of A, or equivalent, as rated by a recognized credit rating service. The lending agents monitor counterparty credit risk and collateral, negotiate individual callable loans, and charge competitive fees. The lending agent will also provide indemnification from losses due to factors such as a borrower default, failure of security recall, or operational and settlement risks. There is a maximum percentage of assets that may be on loan at any given time. All loans are secured by readily marketable securities having a market value greater than the outstanding market value of the loaned investments. The value of collateral held shall not be less than 102% of the market value of loaned securities and must be in the form of readily marketable securities. Securities on loan must be able to be recalled in sufficient time to permit timely delivery on trade settlement if the loaned securities are sold or timely delivery if the loaned security must be pledged as collateral. See Note 8 for collateral received pertaining to the securities lending program.

Measurement
Counterparty and credit risk exposure is measured by the fair value of contractual obligations less any collateral or margin received from the counterparties. The use of credit ratings allows the Plan to assess the creditworthiness of counterparties using an independent source. As at December 31, 2022, the Plan's greatest credit exposure to a single securities issuer is with the Government of Canada in the form of interest-bearing securities for $2.4 billion (2021 – with the Government of Canada for $2.8 billion).

The credit risk exposure, without considering any collateral held, is as follows:

As at December 31 (in thousands of dollars)	**2022 Total Risk Exposure**	2021 Total Risk Exposure
Credit risk		
Fixed income		
AAA	**$ 3,961,518**	$ 3,847,984
AA	**2,780,066**	3,116,288
A	**108,195**	173,136
BBB	**232,006**	376,750
BB	**86,765**	141,708
B	**44,998**	46,240
CCC	**13,353**	24,257
Not rated	**2,804,584**	2,007,578
Total fixed income	**$ 10,031,485**	$ 9,733,941
Short-term investments		
AAA	**200,940**	617,513
A	**58,739**	40,995
Total short-term investments	**$ 259,679**	$ 658,508
Counterparty risk		
Derivative assets		
AA	**16,836**	51,302
A	**15,547**	66,599
Total derivative assets	**$ 32,383**	$ 117,901
Securities lending		
AA	**221,704**	280,283
A	**21,689**	436,979
Not rated	**26,429**	25,527
Total securities lending	**$ 269,822**	$ 742,789

Note 4f illustrates the maximum net exposure to counterparty risk in derivatives, repurchase agreements, reverse repurchase agreements and securities lending by summarizing the amount of collateral held or pledged as security and their financial effect to mitigate credit risk exposure.

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.

Management

OPB manages liquidity risk by maintaining a physical cash reserve and performing regular cash flow projections to ensure the Plan can meet obligations. Most cash requirements are typically met through member, employer, and Plan Sponsor contributions. Additional cash requirements can be met through investment liquidity.

IMCO manages liquidity risk by determining how much liquid assets should be maintained, the portion of liquid assets to be held as cash, day-to-day management of cash inflows and outflows, monitoring and reporting of measures including a liquidity coverage ratio and acknowledging and responding to crisis environment conditions. An IMCO liquidity committee is also responsible for overseeing a crisis environment plan and approving any breach remediation plans. A crisis environment condition is triggered by a drop in the S&P500 of 10% (USD) over the prior week in conjunction with a drop of 15% over the prior month or as declared by the liquidity committee during periods of significant market stress.

Measurement

The remaining contractual maturities of the Plan's investment related liabilities are as follows:

					2022
(in thousands of dollars)	**< 1 year**	**≥ 1–5 years**	**> 5–10 years**	**> 10 years**	**Total**
Debentures[1]	**$ 250,000**	**$ 1,000,000**	**$ –**	**$ 500,000**	**$ 1,750,000**
Derivatives payable	**23,340**	**–**	**–**	**–**	**23,340**
Repurchase agreements	**1,575,925**	**–**	**–**	**–**	**1,575,925**
Total	**$ 1,849,265**	**$ 1,000,000**	**$ –**	**$ 500,000**	**$ 3,349,265**

1 Refer to Note 9 for additional information.

					2021
(in thousands of dollars)	< 1 year	≥ 1–5 years	> 5–10 years	> 10 years	Total
Debentures[2]	$ 500,000	$ 500,000	$ 750,000	$ 500,000	$ 2,250,000
Derivatives payable	4,581	12,558	–	–	17,139
Total	$ 504,581	$ 512,558	$ 750,000	$ 500,000	$ 2,267,139

2 Refer to Note 9 for additional information.

INTEREST RATE BENCHMARK REFORM

The London Inter-Bank Offered Rates ("LIBOR") have traditionally been used as benchmarks for floating interest rates. Beginning January 1, 2022 investors were prohibited from entering into new contracts referencing LIBOR and beginning June 30, 2023 any legacy contracts that reference LIBOR will need to be adjusted to reflect an alternative rate. As at December 31, 2022, the Plan held $26 million of directly held non-derivative financial assets, fixed income, referencing LIBOR ($27 million in non-derivative financial assets, fixed income investments, as at December 31, 2021).

The Canadian Dollar Offered Rate benchmark ("CDOR") is a daily benchmark reference rate for Bankers' Acceptance ("BA") borrowings. CDOR is currently the primary interest rate benchmark in Canada and is widely used in other Canadian dollar financial instruments including interest rate swaps, exchange-traded futures, loans and floating rate notes. Refinitiv Benchmark Services (UK) Limited ("RBSL") is the administrator of CDOR. On June 28, 2024 RBSL will cease the calculation and publication of CDOR. As at December 31, 2022, the Plan held $34 million of directly held non-derivative financial assets, fixed income investments, referencing CDOR.

Note 8: Collateral

Collateral management is the process of exchanging collateral in the form of securities or cash transferred as security between two counterparties in financial transactions, such as Futures, Credit Default Swaps, Interest Rate Swaps, Currency Forwards, Repurchase Agreements, and Securities Lending. The collateral requirements for these financial transactions are governed by the terms of the negotiated CSA agreements, which outline permissible assets to pledge or receive as collateral, minimum transfer amounts and haircut schedules. The ultimate objective of collateral management is to mitigate counterparty credit risk exposure, described in Note 7.

DERIVATIVES

Initial margin for centrally cleared derivatives (Futures and Credit Default Swaps) is the minimum collateral required to be posted at the outset of a derivatives transaction and is typically based on a percentage of the notional contract value or a fixed amount based on the number of contracts. Non-centrally cleared derivatives (Currency Forwards or Interest Rate Swaps) are private deals governed by the terms of the ISDA and CSA agreement negotiated with each counterparty.

Securities pledged under derivatives arrangements continue to be recognized as OPB's investments, as OPB retains the risks and rewards associated with these securities. Securities received under derivative arrangements are segregated from OPB's investments and OPB has the obligation to return the collateral to the owner on termination of the agreement. OPB does not have the risk and rewards associated with these securities. Cash is not eligible collateral for non-centrally cleared derivatives.

SECURITIES LENDING

As outlined in Note 7, credit and counterparty risk, it is the responsibility of the securities lending agents to ensure all loans are secured by readily marketable securities collateral that have a market value in excess of the value of the loaned securities ("margin") in amounts that represent the greater of prevailing market practice and the minimum margin imposed by IMCO of 102%. Collateral received from brokers shall be delivered in the form of readily marketable securities, or such other forms of readily marketable securities, as IMCO deems appropriate and in which IMCO strategies are permitted to invest.

Securities loaned to third parties under lending arrangements continue to be recognized as OPB's investments as OPB retains the rewards and risks associated with these securities. Securities received as collateral from third parties are not recognized as OPB investments, as the rewards and risks have not been transferred.

REPURCHASE AND REVERSE REPURCHASE AGREEMENTS

Securities owned that are sold subject to a repurchase agreement are treated as collateral and not as sales and therefore continue to be recognized as OPB's investments with the amount of the repurchase agreement reflected as a liability. A reverse repurchase agreement is the purchase of a security at a specified amount with an agreement to resell the same or substantially identical security at a definite amount at a specific future date. For financial reporting, the transaction is treated as a receivable collateralized by the security purchased.

Permissible assets for collateral include, with some exceptions, Canadian Treasury Bills, Canadian Government and Provincial Bonds up to 35 years, Real Return Bonds, or other forms of collateral as agreed by both parties.

The fair value of collateral received and pledged as at December 31 is as follows:

(in thousands of dollars)	**2022**	2021
Derivatives[1]		
Collateral pledged	**$ 5,212**	$ 9,740
Securities lending[1]		
Securities loaned	**269,822**	742,789
Collateral received[2]	**283,555**	780,775
Repurchase agreements		
Associated liability from repurchase agreements	**1,575,925**	–
Collateral pledged	**1,571,500**	–

1 Note 4f illustrates how OPB's net exposure on derivatives, securities lending, repurchase agreements and reverse repurchase agreements is reduced by collateral.

2 Securities lending collateral received provides a 5.09% (2021 – 5.11%) cushion against the potential credit risk associated with these securities lending activities.

Note 9: Commitments and guarantees

As at December 31, 2022, OPB had unfunded commitments for certain private market investments of $7,053 million (2021 – $5,462 million).

OPB Finance Trust was established for the benefit of OPB and its related entities. It raises funds through the issuance of debentures. These debentures are recorded at fair value. The proceeds of the Series A, B, D, E and F debentures were loaned to several OPB wholly owned real estate subsidiaries. In turn, these real estate companies used the proceeds to repay amounts owed to OPB and/or to acquire real estate investments. The proceeds from the issuance of the Series C debentures were loaned to a real estate trust established for the benefit of OPB. 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.

OPB has provided a guarantee for the payment of principal and interest on $1,750 million in debentures that were issued by OPB Finance Trust. Five series of debentures have been issued as at December 31, 2022:

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. $250 million, Series E, 10-year debentures due 2026, with a 2.95% coupon payable semi-annually.
5. $750 million, Series F, 10-year debentures due 2027, with a 2.98% coupon payable semi-annually.

On February 24, 2022, the Series D debenture with a $500 million principal and 1.88% semi-annual coupon matured and was repaid in full.

In addition to the guarantee on the debentures, $8.9 million in letters of credit is guaranteed by OPB as at December 31, 2022 ($8.8 million as at December 31, 2021).

The Plan leases its office premises with minimum future lease payments as follows:

(in thousands of dollars)	Minimum Lease Payments
2023	$ 3,542
2024	3,542
2025	3,699
2026	3,699
Total	$ 14,482

Note 10: Capital assets

Capital assets as of December 31 consist of the following:

				2022							2021
(in thousands of dollars)		**Cost**		**Accumulated Depreciation**		**Net Book Value**		Cost		Accumulated Depreciation		Net Book Value
Computer equipment	**$**	**4,906**	**$**	**(4,762)**	**$**	**144**	$	4,762	$	(4,762)	$	–
Furniture and fixtures		**2,118**		**(2,004)**		**114**		2,117		(1,980)		137
Leasehold improvements		**1,891**		**(1,832)**		**59**		1,878		(1,803)		75
Total capital assets	**$**	**8,915**	**$**	**(8,598)**	**$**	**317**	$	8,757	$	(8,545)	$	212

Note 11: Pension obligations

FINANCIAL STATEMENT VALUATION

For the purposes of these financial statements, Aon, the Plan's actuary, used the funding valuation as at December 31, 2021 on the basis of the accounting methodology required by the CPA Canada Handbook – Accounting, Section 4600 and extrapolated those liabilities to December 31, 2022. The obligations as of December 31, 2021 have been extrapolated to December 31, 2022, based on the estimated service cost during the period, actual benefit payments, asset transfers from other plans, and prior service buybacks. The pension obligation, excluding PfAD, as at December 31, 2022 is $32.9 billion (2021 – $32.6 billion). The pension obligation, including PfAD, as at December 31, 2022 is $35.0 billion (2021 – $34.7 billion).

The other experience losses of $0.2 billion are primarily due to actual salary increases higher than expected and losses from retirement and termination experience. The net assumption gains of $1.7 billion are primarily driven by the increase in the real discount rate.

During 2021, changes were made to actuarial assumptions related to updated capital market assumptions, and the changes in Government of Canada long-term bond yields. During 2022, changes were made to actuarial assumptions related to updated capital market assumptions, and the target asset mix.

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:

	2022	2021
Nominal discount rate before the application of the PfAD[1]	**6.10%**	5.50%
Real rate of return before the application of the PfAD[1]	**4.10%**	3.70%
PfAD, a percentage of non-indexed liabilities and service cost	**7.70%**	7.78%
Effective real discount rate[2]	**3.64%**	3.25%
Inflation		
2023	**6.30%**	1.80%
2024 and thereafter	**2.00%**	1.80%
Salary increases[3]		
2022–2024	**2.00%**	1.50%
2025	**2.75%**	1.50%
2026 and thereafter	**2.75%**	2.55%

1 Net of investment and operating expenses.

2 The effective real discount rate is the rate that includes the impact of a margin for adverse deviations, rather than splitting out the PfAD as a percentage of liabilities, as required by post legislative changes.

3 Prior to promotional scale increases in salaries.

FUNDING VALUATION

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 PSP Act and the PBA. The PBA and the ITA 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, 2021, which disclosed pension obligations of $32,744 million, adjustments of $2,491 million, and a funding shortfall of $2,179 million on a going-concern basis. Adjustments include provision for adverse deviations, prior year credit balance, and all solvency liability and solvency asset adjustments, where applicable. The actuarial cost method used was projected unit credit. The asset valuation method was the smoothed value of assets with investment gains and losses relative to the assumed rate of return recognized over three years. The funding valuation was prepared by Aon. The next actuarial valuation for the purposes of developing funding requirements should be performed effective no later than as at December 31, 2024.

Note 12: Contributions

The contribution requirements are set out in the PSP Act and summarized in Note 2. The Government of Ontario, as sponsor of the Plan, contributed $334 million in 2022 (2021 – $287 million) in special payments towards the funding shortfall identified in the filed funding valuation as at December 31, 2021. In 2021, the Province also made an additional contribution of $385 million which generated a prior year credit balance ("PYCB") in the funding valuation. A PYCB can occur when a Plan Sponsor makes more than the minimum contribution.

For 2021 and 2022, the contributions to the Plan were made in accordance with the funding requirements as specified by the most recently filed actuarial funding valuation.

There was $444 thousand in required contributions past due as at December 31, 2022 ($256 thousand as at December 31, 2021).

For the year ended December 31 (in thousands of dollars)		**2022**		2021
Members				
Current service	**$**	**402,612**	$	387,385
Prior service		**69,488**		43,888
Long-Term Income Protection benefits		**872**		818
		472,972		432,091
Employers				
Current service		**402,160**		390,398
Prior service		**4,215**		4,028
Long-Term Income Protection benefits		**26,303**		15,341
PSSBA transfer[1]		**–**		(18,545)
		432,678		391,222
Sponsor				
Special payments[2]		**268,495**		648,578
Additional current service		**70,715**		23,622
		339,210		672,200
Total contributions	**$**	**1,244,860**	$	1,495,513

1 Effective January 1, 2022 the PSSBA is succeeded by the RCA, whose contributions are paid directly to the RCA fund.

2 Included in special payments in 2021 is a $385 million contribution as a PYCB in the funding valuation.

Note 13: Operating expenses

For the year ended December 31 (in thousands of dollars)		2022[1]		2021[1]
Staffing	$	**24,620**	$	22,409
IT and project management		**12,345**		12,590
Office premises and operations		**5,512**		5,212
Professional services		**1,829**		1,997
Depreciation		**52**		30
Staff development and support		**506**		358
Communications		**344**		432
Audit		**560**		309
Board remuneration		**296**		285
	$	**46,064**	$	43,622

1 Included in the above operating expenses are actuarial services provided to OPB amounting to $480 thousand (2021 – $811 thousand) and external audit services provided to OPB amounting to $279 thousand (2021 – $267 thousand).

Note: Recorded by subsidiary operations are external audit services provided to and recorded by subsidiaries amounting to $197 thousand (2021 – $276 thousand).

Note 14: Termination and other benefit payments

Terminations and other benefit payments consists of the following amounts:

For the year ended December 31 (in thousands of dollars)		2022		2021
Transfers to other plans	$	**30,708**	$	27,403
Commuted value transfers and death benefits[2]		**169,548**		168,786
Total termination and other benefits	$	**200,256**	$	196,189

2 Disability payments amounted to $nil in 2022 and 2021.

Note 15: Transfers of service from other plans

On May 1, 2021, the registered pension plan representing the employees from Agricorp merged with the PSPP. Consent was received from the regulator for the transfer of assets from the Agricorp plan on February 17, 2022. The transfer of assets was received on March 4, 2022 in cash.

Transfers of service from other plans consists of the following amounts:

For the year ended December 31 (in thousands of dollars)		**2022**		2021
Transfers from OPSEU Pension Plan	**$**	**138,478**	$	119,537
Transfers from Agricorp merger		**89,649**		–
Transfers from MOPPs		**23,908**		10,130
Transfers from other plans		**2,372**		4,664
Total transfers of service from other plans	**$**	**254,407**	$	134,331

Note 16: Accounts receivable and prepaid expenses

Accounts receivable and prepaid expenses consists of the following amounts:

As at December 31 (in thousands of dollars)		**2022**		2021
Prepaid expenses	**$**	**7,999**	$	8,944
HST recoverable		**1,459**		1,850
Other receivables		**556**		1,171
Total accounts receivable and prepaid expenses	**$**	**10,014**	$	11,965

Note 17: Related party transactions

In the normal course of business, OPB transacted with various ministries, agencies and Crown corporations over which the Government of Ontario has control or significant influence. The Government of Ontario is the sponsor of the Plan. OPB purchased investments with IMCO, the Government of Ontario and related entities at normal commercial terms. Refer to Note 4h for details on IMCO pooled funds.

OPB provides additional employee benefit administrative services for the Province under Service Level Agreements. These services are all provided on a cost-recovery basis and have no net impact on OPB's operating expenses budget.

In 2018, IMCO entered into an arrangement to lease office space in a building partially owned by OPB and the lease commenced in 2021. The lease agreement was negotiated on an arm's length basis. As at December 31, 2022, OPB had funded capital expenditures in respect of capital assets at 16 York Street which are reported as prepaid expenses in the statement of financial position in the amount of $7,581 thousand (2021 – $7,978 thousand).

OPB administers the PSPP, in which all eligible IMCO employees participate. In relation to this service, IMCO remits to OPB the employee contributions and employer matching portion. IMCO has been managing OPB's investment assets since July 2017. OPB pays its share of IMCO's operating and capital expenditures on a cost recovery basis (Note 6b). External investment manager and custodial fees are paid by IMCO on OPB's behalf.

Note 18: 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 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 4a) to assist with the management of any funding excesses or shortfalls. The Plan's expected average annualized real rate of return has been set in the SIP&P at equal to or greater than 3.7%, net of expenses.

Directory of Key Personnel

Officers

Mark J. Fuller
President & Chief Executive Officer

Christian Kautzky
Chief Investment Officer

Mila Babic
Vice-President, Client Services

Jasmine Kanga
Vice-President, Human Resources & Corporate Services

Peter Shena
Executive Vice-President & Chief Pension Officer

Valerie Adamo
Chief Technology Officer

Armand de Kemp
Vice-President, Finance

Glossary

Active risk: The volatility or fluctuations of portfolio returns compared to the portfolio benchmark.

Asset class: A group of securities that exhibit similar characteristics.

Asset mix: The categorization of asset classes within the pension plan portfolio (e.g., cash, Canadian equities, real estate, etc.). Each category is measured as a percentage of the total pension plan portfolio's fair value.

Assumptions: Estimates of what certain variables – such as interest rates, investment returns and mortality rates – will be in the future. Assumptions are used to estimate the future cost of pensions and the future value of pension assets.

Benchmark: A point of reference that is used to compare portfolio performance and risk. The S&P/TSX Composite Index is a commonly used benchmark to compare Canadian equity portfolio performance and risk. OPB's Strategic Asset Allocation (SAA) is a benchmark against which the overall Plan is assessed from a risk and return perspective.

CEM Benchmarking Inc.: An international pension administration benchmarking company.

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

Debenture: A long-term debt security normally yielding a fixed rate of interest, not secured against assets.

Discount rate: The expected rate of future investment return used to calculate the present value of pensions.

Factor risk: Shows which investment factors – macroeconomic (such as gross domestic product, inflation and interest rate) and fundamental (such as value, momentum and size) – drive the level of portfolio risk and return.

Funded status: A measure of the amount of assets the pension plan currently holds to pay out its future pension benefits (present value of projected future pension benefits). The funded status is regarded as the "health check" of a pension plan, and is determined by undertaking a funding valuation of the pension plan.

IMCO: Investment Management Corporation of Ontario.

Implementation and Support Agreement (ISA): The ISA deals with operating and governance matters such as employee transition in the short term, shared services, IMCO governance policies, and cost allocation and cost containment principles.

Investment Management Agreement (IMA): The IMA governs the investment management relationship between IMCO and OPB, and focuses largely on investment-related matters.

LEED: Leadership in Energy and Environmental Design (LEED) is a program that sets standards used internationally for the design, construction and maintenance of environmentally sustainable buildings and infrastructure.

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

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

Pension modernization: A program we are initiating to re-engineer our business processes and review and upgrade our pension administration system to allow us to meet the evolving needs of our clients and stakeholders, and ensure our technology remains current and secure.

PMA: Public market alternatives include a broad range of assets, including pooled funds, equities, fixed income, credit, and currencies, as well as derivatives, seeking to offer low correlation to public equities.

PSPP: The Public Service Pension Plan.

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

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.

Strategic Asset Allocation (SAA): A long-term strategy that involves setting target allocations of the Plan's asset mix with the purpose of achieving highest returns on investment to meet current and projected future pension benefits given the Plan's risk tolerance and investment horizon.

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

WELL certification: WELL Building Standard™ (WELL) is a performance-based system for measuring, certifying and monitoring features of buildings that impact the health and well-being of the people who live, work and learn in them.

WSIB: Workplace Safety and Insurance Board, a Crown agency of the Government of Ontario.

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.