

2018 Management Discussion and Analysis

Table of Contents

26	Overview of OMERS Pension Plans
28	Primary Plan Funded Status
33	Investment Results
42	Risk Management

This Management Discussion and Analysis is the responsibility of the Management of OMERS Administration Corporation (OAC) and OMERS Sponsors Corporation (SC).

The SC provides strategic oversight and decision-making with regard to designing benefits, setting contribution levels, and determining the composition of the two OMERS Boards. OAC provides strategic and operational management in serving members and employers of the OMERS Pension Plans (the Plans), collecting contributions and paying pensions, and investing the Plans' funds.

The Management Discussion and Analysis contains Management's analysis of the Plans' financial condition, operational results, and the environment in which the Plans operate. The Board of Directors of OAC has reviewed and approved the contents of this Management Discussion and Analysis, as at February 22, 2019. SC management has reviewed and approved the Primary Plan Funded Status section of the Management Discussion and Analysis. This Management Discussion and Analysis should be read in conjunction with the Consolidated Financial Statements.

In addition to historical information, this section contains forward-looking statements with regard to Management's strategy, objectives, outlook and expectations. Forward-looking statements made in this section represent Management's views at the date of this report, and Management does not undertake to update or revise any forward-looking statements as a result of new information, future events or otherwise. Many factors affect the Plans' performance, such as changes in market conditions, interest rates, demographics and technological factors. Investment returns and values will fluctuate. Past performance is not a guide to or indicative of future results.

We use certain financial measures that are not based on Generally Accepted Accounting Principles (GAAP), including funding deficit, as key metrics in our financial reporting to enable our readers to better understand the performance of our business. Other non-GAAP financial measures that we use include investment results by asset group. These non-GAAP financial measures do not have any standardized meaning and may not be comparable with similar measures used by other companies or pension plans. They should not be viewed as an alternative to measures of financial performance determined in accordance with GAAP. Interests in the Plans are not and will not be offered or sold in the U.S., or to or for the account of U.S. persons, as defined by U.S. securities laws.

Overview of OMERS Pension Plans

About OMERS

Established in 1962, OMERS Primary Pension Plan (the Primary Plan or the Plan) is a jointly-sponsored, defined benefit pension plan, with 1,000 participating employers ranging from large cities to local agencies and almost half a million active and retired members. Our members are union and non-union employees of municipalities, school boards, transit systems, electrical utilities, emergency services and children's aid societies across Ontario. OMERS has people working in Toronto, London, New York, Amsterdam, Luxembourg, Singapore, Sydney and other major cities across North America and Europe - serving members and employers, and originating and managing a diversified portfolio of high-quality investments in public markets, private equity, infrastructure and real estate.

The Primary Plan is funded by equal contributions from members and employers, and by the investment earnings of the Primary Plan's assets.

The Primary Plan is sponsored by OMERS Sponsors Corporation (SC) and administered by OMERS Administration Corporation (OAC). The SC and OAC each have their own mandates and Boards of Directors.

OMERS Sponsors Corporation

The SC is primarily responsible for Plan design, including setting benefit levels and contribution rates, and determines the composition of the two OMERS Boards. The SC Board comprises 14 members, half of whom are appointed by employer groups, and half of whom are appointed by unions and associations of the Primary Plan.

OMERS Administration Corporation

OAC has three main responsibilities:

- investing the pension funds;
- administering the Plans and paying pension benefits to members; and
- preparing and approving the actuarial valuations.

To carry out these responsibilities, OAC is organized into the following businesses, which are supported by a corporate office:

- Pension Services
- Capital Markets
- Infrastructure
- Private Equity
- Real Estate

OAC is governed by a Board of Directors consisting of 14 members nominated by sponsor organizations and appointed by the SC Board, and an independent Chair, also appointed by the SC Board in a joint process with the OAC Board.

Pension Plans

The OMERS Pension Plans comprise the OMERS Primary Pension Plan, the Retirement Compensation Arrangement (RCA) for the OMERS Primary Pension Plan, and the OMERS Supplemental Pension Plan for Police, Firefighters and Paramedics.

OMERS Primary Pension Plan

There are two components to the OMERS Primary Pension Plan: defined benefits and Additional Voluntary Contributions (AVCs). The Primary Plan is designed to provide defined benefit pensions. The lifetime pension is calculated as a percentage of the member's earnings averaged over the highest 60 consecutive months, multiplied by years of credited service. In 2018, the Sponsors Corporation eliminated the current 35-year cap for credited service beginning in 2021.

Based on years of service, the Primary Plan currently provides eligible members with:

- inflation protection;
- a bridge benefit, which ceases at age 65, when CPP benefits are expected to commence;
- early retirement options;
- disability protection in the event a contributing member becomes disabled and is unable to work;
- survivor benefits for a spouse and dependent children; and
- portability options between eligible employment.

Benefits payable under the Primary Plan are limited by the maximum pension allowed under the *Income Tax Act* (ITA). The Primary Plan's financial statements are set out in the Notes to the Consolidated Financial Statements.

The AVC component of the Primary Plan enables members to make additional voluntary contributions on which the member receives the net investment return of the Primary Plan.

Retirement Compensation Arrangement (RCA) for the OMERS Primary Pension Plan

The RCA provides pension benefits, using the OMERS pension formula, which are above the maximum pension allowed under the ITA. The benefit is based on annual earnings capped at the lesser of 150% of the member's base annual current compensation, or seven times the year's maximum pensionable earnings.

The RCA net assets were \$148 million and the accrued pension obligations were \$851 million at December 31, 2018, compared to \$162 million and \$813 million, respectively, at December 31, 2017.

The RCA is not subject to the minimum funding standards of the *Pension Benefits Act* (PBA), and is funded on a modified pay-as-you-go basis. The funding target is to help ensure that the existing RCA Fund, projected contributions and investment earnings, are sufficient to pay for benefits and expenses for a period of 20 years following each valuation date.

OMERS Supplemental Pension Plan for Police, Firefighters and Paramedics

The Supplemental Plan is a separately funded, stand-alone, multi-employer pension plan for members who are police, firefighters or paramedics. It provides supplemental pension benefits that top up those available under the Primary Plan. Participation in the Supplemental Plan is effective only upon an agreement between an employee group and its employer. As at December 31, 2018, no such agreement was in place. As a result, the Supplemental Plan currently has no members, assets or liabilities.

Primary Plan Funded Status

In 2018, the funded ratio increased to 96%, from 94% in 2017. The funded ratio is an indicator of the long-term financial health of the Plan. With \$99.1 billion of pension obligations as at December 31, 2018, compared to \$93.6 billion as at December 31, 2017, the Primary Plan ended 2018 with a funding deficit of \$4.2 billion, compared to a deficit of \$5.4 billion at the end of 2017. Net assets on a smoothed basis were \$94.9 billion as at December 31, 2018, compared to \$88.2 billion the previous year.

There were no changes to contribution rates or benefits in 2018, and these will remain at current levels in 2019.

The funded ratio is the relationship of Plan assets to pension obligations on a going-concern basis. Plan assets are calculated by smoothing investment returns – above or below the Plan's discount rate – over a five-year period. By smoothing asset values, contribution rates can be set, and benefits designed, while taking a long-term view of investment performance. The deficit represents the difference between the pension obligations and the smoothed value of assets. At the end of 2018, unrecognized investment returns were \$1.4 billion compared to \$6.0 billion in 2017, which will be recognized over the next four years.

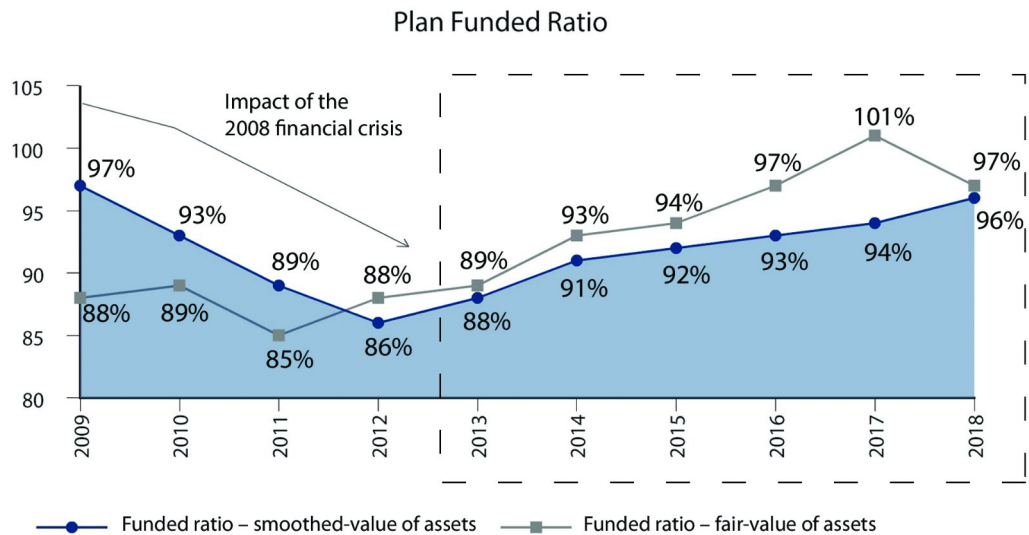
The improvement in funded status during 2018 was the net result of the following factors:

Funded Ratio %		Deficit \$ billions
94%	Beginning of year	\$ (5.4)
1	Contributions from members and employers to pay down the deficit	0.7
2	Recognized investment returns in excess of the discount rate	1.5
(1)	Primary Plan experience and other factors	(0.7)
n/a	Interest on deficit	(0.3)
96%	End of year	\$ (4.2)

The Plan's net investment return was 2.3%, which was below both OMERS operating plan target of 7.3% and discount rate of 6.0%. The Plan's funded status, on a smoothed basis, has improved mainly due to smoothed investment returns in excess of the discount rate from the previous four years, together with member and employer contributions. We remain on target to meet the OMERS 2020 Strategy goal of returning the Primary Plan to full funding by 2025, while reducing the discount rate further over time, in response to Plan maturity and in line with OAC Board of Directors' risk appetite.

Achieving OMERS Strategy goal to be fully funded by 2025 is conditional upon actual investment returns, demographic experience and changes to actuarial assumptions.

The following chart tracks the funded status of the Plan over the past 10 years. In 2018, the funded ratio based on the fair value of assets, declined by four percentage points from 101% to 97%, as the net return was below the discount rate of 6%.



Managing the Plan's Funded Status

Making good decisions to protect the Plan's funded status is critical in keeping the Plan healthy over the long term. Three levers are available to manage the Plan's funded status:

- contribution rates
- benefit design
- investment returns.

Responsibility for implementing strategies to manage the three levers is shared between the SC and OAC.

The SC sets contribution rates and benefit levels, taking into consideration the Plan's funded status (surplus, reserve or deficit). Decisions are guided by a clear framework – a Funding Management Strategy – that protects the Plan's funded status, and supports pension security and sustainability for current and future retirees.

OAC determines the actuarial assumptions and methods used to calculate pension obligations – including the Plan's discount rate, based on advice from an independent actuary – and sets minimum funding requirements in accordance with pension laws and regulations. OAC is also responsible for investments on behalf of the Plan.

OMERS is committed to taking a strategic and co-ordinated approach to using the three funding levers so that decisions are fair, balanced and supportive of long-term sustainability objectives. Contributions and benefits must be balanced to keep pensions secure and sustainable, while ensuring the Plan provides meaningful retirement benefits for its members. We continue to pursue investment returns that meet or exceed our long-term targets.

Opportunities to Reduce Plan Funding Risk

A sustainable defined benefit pension plan will deliver an appropriate range of benefits within an acceptable range of costs, across generations and through both favourable and adverse circumstances. Plan design, and

the way that contributions and benefits are managed through time, are fundamental to the long-term health of the Plan.

Beginning in 2019, members and employers will be impacted by gradual enhancements to the Canada Pension Plan (CPP). These will include increasing the CPP income replacement rate from 25% to 33%, and increasing covered earnings to the new Year's Additional Maximum Pensionable Earnings. The OMERS pension formula does not adjust for changes in the CPP. As a result, a member's combined CPP and OMERS pension benefit for future retirees will increase in the long term. As more dollars are being directed to secure more retirement income outside of OMERS, this puts further pressure on OMERS contribution rates, decreasing the available dollars members and employers have to absorb future increases.

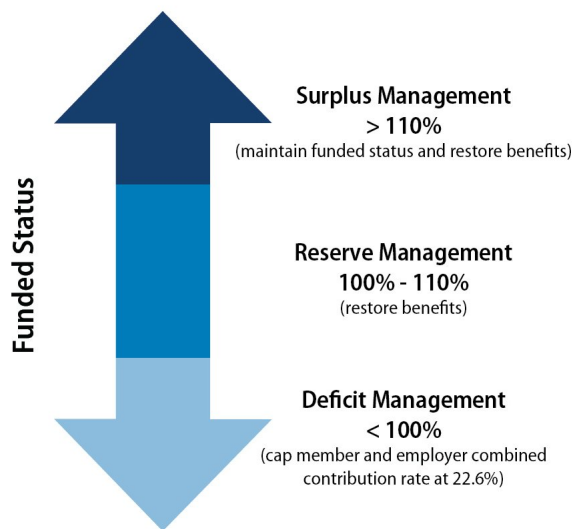
To ensure the Plan remains sustainable, meaningful and affordable for generations to come, the SC initiated a *Comprehensive Plan Review*. In November 2018, the SC Board approved the following Plan changes:

- eliminate the current 35-year cap for credited service
- allow paramedics to negotiate normal retirement age 60 participation in the OMERS Primary Plan.

Although several other options were put forth and discussed, the SC Board did not approve those options at this time. The feedback and input collected during the Review will equip the SC Board to continue its efforts to enhance the long-term health of the Plan.

Funding Management Strategy

The Funding Management Strategy, which was adopted by the SC Board in 2014, includes three funding zones, and provides parameters for setting contribution rates and benefits within each zone. The Strategy strives to maintain a healthy balance between the Plan's assets and long-term pension obligations. It clearly sets out the conditions for when contributions and benefits will be adjusted to manage the Plan for long-term financial health.



As the funding status improves, and as the Plan moves from deficit to surplus management zones, the Funding Management Strategy contemplates reductions to contribution rates and restoration of benefits.

The Plan is currently in the Deficit Management zone. In the absence of any unforeseen events, OMERS funded status remains on track to reach 100% by 2025. The 2018 combined employer and member contribution rate of 21.3% exceeds the minimum contribution rates of 19.6% under the Pension Benefits Act (PBA). In the event the Plan should move further into deficit and the minimum contribution rates under the

PBA exceed 21.3%, the Funding Management Strategy calls for such additional deficit to be funded by a combination of benefit reductions and contribution increases. Contribution rates are subject to an overall cap of 22.6%, after which any remaining deficit is to be funded through benefit reductions.

Once 100% funded status is achieved and the Plan enters the Reserve Management zone, the Funding Management Strategy calls for contribution rates to be reduced to normal cost plus 2%, until the funded status reaches 105%, and then reduced further to normal cost plus 1%, until the funded status reaches 110%. Normal cost is the present value of pension benefits accrued during the year. In other words, it is the contribution rate that pays for current service only. Benefit reductions, which occurred while in the Deficit Management zone, are restored at the point when the Plan reaches 105% funded status. Restoration would be on a prospective basis, which means it will only impact benefits earned in the future – not those that have already accrued.

Above a funded status of 110%, the Plan enters the Surplus Management zone, where the objective is to maintain the 110% funded status and further restore benefits. Contribution rates will be set so as to fund the normal cost of benefit accruals. Benefits will be restored retroactively, but only when doing so will not reduce the funded status to below 110%, and when it is considered prudent to do so. Additional contribution rate reductions and benefit enhancements also may occur, but only to the extent the funded status is not reduced to below 110%.

Funding Risk

Funding Risk is the risk that the SC will be required to increase contributions and/or reduce benefits. It includes a combination of Investment, Pension, Operational, and Emerging risk categories. These four categories are described in the Risk Management section. The three main sources of Funding Risk are, 1) investment performance, 2) demographic experience, and 3) Plan maturity.

Investment Performance

Investment performance is impacted by economic factors such as financial market volatility, lower future growth rates, and a high level of competition for asset classes, making it difficult to predict future investment returns. Investment performance impacts Plan funding when investment returns are below the discount rate, and where fluctuations in the Plan's short-term returns require changes to contributions/benefits. Accordingly, each year, OAC tests the reasonableness of the Plan's discount rate to ensure it contains sufficient margins, in accordance with the OAC Board's risk appetite, to protect the Plan against adverse experience over the long term.

An important factor in setting the Plan's discount rate is our target asset mix, which is approved by the OAC Board and provides target allocations across our asset classes. OAC conducts periodic studies to adjust the Plan's target asset mix and optimize the Plan's ability to return to full funding by 2025. The last study was performed in 2016 and is scheduled again for 2019.

With the exception of 2018, when public market returns were negative and overall returns dampened, the Plan has experienced strong investment returns in recent years. In the future, we anticipate that global growth will slow, and future investment returns will be lower compared to historical levels for the past 10 years.

Demographic Experience

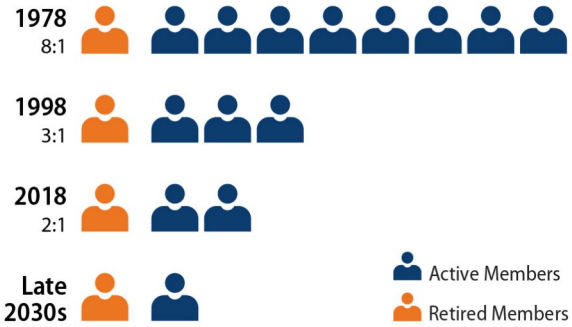
Demographic experience includes unexpected changes in life expectancy (such as increased longevity), salary increases, and retirement and termination trends of members. Continuing adverse demographic experience, leading to actuarial losses, requires a change to actuarial assumptions that negatively impact pension obligations and funding requirements. Life expectancy, in particular, has steadily increased over time. This means retirees collect pensions for longer periods, which increases the pension liabilities. We monitor our

demographic experience against actuarial assumptions annually, and conduct a detailed experience study at least once every five years, with the most recent study completed in 2018.

Plan Maturity

Plan maturity occurs when there is a declining active membership base relative to the retired member population, which occurs due to a variety of reasons, including: increasing longevity, a decline in the number of active members, retirement patterns and other factors. Since all Plan funding risk is currently borne by active members and employers, this trend means the cost of funding the Plan is increasingly concentrated in a relatively smaller group of active members and the risk of contribution rate increases and benefit reductions is increasing.

The ratio of active members to retired members is a common measure of Plan maturity. The Plan is maturing, as this ratio has declined to less than 2:1 at the end of 2018 and is expected to reach 1:1 in the late 2030s. As the ratio of contributing members continues to decline, defined benefit payments exceed defined benefit contributions. Therefore, we now rely upon investment income to make up the difference, leaving the Plan more vulnerable to economic downturns. Over time, increasing Plan maturity means the Plan Funding Risk will increase, with everything else being equal.



Discount Rate

The discount rate is the interest rate used to determine the Plan's pension obligations and minimum contribution rates. The discount rate is comprised of two main components: 1) the real discount rate (before inflation), which reflects expectations of future real investment returns from the Plan; and 2) an assumption for future inflation.

The discount rate as at December 31, 2018 is 6.0%, the same as the rate as at December 31, 2017. The assumption for future inflation was 2.0% for both 2018 and 2017.

As at December 31, 2018, the real discount rate of 4.0% is net of a strategic margin of 0.25% which was taken prior to 2018.

To protect against funding risk, we continue to target further reductions in the discount rate over time. These reductions will be made when investment performance and demographic experience are better than those anticipated by our long-term actuarial assumptions. OMERS objective is to reduce the Plan's real discount rate to 3.75%. As we reduce our real discount rate, the normal cost of the Plan will increase. Each five-basis-point reduction in the real discount rate, as at December 31, 2018, would increase the normal cost by approximately 0.2% and the pension obligation by \$0.7 billion.

Investment Results

Economic Environment

Public markets globally in 2018 can best be characterized as a tug of war between solid economic conditions, driven by strong employment and earnings growth against a backdrop of stable inflation which was overshadowed by trade wars and interest rate increases. The U.S. Federal Reserve interest rate hike of 25 basis points in December marked the fourth increase in 2018, with the pace of increases fueling concerns of an economic slowdown, which culminated in the worst performing December month and the third-worst quarter going back 70 years.

Equity markets concluded a tumultuous 2018 with stock indices posting their worst yearly performance since the financial crisis in 2008, with indices reaching record highs followed by sharp reversals. Broad market indices such as MSCI World (local) index ended the year down 7.4% and the S&P TSX down 8.9%. In the U.S., December 24, 2018 saw the S&P 500 briefly touch bear market territory or a 20% decline from its high. Commodity markets fared no better, with crude oil down 24.8% and broad commodity indices down 13.8%. Credit markets were also impacted by market uncertainty, and with four increases in U.S. interest rates, spreads in the high-yield market widened by 200 basis points and investment grade spreads widened by 50 basis points. Despite the financial turmoil, private markets remained robust during the year.

Results

In 2018, the Primary Plan had a return, net of expenses, of 2.3%, compared to a benchmark of 7.3%. Public investments generated net losses of 4.6% and private investments generated net income of 10.7%. Public investment net returns were negative, reflecting the returns of virtually all capital market indices. The private investment asset classes outperformed against benchmarks.

We measure our performance against an absolute return benchmark approved, before or at the beginning of each year, by the OAC Board. Our goal is to earn stable returns for OMERS that meet or exceed our benchmarks.

Current Year Returns at a Glance

Investment returns for the Primary Plan and RCA for 2018 and 2017 were as follows:

For the years ended December 31,	2018			2017		
	Net Investment Income \$ millions	Net Rate of Return %	Benchmark %	Net Investment Income \$ millions	Net Rate of Return %	Benchmark %
Public Investments						
Fixed Income						
Inflation-Linked Bonds	\$ (13)	(0.4) %		\$ 85	2.0 %	
Government Bonds	(65)	(0.6)		44	0.2	
Credit	577	3.1		1,186	6.9	
Public Equity	(2,859)	(8.3)		3,937	14.7	
Cash and Short-Term Instruments	94	n/a		249	n/a	
Total Public Investments	\$ (2,266)	(4.6) %	6.0 %	\$ 5,501	11.4 %	6.1 %
Private Investments						
Private Equity	1,601	13.5	11.2	1,195	11.1	9.3
Infrastructure	1,794	10.6	8.6	1,917	12.3	8.7
Real Estate	1,288	8.7	8.4	1,455	11.4	8.4
Total Private Investments	\$ 4,683	10.7 %	9.0 %	\$ 4,567	11.6 %	8.7 %
Total Primary Plan Fund	\$ 2,417	2.3 %	7.3 %	\$ 10,068	11.5 %	7.3 %
RCA Investment Fund¹	\$ (1)	(1.6) %	0.1 %	\$ 12	13.1 %	12.8 %

¹ Excludes the RCA refundable tax balances with the Canada Revenue Agency. The RCA net rate of return including the refundable tax balance in 2018 is (0.8)%, compared to 7.4% in 2017.

Asset Allocation and Exposure

OAC mitigates risk and targets strong, consistent returns by diversifying investments across asset type, economic sector and geographic market, and by purchasing high-quality assets. OAC has a Board-approved target asset mix for the Plan (updated in August 2018), designed to deliver returns over the long term to meet pension obligations. Fixed income investments include securities in inflation-linked bonds, government bonds and credit. Equity includes both public and private equities, either through the purchase of instruments directly, or through the use of derivatives. OAC also invests in real assets, which include infrastructure and real estate – selected specifically for their ability to provide more predictable returns and cash flows.

Asset Mix – Exposure

To arrive at the Plan's ultimate exposure by asset class, the asset mix includes derivatives exposure and other items, such as amounts payable under administered funds. Net investment asset exposure, based on the holdings as set out in the Consolidated Financial Statements, is as set out in the table below. The inclusion of derivatives exposure is reflected in each asset class, with an offset to economic leverage. Economic leverage is the difference between the exposure to an asset class and the fair value of the derivative in the asset class. Net investment asset exposure at the end of 2018 was \$98.7 billion (\$96.4 billion, 2017) and includes administered funds of \$1.4 billion (\$1.4 billion, 2017), less the non-investment-related items of \$(0.1) billion (\$(0.2) billion, 2017).

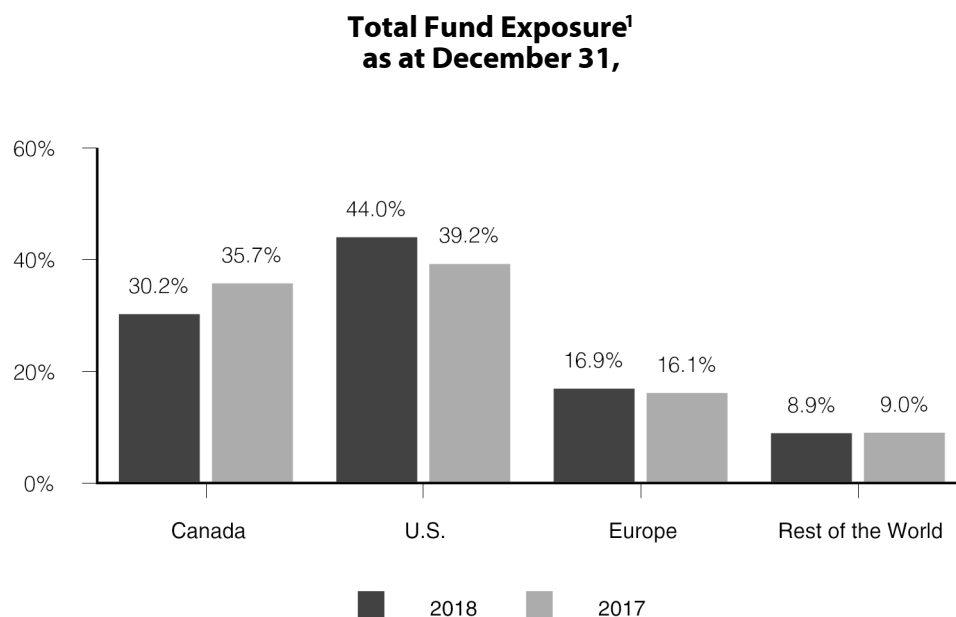
As at December 31,	2018				2017			
	Investment Assets \$ millions	Investment Liabilities \$ millions	Net Investment Asset Exposure \$ millions	Asset Mix %	Investment Assets \$ millions	Investment Liabilities \$ millions	Net Investment Asset Exposure \$ millions	Asset Mix %
Fixed Income								
Inflation-Linked Bonds	\$ 3,829		\$ 3,829	3.9 %	\$ 3,855		\$ 3,855	4.0 %
Government Bonds	5,692		5,692	5.7	6,754		6,754	7.0
Credit	18,721		18,721	19.0	17,653		17,653	18.3
Equities								
Public Equity	32,681		32,681	33.1	32,522		32,522	33.7
Private Equity	14,243		14,243	14.4	11,521		11,521	12.0
Real Assets								
Infrastructure	20,299	(2,378)	17,921	18.2	17,044	(1,365)	15,679	16.3
Real Estate	21,474	(3,414)	18,060	18.3	14,932	(1,172)	13,760	14.3
Short-Term Instruments								
Cash	8,806		8,806	8.9	13,753		13,753	14.2
Economic Leverage	(21,243)		(21,243)	(21.5)	(19,099)		(19,099)	(19.8)
Total	\$ 104,502	\$ (5,792)	\$ 98,710	100.0 %	\$ 98,935	\$ (2,537)	\$ 96,398	100.0 %

In 2018, we shifted the Plan's asset mix, increasing investments in real assets, private equity and credit, and reducing exposure to government bonds. Declines in the value of public equity due to the market drawdown in 2018, were offset by an increase in derivative exposure and economic leverage.

Country Exposure

The chart below represents the total of the Plan's exposure by country. While Canada continues to offer strong, long-term investment opportunities, prudence and related risk-management practices make it appropriate to diversify investments across global markets with different growth profiles.

During 2018, we increased exposure to the U.S. and Europe, and reduced our exposure to Canada.



¹ Exposures are presented net of financial leverage and before economic leverage.

Currency Exposure

Currency exchange rate volatility impacts our returns for investments held in currencies other than the Canadian dollar. Our approach is to hedge a large proportion of our exposure to foreign currencies to protect against the impact of fluctuations. As at December 31, 2018, 95% of currency exposure on our foreign investments was hedged to Canadian dollars. During 2018, foreign exchange gains of \$4.1 billion were offset by hedging losses of \$4.1 billion. This compared to foreign exchange losses of \$2.1 billion, which were offset by hedging gains of \$2.1 billion in 2017.

Absent currency hedging, OMERS full-year net return in 2018 would have increased to 6.6% or 4.3% higher than the actual net return of 2.3%, as a result of the Canadian dollar's depreciation relative to other major currencies. Absent currency hedging, OMERS full-year net return in 2017 would have decreased to 9.1% or 2.4% lower than the actual net return of 11.5%, as a result of the Canadian dollar's appreciation relative to other major currencies.

Industry Exposure

The OMERS portfolio remains highly diversified across industries. The table below shows OMERS investment exposure by industry, net of financial leverage and before deducting economic leverage.

As at December 31,	2018	2017
Financials	18.1%	16.9%
Real Estate	16.5%	13.3%
Cash and Cash Equivalents	5.6%	11.8%
Industrials	10.3%	10.0%
Government	8.2%	9.2%
Utilities	9.5%	9.0%
Consumer Discretionary	4.8%	6.6%
Information Technology	6.1%	6.3%
Energy	5.4%	5.2%
Health Care	7.1%	4.8%
Consumer Staples	3.1%	3.0%
Materials	2.4%	2.4%
Communication Services	2.9%	1.5%
Total	100.0%	100.0%

Investment Management and Pension Administration Expenses

Our strategy of building a diversified portfolio of high-quality investments requires highly skilled talent with knowledge and experience to deliver strong long-term returns. We believe that in-house management generally creates better value than external management. We selectively use third-party managers to obtain access to specialized investment products and markets. Over the last several years, we have increased global diversification of the portfolio, expanded asset allocation into private assets and introduced credit as a new strategic asset class. The objective of these decisions is to optimize investment returns. In doing so, we accept the related costs which will vary depending on many factors, including actual performance results and asset mix.

Internal investment management expenses were \$540 million in 2018, compared to \$409 million in 2017. Increased investment expenses are mainly driven by expanded asset allocation to, and performance in our private assets, particularly in private equity, resulting in higher pay-for-performance costs. This increase was partially offset by lower compensation costs in other areas as a result of losses in public investments and the Plan's lower overall return.

In addition to investment management expenses, the Management Expense Ratio (MER) includes external manager performance and pooled fund fees of \$99 million (\$83 million, 2017), which were higher due to increased allocation and strong performance. Together, these items represent an MER of 66 basis points in 2018, compared to 55 basis points in 2017. Over the long term, when OMERS meets benchmark performance objectives, we are targeting our MER to be lower than 50 basis points.

Pension administration expenses were \$93 million, representing a Cost Per Member (CPM) of \$207 in 2018, compared to \$85 million, or a CPM of \$195 in 2017. The increase was due to the impact of organizational changes and advancing technologies, including cybersecurity. We expect that our CPM will increase in the near term as we phase in the redevelopment of our pension administration platform. We remain focused on deliberate expense management and the value of every dollar in the Plan.

Public Investments

Investment Approach

Our approach to investing in public markets is focused on high-quality investments that can generate sustainable income and growth, which we believe results in more consistent returns and lower volatility. We seek investments in companies with strong balance sheets and resilient business models. We partner with leading businesses, operators and best-in-class investors to access investment opportunities on a global basis. Our objective is to construct a well-diversified portfolio, across geographies, sectors, strategies and income streams, that will deliver long-term, consistent, absolute returns to meet the pension liabilities.

2018 Performance

Public investments generated a net loss of 4.6%, compared to a net return of 11.4% for 2017 and our 2018 benchmark of 6.0%. This represents a net investment loss of \$2.3 billion in 2018, compared to a net investment income of \$5.5 billion in 2017.

Public investments returns reflect the trends in public market indices, which were virtually all negative in 2018. Indices such as the S&P TSX fell 8.9%, the S&P 500 (USD) fell 4.4% and the MSCI World (local) fell 7.4%. This follows a strong performance in the prior year. Public equities lost 8.3% in 2018, compared to a gain of 14.7% in 2017. Inflation-linked bonds and government bonds lost 0.4% and 0.6% respectively in 2018, mainly due to rising U.S. interest rates, compared to gains of 2.0% and 0.2% respectively in 2017. Credit investment returns were negatively impacted by widening spreads, but were positive overall, gaining 3.1% in 2018, compared to 6.9% in 2017. Over the last three years, we rotated \$6.6 billion of capital out of low-yielding, long-dated government bonds into higher-yielding credit investments. This shift shielded our fixed income returns from the impact of the continued low-interest-rate environment, particularly in the U.S. These actions also buffered our returns from drawdowns in equity markets in 2018.

Capital Allocation

Public investments were \$46.4 billion as at December 31, 2018, compared to \$53.2 billion as at December 31, 2017. The decrease in capital was primarily attributable to increased investment in private investments and credit and reduced exposure to government bonds. The amount of capital available for public investments decreased by \$3.5 billion primarily due to purchases in other asset classes, and \$1.6 billion realized losses from the settlement of foreign-currency hedges.

Sustainable Investing in Public Investments

We actively engage with our most significant investee companies as a shareholder, through our voice with management and exercising our votes. We consider and regularly monitor the Environmental, Social and Governance (ESG) factors that are most relevant and material to our key investments, alongside other factors, as part of our initial decision to invest and ongoing asset-management responsibility.

Proxy Voting

As owners of companies, OMERS has important rights and responsibilities, including the right to vote our shares at company meetings. We exercise our ownership rights through the proxy process by voting our shares, whether with respect to governance matters or corporate transactions, and in connection with other matters being presented to shareholders.

Our voting decisions are based on OMERS Proxy Voting Guidelines, which promote good corporate governance, and which hold boards accountable for their decisions. These guidelines are regularly reviewed and updated to reflect evolving developments, and are publicly accessible on our website. We retain flexibility in our guidelines to consider specific circumstances on any matter, so that we can exercise our votes in the best interests of OMERS.

Although we consider research and recommendations from third-party proxy advisers, responsibility for proxy voting decisions sits internally with OMERS professionals, who make such decisions based on our own opinion as to what is best for OMERS. We do not always agree with the recommendations of proxy advisers or management of companies.

Shareholder Engagement

We encourage responsible corporate behaviour by speaking directly to investee companies, where appropriate. As a large and influential shareholder, OMERS meets with management teams and boards of directors to directly engage them in open and constructive dialogue. By sharing our views directly with leaders of the companies in which we invest, we can encourage responsible corporate behaviour and accountability.

Private Investments

Infrastructure

Investment Approach

Our approach to investing in infrastructure is to seek strong, stable cash flows through investments in large-scale infrastructure businesses in energy, social infrastructure, transportation and telecommunications – primarily in North America, Europe and Australia. Consistent with OMERS strategy to diversify our investments across global markets, we opened an office in Singapore in early 2018.

The infrastructure businesses we invest in include regulated and contracted services supported by long-term arrangements that provide an effective way to manage risk, which contributes to reliable income over the long term.

We take a patient and disciplined approach to infrastructure investing, and we execute on the prudent diversification of our portfolio. We actively manage the absolute and relative exposures, such as industrial sector, technology, demographics and currency, through dynamic asset and portfolio management.

2018 Performance

The infrastructure asset class net return was 10.6%, compared to 12.3% for 2017 and our 2018 benchmark of 8.6%. This represents net investment income of \$1.8 billion in 2018, compared to \$1.9 billion in 2017 and an operating cash yield of 5.9% in 2018, compared to 8.3% in 2017.

The infrastructure performance in 2018 was attributable, in part, to the sale of Airports Worldwide (a portfolio of airports across the Americas and Europe), and to our active asset management focus which led to operational outperformance across a number of our core assets.

Capital Allocation

Infrastructure investments increased to \$20.8 billion in 2018, up from \$18.1 billion in 2017. This increase was attributable to the progress made with our capital-deployment strategy, along with increases in the market value of existing assets within our portfolio, net of the Airports Worldwide disposition.

During 2018, we invested in Leeward Renewable Energy LLC (a leading renewable energy producer in the U.S.), BridgeTex Pipelines Company, LLC (a crude oil transportation provider in the U.S.), and increased our investment in Thames Water (a water utility in the U.K.).

Private Equity

Investment Approach

Our approach to investing in private equity is to acquire significant direct ownership interests in private companies (usually majority positions), primarily headquartered in North America, and Europe and with the objective of generating strong capital returns, while appropriately managing risk. We take a thoughtful approach to capital deployment and invest in companies with solid business fundamentals, strong management teams, and opportunities to grow both organically and through acquisitions. The private equity asset class also includes an innovation-based program, including investments in high-potential startup technology-based firms.

2018 Performance

The private equity asset class net return was 13.5%, compared to 11.1% in 2017 and our 2018 benchmark of 11.2%. The 2018 net return represents net investment income of \$1.6 billion, which differs from the amount reported as net investment income for private equities of \$2.0 billion in the Consolidated Financial Statements. The Consolidated Financial Statements include \$0.4 billion of income from private credit funds, which are classified as equity under IFRS, but where the risks and rewards are fixed income in nature. The 2017 net return represents net investment income of \$1.2 billion, which differs from the amount reported as net investment income for private equities of \$1.3 billion in the Consolidated Financial Statements. The Consolidated Financial Statements include \$0.1 billion of income from private credit funds, which are classified as equity under IFRS, but where the risks and rewards are fixed income in nature.

The private equity asset class return was largely driven by a very strong net return of 15.7% by the core private equity platform, underpinned by the growth in the underlying earnings of portfolio companies and successful exits. We strive to identify and position assets for sale to capitalize on our value creation of larger and stronger businesses.

Capital Allocation

Total investments in private equity increased to \$19.0 billion in 2018 compared to \$14.4 billion, as at December 31, 2017. This increase was attributable to the capital-deployment strategy executed during the year. In 2018, OMERS acquired Alexander Mann Solutions (a global provider of talent acquisition and management services in the U.K.), Paradigm Outcomes (a provider of complex and catastrophic medical management to the U.S. workers' compensation industry), Premise Health (a provider of worksite health centres and services in the U.S.), and Trescal (a global provider of outsourced calibration services in France).

Sustainable Investing in Infrastructure and Private Equity

When considering a potential investment, we employ a framework to review relevant ESG factors. We tailor the depth of assessment required for potential investments, as required, to ensure consistency with OMERS sustainable investing beliefs.

Once we hold an ownership position, OMERS actively enhances ESG practices across our portfolio through the role we take in the management of our portfolio companies. Specifically, we have influence over governance through board representation, as well as actively participating in strategy setting, and regular direct contact with management teams. In almost all circumstances, we hold an equity position with appropriate governance rights, including negative control rights, and participation on boards and related committees. We appoint independent directors to bring in specialized skills and varied experiences, where necessary.

Real Estate

Investment Approach

Our approach to investing in real estate is centered on building a world-class global real estate development, investment and management platform that delivers stable income and capital returns through all cycles. Oxford Properties Group executes and manages this strategy and is the owner, developer and manager of some of the world's best real estate assets.

Oxford is a highly disciplined and thematic global real estate investor, and invests in high-quality assets in sectors and markets where it can outperform the market and generate superior long-term returns. Oxford invests in a diversified portfolio of office, retail, industrial, multi-residential and hotel properties in global gateway cities in Canada, the U.S., Europe and Asia-Pacific, and adds value to investments through leasing, management and development capabilities. The portfolio consists of over 100 million square feet of office, retail and industrial space as well as 7,600 multi-residential units.

2018 Performance

The real estate asset class net return in 2018 was 8.7%, compared to 11.4% in 2017, and our 2018 benchmark of 8.4%. This represents net investment income of \$1.3 billion in 2018, compared to \$1.5 billion in 2017.

Performance in 2018 was driven by strong operating performance and realized and unrealized mark-to-market gains and was behind our strong performance in 2017.

Capital Allocation

Total investment in real estate increased to \$22.3 billion as at December 31, 2018, compared to \$15.5 billion, as at December 31, 2017. During the year, Oxford made 20 acquisitions, committed to 13 new developments, and completed three sales transactions, all consistent with our strategy.

In 2018, we entered new markets with a number of significant acquisitions: the take-private acquisition of Investa Office Fund, a portfolio comprising 19 prime office assets in Australia, the acquisition of a 50% interest in IDI Logistics (a fully integrated national logistics platform in the U.S.), the formation of Delancey Oxford Residential (a co-investment platform that invests in large-scale residential assets in the U.K.), and a 20% interest in GLP Europe Development Partners (a development platform in the logistics sector in Europe). Other notable acquisitions include Aalto57, a mixed-use residential and retail building (New York, U.S.), St. John's Terminal, an office development site (New York, U.S.), and Window, a newly-developed office building (Paris, France).

Successfully completed sales transactions included a 50% interest in the 800 Burrard office building (Vancouver, Canada), 135-137 New Bond Street (London, England) and a 49.9% interest in a portfolio of three office properties (Paris, France).

In 2018, Oxford continued to make significant progress on more than 25 active development projects.

Sustainable Investing in Real Estate

In Real Estate, Oxford Properties takes a leadership approach to sustainable investing. Oxford develops strategies, benchmarks performance, sets targets, and implements disciplined practices and new technologies to achieve outstanding results in a range of areas, including energy efficiency, climate impacts, waste management, pollution, community impact, and anti-corruption.

Oxford's long-term perspective aligns our interests with those of our customers and communities. Our investment strategy contemplates decades not years, and so do our development and construction projects, in-building capital programs and management practices. We make decisions with tomorrow in mind, and have one of the most advanced sustainability practices in the industry.

Oxford develops and operates our buildings in a manner consistent with best-in-class sustainability standards across asset classes and markets, including LEED (Canada/U.S. office), BOMA BEST (Canada retail/industrial) and BREEAM (U.K. office). Our list of industry firsts, external awards and achievements related to sustainability is a long one.

Sustainable Intelligence™ is Oxford’s formal sustainability program and our Guiding Principles relate to Leadership, Performance, Innovation, Credibility, Risks and Opportunities, and Transparency and Engagement. Our program includes a range of commitments and activities around focused themes, including:

- **Climate and Energy:** We are a leader in the development and operation of energy-efficient, low-carbon buildings. Our priorities include carbon emissions, energy efficiency and renewable energy.
- **Materials and Resources:** We critically evaluate the environmental and health aspects of the materials and resources we procure and use in our buildings. Our priorities include materials selection, waste diversion and water consumption.
- **Well-being:** We incorporate world-class features and amenities in our buildings that support the success of our customers and help them live healthy and active lives. Our priorities include indoor air quality, common areas and customer amenities.
- **Community:** We engage our stakeholders, creating outstanding buildings and exceptional places and giving back to our communities. Our priorities include partnerships, placemaking and volunteering.

The Plan's Investment Return History

While we measure our investment performance annually, OAC emphasizes long-term performance, as pensions are paid over decades. Consistent long-term performance is important. The table below sets out the Plan's historical returns over a one-, three-, five-, 10- and 20-year period.

Net return for the period ending December 31, 2018	1 Year	3 Year	5 Year	10 Year	20 Year
	2.3%	8.0%	8.1%	8.0%	6.6%

Investments Outlook

In 2019, we expect the economy to moderate slightly and economic expansion to continue, but at a slower pace than in 2018. Several tailwinds will support activity in 2019, including public valuations at attractive levels and credit spreads at excellent entry points for meeting future liability streams, robust labour markets globally and significant monetary and fiscal policy easing in the major economies globally. This is not without significant headwinds. Protectionist trends and geopolitical tensions will continue to be clear and present risks. Over time, the secular trends of aging populations, rising public indebtedness and higher interest rates will increasingly weigh on economies.

Risk Management

The Chief Risk Officer (CRO) is responsible for the Risk Management Group, which provides independent and objective analysis, and reports to both the Senior Executive Team and the OAC Board of Directors. Day-to-day accountability for managing risks and ongoing execution remains with the business units and functions responsible for making operational decisions.

In 2018, a revised risk framework was approved by the Board of Directors, that describes overall risk-management governance and details the structure for categorizing risks to which the organization is exposed. Overall, we consider “risk” as being an event or decision that results in uncertainty around whether OMERS can effectively execute on its Strategy and achieve its business objectives.

Risks to the Plan are identified, assessed, measured, mitigated, monitored and reported within the context of the risk framework. We categorize these risks as follows: Pension, Investment, Operational and Emerging risks. The risk inherent in the interaction of these categories together is Funding Risk, which we define as the risk that the SC will be required to increase contributions and/or reduce benefits. The Board of Directors approves risk appetite statements which quantitatively and qualitatively describe the desired level of risk within the organization.

There is a series of risk appetite statements for the Primary Plan that address Funding Risk, and additional “subsidiary” risk-appetite statements for each of the categories noted above. Ongoing risk reporting is provided to the Senior Executive Team and the Board of Directors to assist them in discharging their oversight responsibilities.

The Risk-Appetite Statements:

- help define the desired level of risk within the Primary Plan and each of the respective risk categories;
- determine the nature, types, and degree of risk that OMERS is willing to assume through the articulation of qualitative statements and risk tolerances;
- establish metrics that allow OMERS to quantitatively assess its risk positioning relative to its desired risk appetite, as articulated by the qualitative statements and risk tolerances; and
- provide the Board and its Committees with the necessary information and transparency required to effectively discharge their risk oversight responsibilities and make key strategic decisions.

A brief overview of each category, its major components, and how we manage the risks is provided below.

Pension Risk

Pension Risk has two key aspects that affect the Plan: 1) the risk of experiencing significant, unexpected changes in OMERS pension liabilities and normal cost due to demographic experience or assumption changes – leading to the need to change contribution rates or benefits; or 2) the risk of failing to deliver appropriate value or perceived value to members and employers. To evaluate and address these risks, we review our assumption-setting philosophy and the impact of assumptions and methods regularly, in accordance with our Funding Policy; measure and assess value and equity of the Plan design and the actual experience of members; and assess the trade-off that must be made between inter-generational equity and contribution and benefit stability. We continuously enhance tools, practices and resources to deliver insights and analysis which help inform strategic decisions made by Senior Management and the OAC Board.

Investment Risk

Investment Risk includes three major categories: market risk, credit risk and liquidity risk. There are key aspects of Investment Risk that affect the Plan: permanent loss of capital, an appropriate risk-and-return trade-off, and the ability to execute our investment strategies. Items that are evaluated in assessing a permanent loss of capital include market risk, credit risk, counterparty risk, foreign exchange risk and valuation risk. Many of these categories are evaluated using quantitative measures. The risk-and-return trade-off is considered in light

of the strategic long-term asset mix, as evaluated at the portfolio level. Liquidity considers both short-term and longer-term requirements and helps promote active planning. Lastly, we consider the ability to execute our investment strategies. This mainly involves qualitative risk analysis. The evaluation of Investment Risk provides support for Senior Management in making strategic investment decisions. These decisions ultimately address the Plans' capability to sustain their long-term obligations to pay pensions.

Operational Risk

Operational Risk is the risk of loss arising either directly or indirectly from operational error due to failure in systems, processes, technology, actions of people, or unforeseen or unexpected external events. Examples of Operational Risk include:

- member and employer services – the risk of failing to efficiently and effectively manage the day-to-day business operations for pension administration and member and employer interactions;
- people – the risk that we may not have the appropriate talent in place to manage and support business activities;
- information technology – the risk that our systems and IT infrastructure may not appropriately support business activities, including protecting our member and investment information against cyber incidents;
- legal and regulatory – the risk that we are not compliant with laws and regulations; and
- process and initiatives – the risk of not having effective process controls in place, or the risk that major initiatives are not managed effectively.

The Operational Risk management program has a range of tools and processes that guide how OAC identifies, evaluates and tracks mitigation activities on an ongoing basis, including regular internal reporting on specific metrics for each area of risk.

Emerging Risks

Emerging Risks are defined as risks that are recognizable, and that may, at any time, accelerate or impact investment activities, or the operations of the enterprise, or potentially impact the Plan. Emerging Risks may not fall within the other three categories of risk noted above, yet may have significant impact on OMERS achieving its strategic objectives. We actively monitor and manage these risks. An Emerging Risk is a matter that, while not currently a top risk, is identified, evaluated and monitored for its potential to become a top risk.

On an ongoing basis, OMERS evaluates and monitors a number of Emerging Risks in an effort to understand their potential impact on our organization. These risks currently include evolving workforce trends, accelerating Plan maturity, and international trade developments (such as Brexit, for example), which remain in flux.