PUBLIC SERVICE PENSION PLAN

# 2017 Annual Report

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# Governance Statement

## Management of the Public Service Pension Plan

The Public Service Pension Plan (PSPP, or the Plan) is governed by rules found in the *Public Sector Pension Plans Act* and its regulations.

The Public Service Pension (PSP) Board is the legal owner of the PSPP assets. The President of Treasury Board and Minister of Finance (the Minister) holds the assets of PSPP in trust and is responsible in legislation for the administration of the Plan and investment management of its assets. The Minister has delegated the day-to-day tasks of operating the Plan:

- Alberta Pensions Services Corporation (APS) has been delegated all functions in relation to the administration of the Plan for members, pensioners and employers. APS is a provincial Crown corporation governed by a board of directors, with representatives from the private sector, pension boards and the Government of Alberta.

- Alberta Investment Management Corporation (AIMCo), a provincial Crown corporation, manages and invests the assets on behalf of the Minister and the PSP Board. AIMCo invests the Plan's assets according to the PSP Board's Statement of Investment Policies & Guidelines.

Aon Hewitt provides investment consulting services to the PSP Board. George & Bell Consulting Inc. provides pension consulting services, performs actuarial valuations of PSPP and recommends contribution rates to the PSP Board.

The Auditor General of Alberta conducts an independent audit of the financial statements of PSPP to ensure they are presented fairly in all material aspects and in accordance with Canadian accounting standards for pension plans.

Because there are a number of different organizations involved in the governance and operations of the Plan, ongoing communication, cooperation and collaboration are required of all parties. For that reason, PSPP has operating protocols with APS and with AIMCo that detail how the organizations will work together.

# The PSP Board

The PSP Board is a body of six individuals. The Government of Alberta nominates three employer representatives and the Alberta Union of Provincial Employees nominates three employee representatives.

**Based on rules found in the *Public Sector Pension Plans Act* and its regulations, the PSP Board is responsible for:**

- setting policy guidelines for the investment and management of PSPP's assets
- setting policy guidelines for the administration of PSPP
- setting contribution rates based on recommendations of the PSPP actuary

- making arrangements to have an actuarial valuation completed and filed with Canada Revenue Agency at least once every three years

- making recommendations for Plan rule changes
- reviewing administrative decisions as delegated by the Minister
- reviewing the responsibilities of the Trustee every five years

**The PSP Board has also established an Investment Committee comprised of the whole of the Board and up to three external members experienced in the investment industry.**

# Administration Report 2017

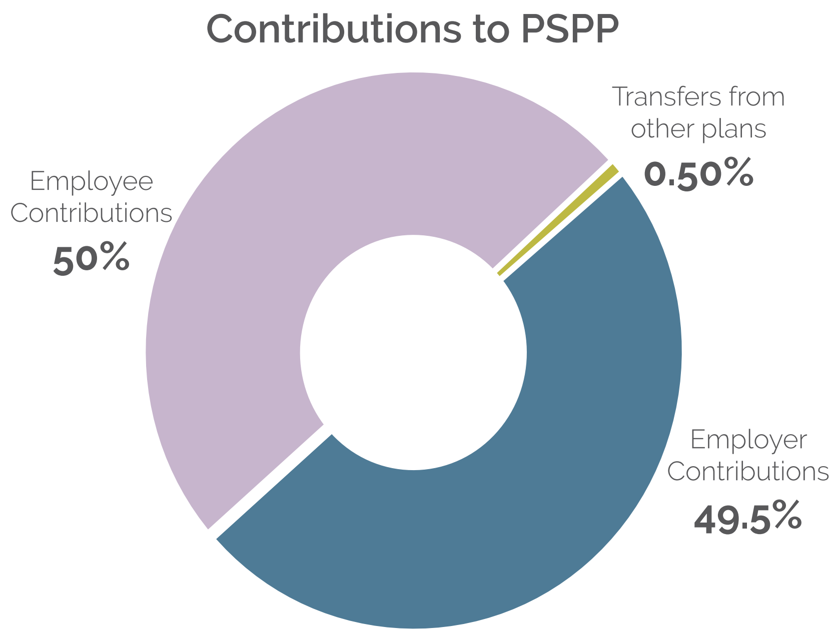
Alberta Pensions Services Corporation (APS) provides valued pensions services (as directed under a Pension Services Agreement with the President of Treasury Board and Minister of Finance) on behalf of Public Service Pension Plan (PSPP) members, pensioners, employers and plan governors.

Services include:

- Contributions management
- Member, pensioner and employer information management
- Member, pensioner and employer communications
- Benefit calculations
- Benefit disbursements
- Policy development and implementation
- Compliance, regulatory and plan financial reporting

## Contributions to PSPP

In 2017, total contributions to PSPP were $734,342 (thousands).



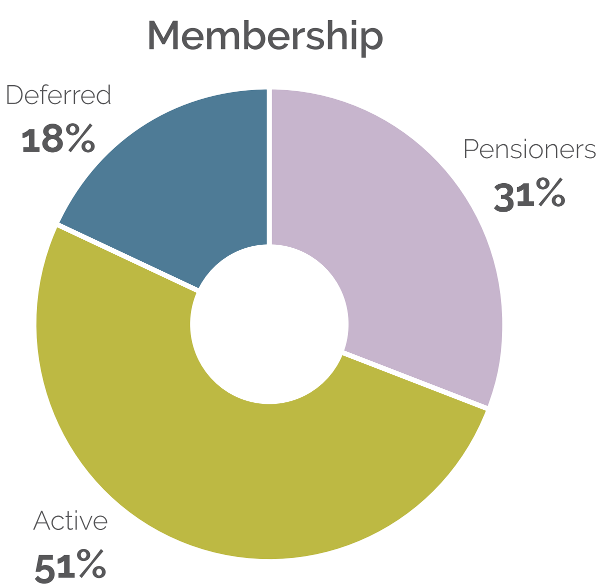
# Payments from PSPP

In 2017, total payments from PSPP were $638,535 (thousands).

| | |
|---|---|
| Pension benefit payments | $441,093 |
| Refunds | $113,388 |
| Transfers to other plans | $6,400 |
| Member service expenses | $13,038 |
| Investment expenses | $64,616 |
| Total payments | $638,535 |

# PSPP Members, Pensioners and Employers

Based on year-end totals, PSPP has 30 employers and a total of 84,396 active and deferred members and pensioners. In 2017, 4,498 members joined the Plan, 943 re-joined the Plan, 1,539 members retired, 3,048 members deferred funds, and 2,141 members terminated and left the Plan.




| | |
|---|---|
| Average age of PSPP active members | 43.7 |
| Average age of all retirees in 2017 | 72.6 |
| Average monthly pension paid out (Dec. 2017) | $1,514.37 |
| Average retirement age in 2017 | 59.9 |
| Percentage decrease in membership over 2016 | (0.7)% |

# PSPP Member Service Expenses

PSPP's share of APS operating and plan-specific costs are based on cost allocation policies approved by the President of Treasury Board and Minister of Finance.

PSPP's share of APS costs was $13,038,000 in 2017. Based on average membership, PSPP's per member service expense is $154, which includes APS operating costs, PSP Board costs, actuarial fees and other professional fees.

# Member Service Expenses

| | ($ thousands) | |
|---|---|---|
| | **2017** | 2016 |
| General administration costs | **12,630** | 12,955 |
| Board operating costs | **124** | 91 |
| Actuarial fees | **129** | 110 |
| Other professional fees | **155** | 148 |
| **Total** | **13,038** | 13,304 |
| Member service expenses per member | **$154** | $155 |

# Cost-of-Living Adjustment (COLA) to Pensions in Pay

After a member begins to receive a pension, a cost-of-living adjustment is applied every year there is an increase in the Alberta Consumer Price Index (ACPI). COLA is equal to 60 per cent of the yearly increase of the ACPI.

As of January 1, 2017, the COLA granted to pensioners was 0.78 per cent. For those who retired during 2017, this COLA was prorated.

# Activities in 2017

APS measures members' experience as it relates to pension benefit administration products and services provided by APS. In 2017, PSPP member satisfaction with APS was 81 per cent, an increase from 78 per cent in 2016.

In 2017, APS accomplished the following activities and achievements, strengthening its focus on delivering services for PSPP members effectively and efficiently and further enhancing their pension experience.

**Darwin Bozek was appointed as APS' new President and Chief Executive Officer in August, bringing a renewed focus on clients—the Plan boards—and their members.**

**In total, the Member Services Centre answered 167,715 calls with an abandon rate of only 1.2%, down from 17.3% the year prior. This is a result of factors including increase in staff, training and coaching.**

**APS achieved an overall member satisfaction score of 81%, an increase from 2016's overall score of 78%, surpassing the target satisfaction score set at 75%. This reflects a focus on continually improving contact centre experience and faster turnaround times on member files.**

**APS received 11 prestigious awards from organizations including the International Association of Business Communicators (IABC), Project Management Institute (PMI) of Northern Alberta, Benefits Canada, and the International Customer Management Institute. The awards were for work on the following projects which enhanced member service and satisfaction, such as:**

- **Planning and implementation of the Next Generation project, a new customer relationship management tool; and**
- **Improvement projects in the Member Services Centre.**

**APS is focusing on broadening the channels of communication. As part of mypensionplan.ca and online services, in 2017 there were 61,880 secure emails compared to 24,970 in 2016.**

**APS provided the planning, redesign, development and content for a new Plan website. The new website launched in the second quarter of 2018. In 2017 pspp.ca saw 194,870 visitors on the website.**

**Mypensionplan.ca provides members access to resources to help plan their retirement and the ability to update their personal information online. In 2017, PSPP registrations on mypensionplan.ca increased by 76%—from 11,373 enrollments to 19,979. In total, 24% of all current PSPP members are registered on the tool.**

**While Canadian peers, on average, had a cost per member of $230, APS achieved a cost per member of $178. This is notable because APS made significant investments in technology and communication tools in 2017, while still achieving a high standard of accurate, cost-effective service.**

# Looking Ahead to 2018

APS has launched an updated vision, mission and strategic priorities, as defined in APS' 2018 – 2022 Five-Year Strategic Plan. The strategic priorities are:

1. Enhance Stakeholder Relationships
2. Transform Member and Employer Interactions
3. Elevate Member and Employer Pension Benefit Education
4. Optimize Service Delivery
5. Align and Grow Workforce Capabilities

In 2018, APS will focus on the following areas and activities:

- Enhancing the organization's focus on serving its clients, the Plan boards, by constantly demonstrating the value of services to better meet client and member needs.
- Successfully launching the new PSPP website in early 2018, as well as the websites for two of the other Plans APS administers, to elevate members' understanding of and engagement with their pension plan.
- Achieving an approval rating of at least 67% (based on the industry average) on the new websites.
- Increasing mypensionplan.ca registrations across all Plans, transforming member interactions and further optimizing service delivery.
- Launching the online retirement tool PensionEase, which will allow members to submit their pension benefit applications online, also further optimizing service delivery.
- Continuing the optimization of Compass, the pension administration system, for the purpose of providing members with more efficient benefit administration.
- Enhancing online security to better protect client and member information by establishing a cyber-security framework and implementing a managed security services model.
- Achieving the goal of paying pensions within 30 days of a member's pension commencement date, once all member information is received, at a rate of 95ww. Among other things, APS continues to be proactive in following-up with members on receiving required documents.


# Plan Performance

Surplus:
**$1.276 Billion**

Pension Obligation:
**$12.150 Billion**

Fair Value of Net Assets:
**$13.426 Billion**

Income and Contributions:
**$2.154 Billion**

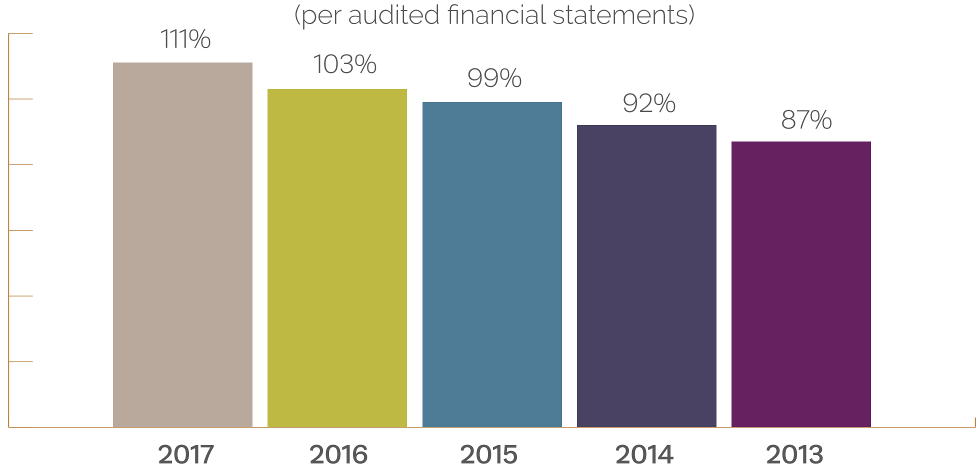
Benefits and Expenses:
**$639 Million**

# PSPP Members, Pensioners and Employers

The financial position of PSPP continued to improve in 2017. At December 31, 2017, the fair value of the Plan's net assets increased by 12.7 per cent (or $1,515 million) to $13.426 billion. The increase in net assets was greater than the increase in the estimated pension obligation which grew by 4.7 per cent (or $542 million) to $12.150 billion. According to the 2017 audited financial statements, the Plan's funded status continued to improve, with the surplus reaching $1.276 billion. This is an increase of $973 million from the prior year surplus of $303 million.

## Per cent of Pension Obligation Supported by Net Assets

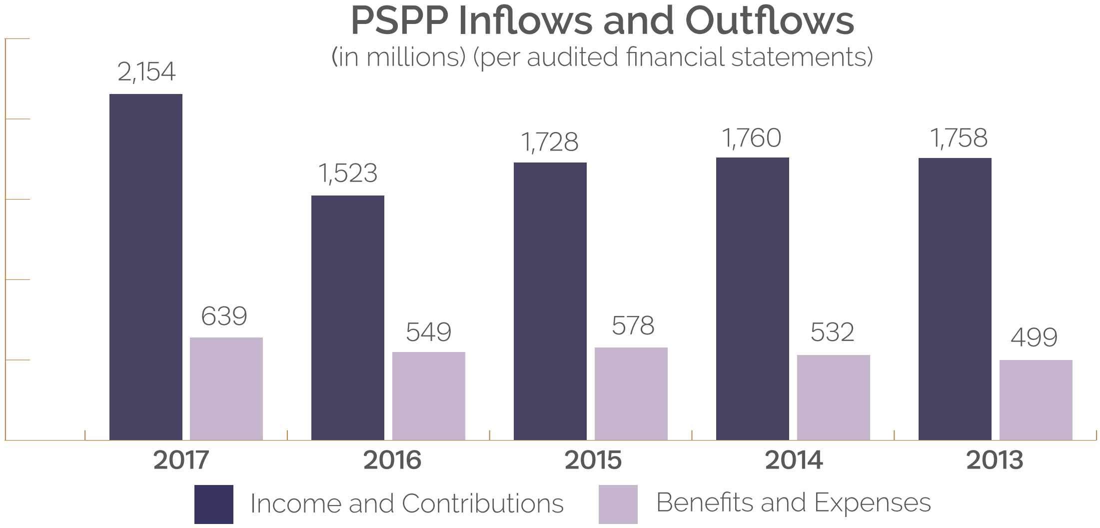
(per audited financial statements)




At December 31, 2017, the financial position of the Plan improved so that 111 per cent of the total pension obligation was supported by net assets, the highest funded status since 2000.

## PSPP Inflows and Outflows

(in millions) (per audited financial statements)



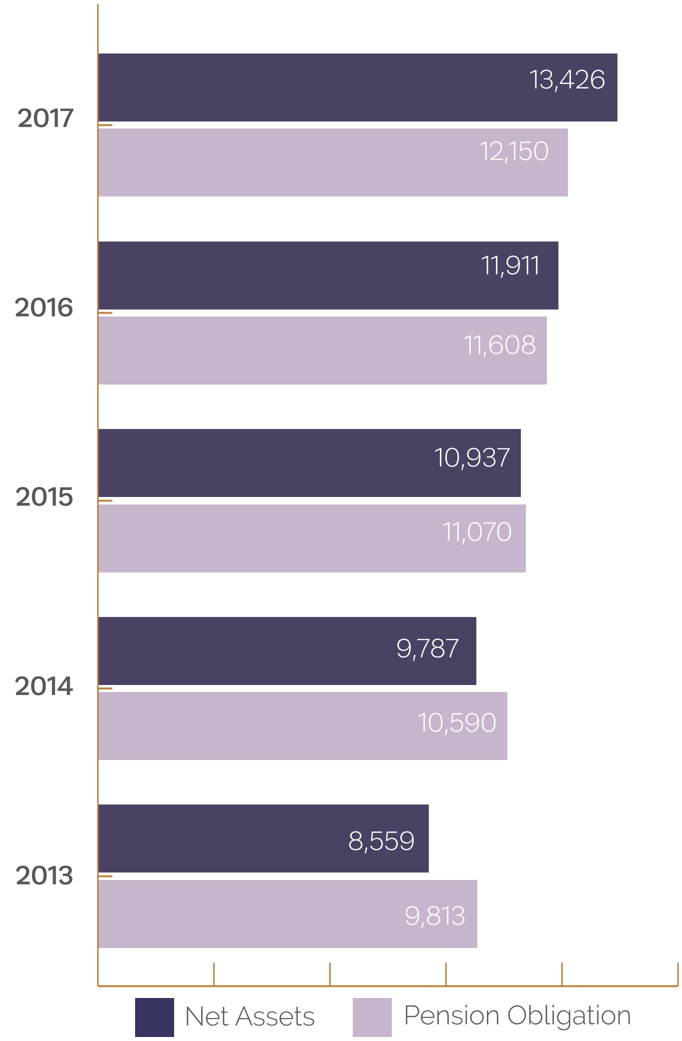

In 2017, inflows from investment income and contributions totaling $2.154 billion were more than triple the outflows for benefit payments and expenses of $639 million.

The chart to the right shows the gap between the total pension obligation and the net assets. By the end of 2017, the gap that was eliminated in 2016 continued to widen as the growth in net assets outpaced the growth in the pension obligation. The total pension obligation is based on the estimated net present value of future pension benefits paid to employees when they retire. Retirement benefits earned by employees provide a lifetime pension for each year of pensionable service based on a specified percentage applied to the average salary for the five highest consecutive years, subject to the maximum benefit limit allowed under the *Canadian Income Tax Act*. The estimated pension obligation increases annually for each additional year of pensionable service earned by employees. The pension obligation is an estimate because it is based on various assumptions used by the Plan's actuary. For example, an estimated discount rate is used to determine the present value of future retirement payments. A lower estimated discount rate will increase the total pension obligation. Similarly, a higher estimated life expectancy will increase the pension obligation. Net assets increase when there are positive overall investment returns and when employee and employer contributions exceed pension benefits paid. Net assets decrease when there are investment losses.

At December 31, 2017, the fair value of the Plan's net assets totaling $13.426 billion was higher than the estimated pension obligation of $12.150 billion resulting in a surplus of $1.276 billion. There were no changes to the major assumptions for accounting purposes.

## Net Assets Compared to Total Pension Obligation

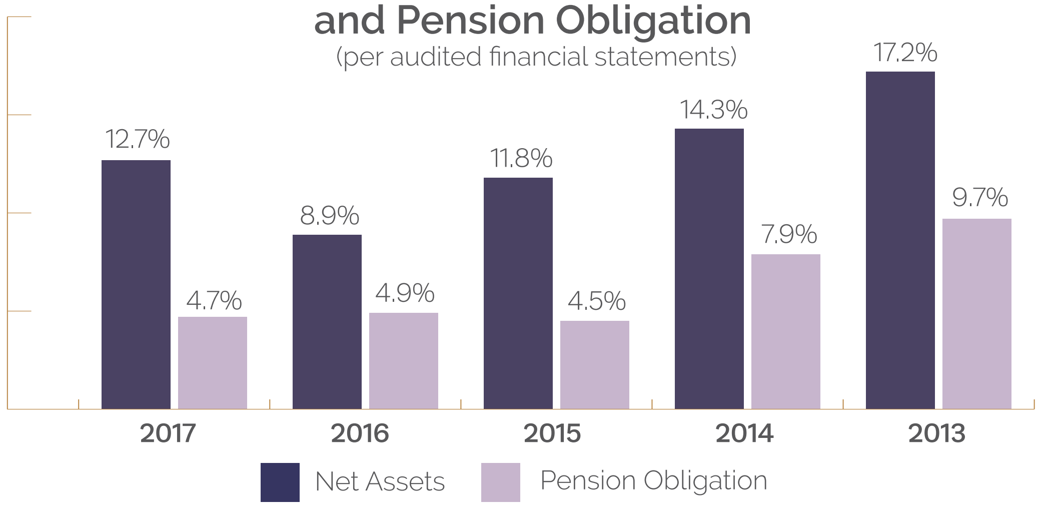
(in millions) (per audited financial statements)




## Per Cent Change in Net Assets and Pension Obligation

(per audited financial statements)

As shown in the chart to the right, net assets increased by 12.7 per cent in 2017 compared to an increase in the pension obligation of 4.7 per cent.



# Investment Performance

# 2017 Year in Review

**Investments**
$13.4 Billion

**Return on Investment**
11.3 per cent

**Investment Income**
$1.42 Billion

**Investment Expense**
$65 Million

The markets in the 1st quarter of 2017 were strong, continuing the momentum of the surprise results from the U.S. federal election in 2016 and the inauguration of the new President. PSPP gained 3.5 per cent on its investments. The strengthening global economy led both the U.S. Federal Reserve and the Bank of Canada to start increasing interest rates. This caused a widening in bond yields, reducing fixed income gains. PSPP's investments gained 1.1 per cent in each of the 2nd and 3rd quarters.

In the 4th quarter, PSPP's investments gained 5.1 per cent, ending the year with an overall annual return of 11.3 per cent in 2017, net of investment expenses.

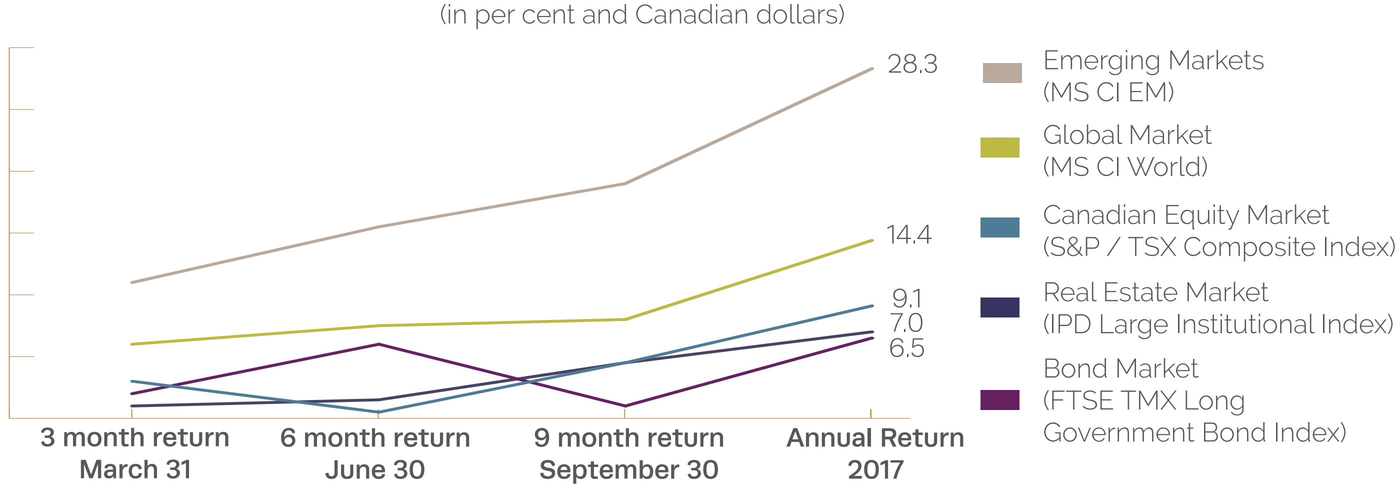
In 2017, PSPP earned $1,420 million, before investment expenses, compared to $814 million in 2016. Investment expenses totaled $65 million compared to $44 million in 2016. At December 31, 2017, the investments totaled $13.4 billion compared to $11.9 billion at the beginning of the year. At December 31, 2017, Plan assets were invested in equities, 57.8 per cent (2016: 57.5 per cent), money market and fixed income securities, 21.8 per cent (2016: 21.0 per cent), alternative investments, 19.8 per cent (2016: 20.8 per cent) and strategic opportunities and currency hedges, 0.6 per cent (2016: 0.7 per cent). Alternative investments include real estate, infrastructure and timberland investments.

Overall, PSPP's investments gained 11.3 per cent in 2017, net of investment expenses, compared to 6.9 per cent in 2016. Active management from AIMCo resulted in value added of 1.6 per cent, compared to 0.3 per cent in 2016.

The chart below compares the market returns from various indices around the world. The emerging markets equity index had the highest returns in 2017 with a gain of 28.3 per cent in Canadian dollars. The global equity markets returned 14.4 per cent in 2017 in Canadian dollars followed by a gain of 9.1 per cent in the Canadian public equity market. The real estate index reported a return of 7.0 per cent and the bond market had a return of 6.5 per cent.

## 2017 Summary of Return for Major Market Indicies

(in per cent and Canadian dollars)



## Long-Term Investment Objectives for Funding Purposes

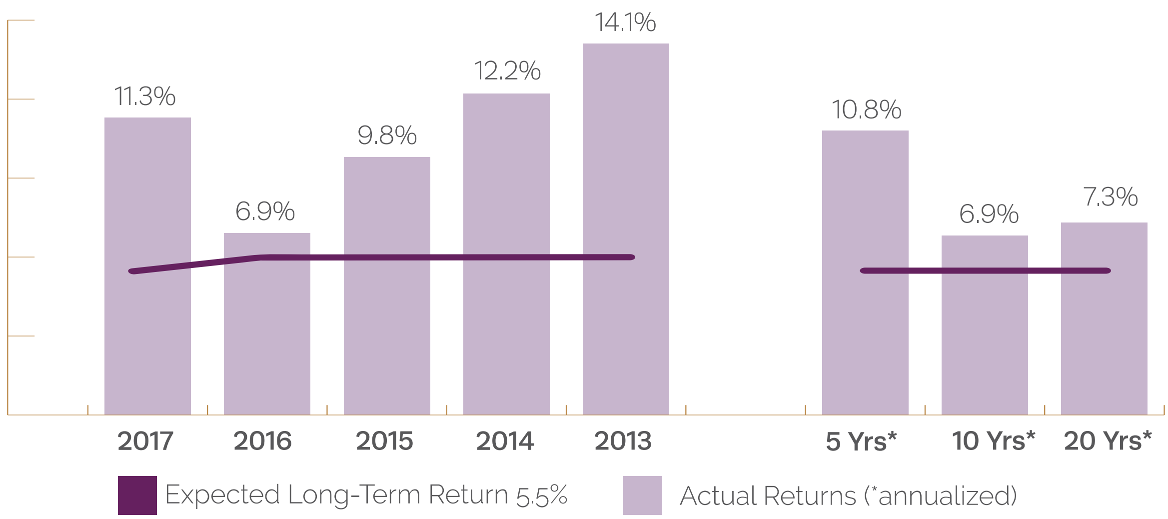
To date, accumulated investment income provides approximately 58 per cent of PSPP's total inflows with contributions from employees and employers providing 42 per cent. Therefore, investment earnings are a key PSPP funding source. Assets are managed with an objective to help provide promised benefits for PSPP beneficiaries.

To meet the long-term funding needs of PSPP, the actuarial valuation reduced the discount rate to 5.5 per cent, which is comprised of an assumed real rate of return of 3.4 per cent and an inflation rate of 2.1 per cent. The assumed real rate of return includes a 1.0 per cent margin for adverse deviation.

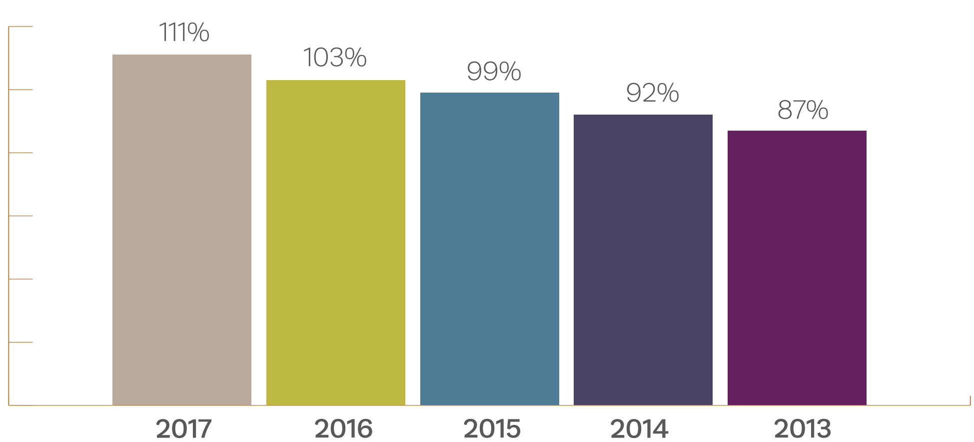
## Annual Returns by Year and Per Cent of Pension Obligation Supported by Net Assets

According to the audited financial statements, the Plan's investments generated a return of 11.3 per cent in 2017 and 7.3 per cent per annum over the past 20 years. At December 31, 2017, the Plan's assets supported 111 per cent of the Plan's total pension obligation compared to 103 per cent the previous year.

### Summary of PSPP Investment Returns




### Per Cent Pension Obligation Supported by Net Access



# Statement of Investment Policies & Guidelines (SIP&G)

## Investment Management Overview

PSPP assets are invested in accordance with the PSP Board's SIP&G. The Ministry of Treasury Board and Finance holds the assets of PSPP in trust and is responsible in legislation for the investment management of PSPP assets. This responsibility has been delegated to Alberta Investment Management Corporation (AIMCo), an Alberta provincial corporation. AIMCo provides the day-to-day investment services for the Plan's investment portfolio. AIMCo invests PSPP's assets in accordance with legislation and the investment policies set by the Board. The Plan invests in units of pooled investment funds created and managed by AIMCo. Pooled fund units have a market-based unit value that is used to allocate income to participants in the pool and to value purchases and sales of units. There are thousands of securities held in various pooled funds. These securities are bought and sold and managed by AIMCo on a daily basis.

The SIP&G establishes investment principles and guidelines, considering PSPP's benefit design, demographics, risk tolerance and liabilities. The PSP Board reviews the SIP&G at least once a year to ensure that the PSPP Fund is managed within an appropriate and prudent level of risk.

## Proxy Voting

The PSP Board considers proxy voting to be a key element of responsible investing and believes that thoughtful voting is a contributor to optimizing the long term value of investments. The PSP Board delegates the proxy voting function to AIMCo. Research and proxy voting have been outsourced to an independent adviser who specializes in providing proxy-related services to institutional investors. While AIMCo may review and utilize the recommendations of the research provider in making proxy voting decisions, they are in no way obligated to follow such recommendations.

## Risk Management System

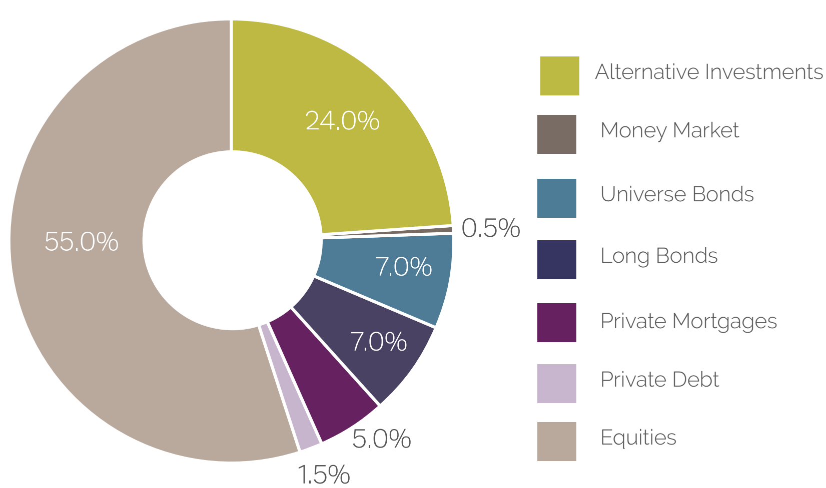
PSPP is invested in a wide spectrum of asset classes to help improve the likelihood of achieving desired results for a given level of risk. As such, investment risk management is a central thesis for PSPP's investment manager. AIMCo seeks to measure and monitor both historic and possible future risks, allocating risk as a scarce resource to the most promising investment opportunities. AIMCo maintains a quantitative investment risk system designed to operate across all asset classes and take into account a variety of risk types such as credit risk, price risk, interest rate risk, currency risk and liquidity risk.

## Policy Asset Mix

The asset class structure shown on the right supports the PSPP investment strategy, which focuses on funding PSPP over the long-term.

AIMCo is given the following broad ranges to invest within each asset class: Equities (37 to 65 per cent); Alternative investments (15 to 30 per cent); money market (0 to 3 per cent); long and universe bonds (4 to 10 per cent); private mortgages (3 to 7 per cent) and private debt (0 to 3 per cent). In addition, AIMCo may invest up to 3 per cent of the Plan's investments in strategic opportunities that are outside the asset classes listed above. It may also invest in currency hedges.

### PSPP Target Asset Mix

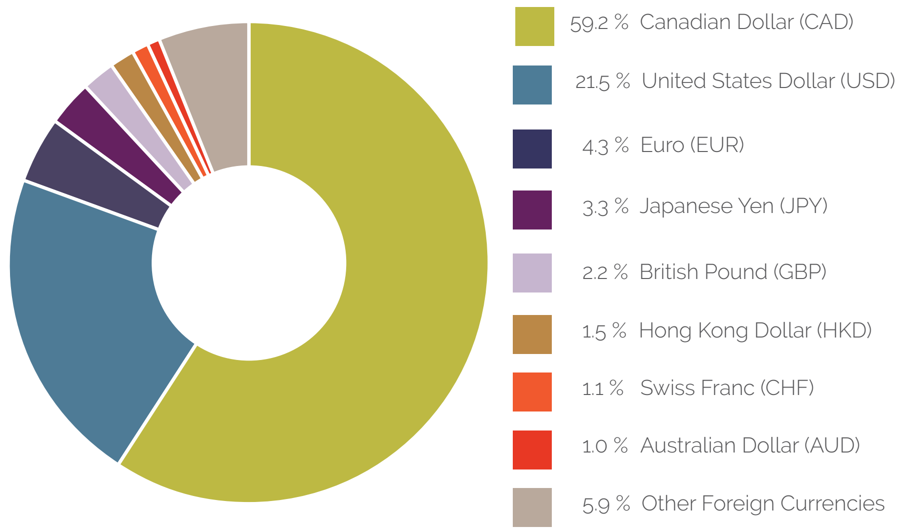


The table below shows the long-term policy asset mix for each asset class compared to the actual holdings at December 31, 2017.

## Long-Term Policy Asset Mix
(percentage of Fund)

| Asset Class | Target | Min | Max | Actual |
|---|---|---|---|---|
| **FIXED INCOME SECURITIES** | **21.0%** | **11.0%** | **33.0%** | **21.8%** |
| Deposits and short-term | 0.5% | 0.0% | 3.0% | 0.6% |
| Long Bonds | 7.0% | 4.0% | 10.0% | 6.5% |
| Universe bonds | 7.0% | 4.0% | 10.0% | 10.2% |
| Private mortgages | 5.0% | 3.0% | 7.0% | 4.0% |
| Private debt and loan | 1.5% | 0.0% | 3.0% | 0.5% |
| **EQUITIES** | **55.0%** | **37.0%** | **65.0%** | **57.8%** |
| Canadian | 13.0% | 10.0% | 18.0% | 13.6% |
| Global | | | | |
| Traditional | 22.0% | 19.0% | 27.0% | 36.5% |
| Low Volatility | 11.0% | 8.0% | 14.0% | |
| Emerging markets | 5.0% | 0.0% | 7.0% | 5.3% |
| Private equity | 4.0% | 0.0% | 6.0% | 2.4% |
| **ALTERNATIVE INVESTMENTS** | **24.0%** | **15.0%** | **30.0%** | **19.8%** |
| Canadian real estate | 13.0% | 10.0% | 15.0% | 11.1% |
| Foreign real estate | 2.0% | 0.0% | 3.0% | 1.6% |
| Infrastructure | 9.0% | 5.0% | 12.0% | 7.1% |
| **STRATEGIC OPPORTUNITIES AND CURRENCY HEDGES** | **-** | **-** | **-** | **0.6%** |
| Total | 100.0% | | | 100.0% |

## PSPP Investments by Currency




### Investments by Currency

At December 31, 2017, 59.2 per cent of the Plan's investments were denominated in Canadian currency (2016: 60.7 per cent) and 40.8 per cent in foreign currencies (2016: 39.3 per cent). Investments in U.S. currency comprised 21.5 per cent (2016: 21.0 per cent) of total investments followed by 19.3 per cent (2016: 18.3 per cent) in other currencies outside North America.

### Investment Expenses

In 2017, investment expenses charged by AIMCo, before GST, increased by 45.2 per cent compared to a decrease of 18.3 per cent last year. Average investments under management increased by 11.1 per cent compared to 10.2 per cent last year, with active management by AIMCo adding 1.6 per cent in value added compared to 0.3 per cent last year added compared to 0.3 per cent last year.

| ($ millions) | 2017 | 2016 |
|---|---|---|
| Amounts charged by AIMCo for:<br>Investment costs (a) | $52.9 | $42.1 |
| Performance based fees (a) | 9.1 | 0.6 |
| **Total investment expense before GST** | **62.0** | **42.7** |
| GST (b) | 2.6 | 1.7 |
| **Total investment expense after GST** | **$64.6** | **$44.4** |
| Per cent increase (decrease) in investment expense, before GST | 45.2% | (18.3)% |
| Per cent increase in average investments under management | 11.1% | 10.2% |
| Value added by AIMCo | 1.6% | 0.3% |
| Investment expense as per cent of each dollar earned | 4.6% | 5.5% |
| Investment expense as per cent of each dollar invested | 0.5% | 0.4% |

(a) Please refer to AIMCo's financial statements for a detailed breakdown of the types of expenses incurred by AIMCo. Amounts recovered by AIMCo for investment costs include those costs that are primarily non-performance related including external performance fees, external administration costs, employee salaries and incentive benefits and overhead costs. Amounts recovered by AIMCo for performance based fees related to external managers hired by AIMCo.

(b) Two-thirds of GST paid is expensed in the year and the remaining one-third is recorded as a receivable until received. In 2017, GST includes amounts previously recorded as receivable but determined to be unrecoverable and expensed in the year.

## PSPP Investment Performance Summary

The PSPP policy benchmark return is based on the policy asset mix weightings set by the PSP Board and returns of related market benchmarks. The policy benchmarks are documented in the SIP&G for PSPP. Investment performance is measured against PSPP's policy benchmark to determine the impact of the manager's investment decisions.

According to the SIP&G, the PSP Board expects that, in aggregate, the investment manager to earn a return, net of fees, which exceeds the rate of return of the benchmark portfolio by 85 basis points, or 0.85 per cent, over a rolling four-year time horizon.

Over four years, the actual value added return by AIMCo was 0.8 per cent per annum. Over the longer term of twenty years, the value added return by the investment manager was 0.4 per cent per annum.

| Table of Investment Returns [A] | December 31, 2017 | | Annual Returns % | | | | Compound Annualized Return 4 yr |
|---|---|---|---|---|---|---|---|
| | Fair Value (in millions) | Asset Mix (%) | 2017 | 2016 | 2015 | 2014 | |
| **Total Fund Return** | **$13,419.2** | **100.0** | **11.3** | **6.9** | **9.8** | **12.2** | **10.0** |
| Policy Benchmark Return (Market Return) | | | 9.7 | 6.6 | 8.0 | 12.5 | 9.2 |
| Value Added Return | | | 1.6 | 0.3 | 1.8 | (0.3) | 0.8 |
| Consumer Price Index [B] | | | 2.1 | 1.2 | 1.4 | 2.0 | 1.7 |
| **Money Market** | **78.4** | **0.6** | **1.0** | **0.9** | **0.9** | **1.6** | **1.0** |
| FTSE TMX 91-Day T-Bill Index | | | 0.6 | 0.5 | 0.6 | 0.9 | 0.7 |
| **Universe bonds** | 1,363.0 | 10.2 | 3.3 | 3.3 | 4.1 | 9.8 | 5.1 |
| **Private mortgages** | 543.0 | 4.0 | 2.5 | 2.1 | 5.0 | 9.7 | 4.8 |
| **Private debt** | 67.4 | 0.5 | 2.3 | 4.4 | 6.1 | 7.0 | 5.0 |
| FTSE TMX Universe Bond Index | | | 2.5 | 1.7 | 3.5 | 8.7 | 4.1 |
| **Long-term Government Bonds** | 869.1 | 6.5 | 7.6 | 2.4 | 4.1 | 18.8 | 8.1 |
| FTSE TMX Long-term Government Bond Index | | | 6.5 | 1.3 | 4.5 | 17.9 | 7.4 |
| **Real Return Bonds** | - | - | n/a | n/a | 3.0 | 13.5 | n/a |
| FTSE TMX Real Return Bond (RRB) Index | | | n/a | n/a | 2.8 | 13.2 | n/a |
| **Equities** | | | **14** | **7.6** | **12.3** | **13.2** | **12.0** |
| Combined Benchmark | | | 13.2 | 7.8 | 9.7 | 12.7 | 10.9 |
| Canadian Equity | 1,822.3 | 13.6 | 10.2 | 19.9 | (7.4) | 12.4 | 8.3 |
| S&P/TSX Composite Index | | | 9.1 | 21.1 | (8.3) | 10.6 | 7.6 |
| Global Equity | 4,899.5 | 36.5 | 15.8 | 2.7 | 20.9 | 13.9 | 13.1 |
| MSCI World Index | | | 13.1 | 2.0 | 18.9 | 14.4 | 11.9 |
| Emerging Markets | 703.7 | 5.3 | 30.4 | 8.7 | 6.2 | 10.4 | 13.5 |
| MSCI Emerging Markets Index | | | 28.3 | 7.3 | 2.0 | 6.6 | 10.6 |
| Private Equity | 327.3 | 2.4 | (1.4) | 1.2 | 26.4 | 14.1 | 9.3 |
| Combined Benchmark [C] | | | 8.6 | 8.3 | 17.1 | 13.5 | 11.8 |

| Table of Investment Returns [A] | December 31, 2017 | | Annual Returns % | | | | Compound Annualized Return 4 yr |
|---|---|---|---|---|---|---|---|
| | Fair Value (in millions) | Asset Mix (%) | 2017 | 2016 | 2015 | 2014 | |
| INFLATION SENSITIVE | | | 9.5 | 6.4 | 11.0 | 6.0 | 8.0 |
| Combined Benchmark | | | 6.7 | 5.8 | 9.4 | 11.4 | 8.0 |
| **Real Estate** | 1,710.4 | 12.7 | 8.8 | 5.0 | 7.4 | 7.6 | 6.9 |
| IPD Large Institutional Index | | | 7.0 | 5.8 | 8.0 | 7.1 | 7.0 |
| **Infrastructure** | 764.5 | 5.7 | 9.2 | 9.5 | 20.6 | 6.4 | 9.3 |
| Combined Benchmark [D] | | | 6.1 | 5.8 | 9.1 | 13.6 | 8.6 |
| **Timberland** | 186.1 | 1.4 | 17.5 | 10.0 | 7.6 | (2.9) | 7.6 |
| Combined Benchmark [D] | | | 6.1 | 5.8 | 9.1 | 13.6 | 8.6 |
| **STRATEGIC OPPORTUNITIES AND CURRENCY HEDGING** | | | 5.0 | (5.1) | (32.2) | 1.2 | 21.8 |
| Strategic Opportunities | 84.5 | 0.6 | 5.0 | (3.2) | 42.8 | 16.0 | 15.5 |
| Currency Hedges | 0.0 | 0.0 | n/a | n/a | n/a | n/a | n/a |

(A) Investment returns provided by AIMCo. Investment returns for assets classified as Level 3 in the financial statements are based on estimates of fair value. Level 3 includes real estate, private equities, infrastructure, timberland, hedge funds and private debt. For these investments measurement uncertainty exists because trading activity is infrequent and fair values are derived using valuation techniques which incorporate assumptions that are based on non-observable market data. Reasonably possible alternative assumptions could yield an increase or decrease in the fair value amounts and investment returns reported for these types of investments. Any change in estimated returns and valuations, resulting from new information received after the cut-off date for preparation of the Plan's financial statements, will be reflected in the next reporting period.
(B) The Consumer Price Index (CPI) is calculated and reported on a one-month lagged basis due to a timing difference in reporting with Statistics Canada.
(C) Effective January 1, 2016, CPI + 7.0%. Previously, MSCI All Country World Index (ACWI)
(D) Effective November 1, 2015, CPI + 4.5%. Previously, 50% FTSE TMX RRB Index and 50% MSCI ACWI.

# Money Market and Fixed Income Securities

The Plan's money market and fixed income portfolio consists of money market securities, long and universe bonds, private mortgages and private debt totaling 21.8 per cent, or $2.921 billion, of total investments at December 31, 2017, compared to 21.0 per cent, or $2.495 billion the previous year.

## Money Market

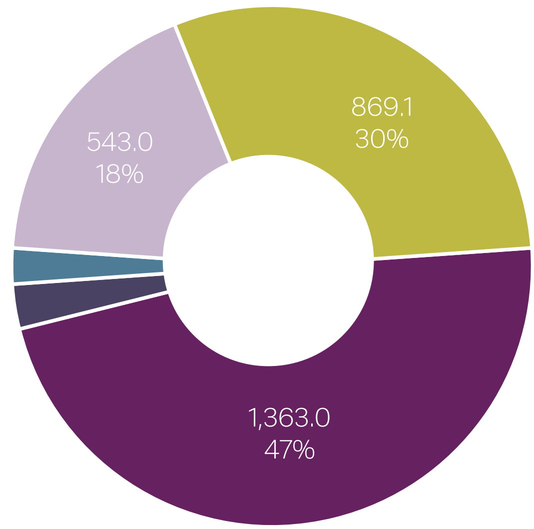
At December 31, 2017, money market securities comprised 0.6 per cent of PSPP total investments or $78 million compared to 0.8 per cent or $92 million the previous year.

Money market securities primarily include deposits in the Consolidated Cash Investment Trust Fund (CCITF). The CCITF is a portfolio of investments which includes short-term and mid-term fixed income securities issued by banks, various levels of government and major corporations with a maximum term-to-maturity of three years.

## Long Bonds

Long bonds totaled 6.5 per cent of the total portfolio or $869 million at December 31, 2017 compared to 6.1 per cent or $731 million the previous year.

**Money Market and Fixed Income Securities**
December 31, 2017 (in millions)




| Money Market | Actual Return % | Benchmark FTSE TMX 91-Day T-Bill Index % | Value Added % |
|---|---|---|---|
| One Year | 1.0 | 0.6 | 0.4 |
| Four Years (annualized) | 1.0 | 0.7 | 0.3 |

| Pooled Fund Investments (by Issuer) compared to Benchmark Index (in per cent) December 31, 2017 Issuer | Canadian Long-term Government Bond Pool | Benchmark FTSE TMX LT All Government Bond Index |
|---|---|---|
| Federal | 20 | 28 |
| Provincial | 67 | 68 |
| Municipal | 6 | 3 |
| Corporate | 6 | – |
| Under 1 year | – | – |
| | 100 | 100 |

* may not add to 100% due to rounding

| Long bonds | Actual Return % | Benchmark FTSE TMX LT Government Bond Index % | Value Added % |
|---|---|---|---|
| One Year | 7.6 | 6.5 | 1.1 |
| Four Years (annualized) | 8.1 | 7.4 | 0.7 |

## Universe Bonds

Universe bonds totaled 10.2 per cent of the total portfolio or $1,363 million at December 31, 2017, compared to 9.3 per cent or $1,107 million the previous year.

| Universe bonds | Actual Return % | Benchmark FTSE TMX Universe Bond Index % | Value Added % |
|---|---|---|---|
| One Year | 3.3 | 2.5 | 0.8 |
| Four Years (annualized) | 5.1 | 4.1 | 1.0 |

| Pooled Fund Investments (by Issuer) compared to Benchmark Index (in per cent)<br>December 31, 2017<br>Issuer | Universe Fixed Income Pool | Benchmark FTSE TMX Universe Bond Index |
|---|---|---|
| Federal | 26 | 37 |
| Provincial | 31 | 34 |
| Municipal | – | 2 |
| Corporate | 41 | 27 |
| Private debt and mortgages | 1 | – |
| Under 1 year | – | – |
| | 100* | 100 |

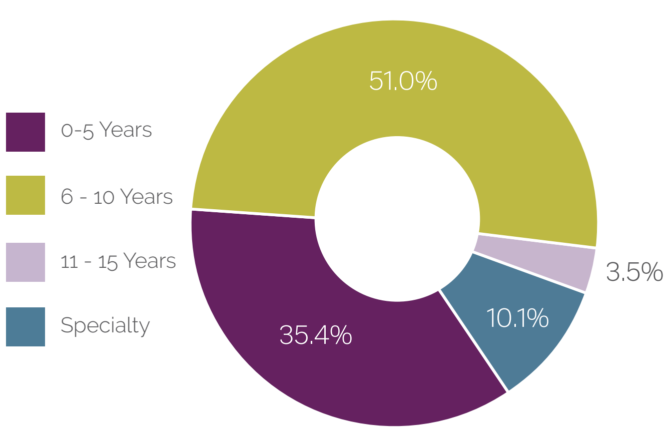
* may not add to 100% due to rounding

## Private Mortgages and Private Debt

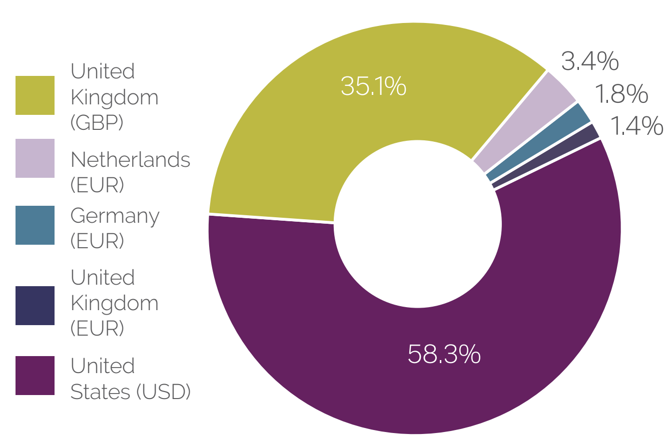
The Plan also invests in private mortgages and private debt securities. The private mortgage portfolio is managed over a longer term investment horizon providing stable cash flows. Private mortgages accounts for 4.0 per cent of the Plan's investments, or $543 million, at December 31, 2017, compared to 4.3 per cent, or $511 million, in the previous year.

The private debt portfolio generates high current income and preservation of capital through diversification. Private debt accounts for 0.5 per cent of the Plan's investments, or $67 million, at December 31, 2017, compared to 0.5 per cent, or $54 million, in the previous year.

### Private Mortgage Investments by Maturity Term

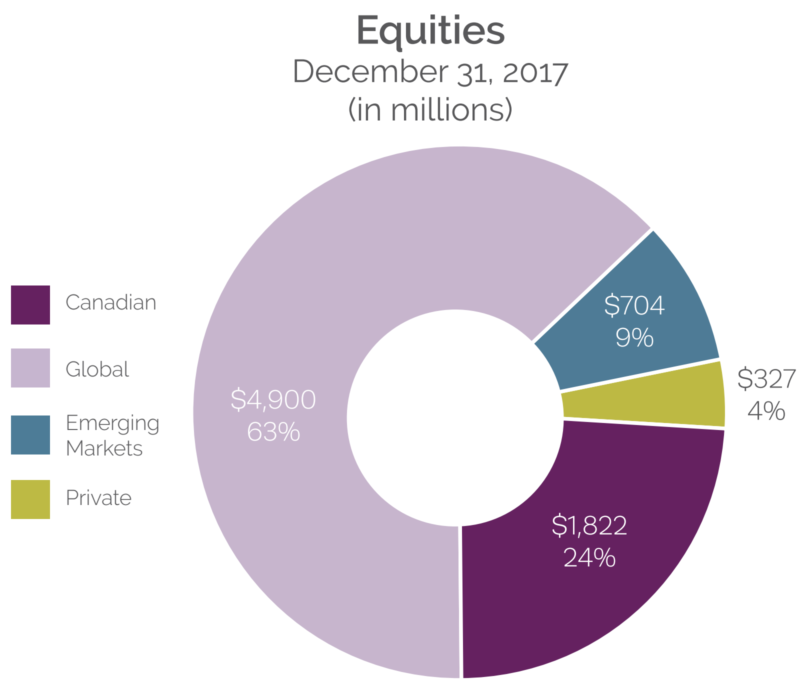



### Private Debt Investments by Country and Currency



# Equities

At December 31, 2017, equities comprised 57.8 per cent of the total investments or $7.753 billion up from 57.5 per cent or $6.829 billion, the previous year. The Plan's equity portfolio includes investments in AIMCo's Canadian, global, emerging markets and private equity pools.




## Canadian Public Equities

At December 31, 2017, Canadian equities comprised 13.6 per cent of PSPP's total investments or $1,822 million compared to 14.1 per cent or $1,678 million the previous year. The Plan's Canadian equity investment is held in AIMCo's Canadian Equities Master Pool, which in turn invests in the Global Alpha Strategy (GLAS) and structured equity products that replicate Canadian public equities. The purpose of GLAS is to gain access to more markets than would be available if the pool were locked to specific countries or industries, providing more opportunities for value-add return (alpha). GLAS's portfolio is actively managed by AIMCo and includes directly held investments in public companies in the U.S. Europe, Australasia and Far East (EAFE) with smaller allocations to emerging markets and Canada. Non-Canadian exposure is swapped out to provide exposure to the Standard and Poor's Toronto Stock Exchange (S&P/TSX) while still maintaining the alpha earned in GLAS.

| Canadian Equities Master Pool Industry Exposure Relative to Benchmark<br>December 31, 2017 | | |
|---|---|---|
| Sector | Benchmark TSX Composite Index % | Over (Under) Benchmark % |
| Consumer discretionary | 5.4 | 0.8 |
| Consumer staples | 3.7 | (0.3) |
| Energy | 19.7 | (0.3) |
| Financials | 34.6 | 0.5 |
| Health care | 1.0 | (0.3) |
| Industrials | 9.5 | (0.4) |
| Information technology | 3.2 | 0.3 |
| Materials | 11.5 | 0.6 |
| Real estate | 2.9 | (0.3) |
| Telecommunications | 4.7 | (0.2) |
| Utilities | 3.8 | (0.3) |
| | 100* | |

* may not add to 100% due to rounding

| Canadian Public Equities | Actual Return % | Benchmark S&P/TSX Composite Total Return Index % | Value Added % |
|---|---|---|---|
| One Year | 10.2 | 9.1 | 1.1 |
| Four Years (annualized) | 8.3 | 7.6 | 0.7 |

## Global Equities

At December 31, 2017, global equities comprised 36.5 per cent of PSPP's total investments or $4.900 billion up from 35.7 per cent, or $4.238 billion, the previous year. PSPP invests in units of AIMCo's Global Equities Master Pool which makes up 68 per cent of the Plan's global equity investment. The Pool's investment in GLAS provides exposure to a diverse market which intends on providing a higher rate of return than what could be earned investing solely in traditional global markets. The Pool replicates exposure to foreign equity markets by investing in structured equity products using index swaps and futures contracts. PSPP also invests in units of AIMCo's Global Minimum Variance Pool, which makes up 30 per cent of the Plan's global equities. The pool aims to have lower realized volatility than capitalization-weighted indices while providing similar or better returns. The remaining 2 per cent of global equities is held in the Life Settlement Holdings (LSH) Pool. The LSH Pool invests in discounted life insurance policies.

| Global Equities | Actual Return % | Benchmark MSCI World Index % | Value Added % |
|---|---|---|---|
| One Year | 15.8 | 13.1 | 2.7 |
| Four Years (annualized) | 13.1 | 11.9 | 1.2 |

| Global Equities Master Pool Industry Exposure Relative to Benchmark December 31, 2017 | | |
|---|---|---|
| Sector | Benchmark MSCI World Total Return Index % | Over (Under) Benchmark % |
| Consumer discretionary | 12.3 | 0.8 |
| Consumer staples | 9.0 | (0.3) |
| Energy | 6.3 | (0.3) |
| Financials | 18.1 | 0.5 |
| Health care | 11.8 | (0.3) |
| Industrials | 11.6 | (0.4) |
| Information technology | 16.8 | 0.2 |
| Materials | 5.3 | 0.6 |
| Real estate | 3.1 | (0.3) |
| Telecommunications | 2.8 | (0.2) |
| Utilities | 3.0 | (0.3) |
| | 100* | |

* may not add to 100% due to rounding

| Global Equities Master Pool Relative Regional Exposure to Benchmark December 31, 2017 | | |
|---|---|---|
| Region | Benchmark MSCI World Total Return Index % | Over (Under) Benchmark % |
| United States | 59.2 | 0.2 |
| Europe, Australasia & the Far East | 37.2 | 0.2 |
| Emerging markets | 0.0 | (0.2) |
| Canada | 3.6 | (0.1) |
| | 100* | |

* may not add to 100% due to rounding

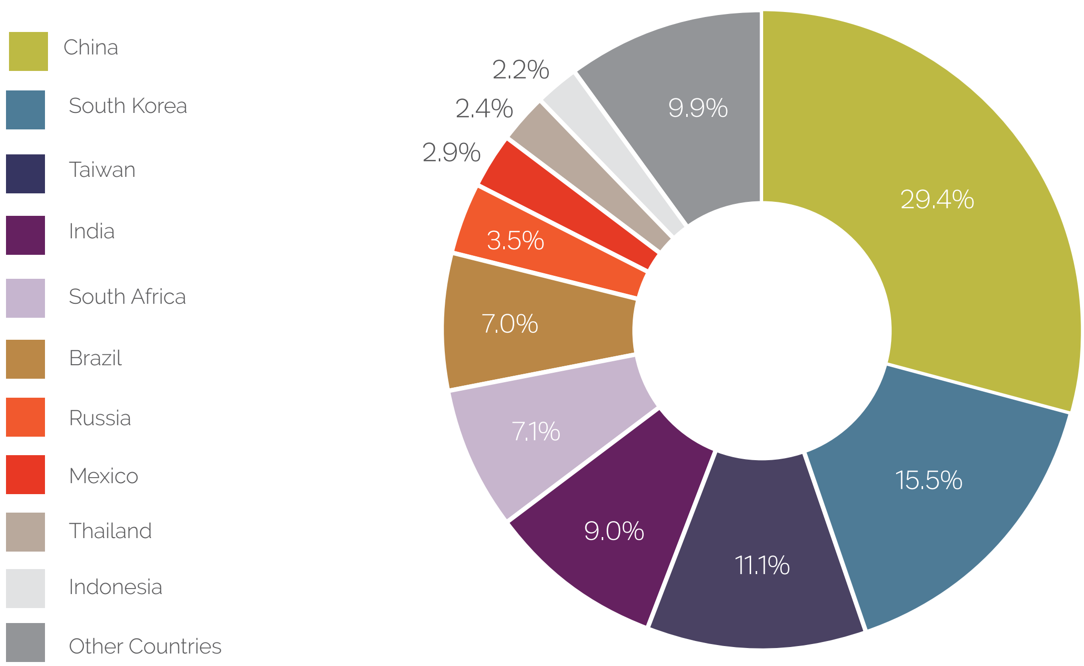
## Emerging Markets

At December 31, 2017, investments in emerging markets comprised 5.3 per cent of PSPP's total investments or $704 million up from 4.9 per cent or $581 million, the previous year. PSPP invests in units of AIMCo's Emerging Markets Pool, which holds an investment in GLAS with the non-emerging market exposure being swapped out to the MSCI Emerging Markets index.

The chart below shows the top ten countries in the emerging markets pool.

| Emerging Markets | Actual Return % | Benchmark MSCI Emerging Index % | Value Added % |
|---|---|---|---|
| One Year | 30.4 | 28.3 | 2.1 |
| Four Years (annualized) | 13.5 | 10.6 | 2.9 |

### Top Ten Countries in Emerging Markets Pool
(in per cent)




## Private Equities

At December 31, 2017, private equities comprised 2.4 per cent of total PSPP investments or $327 million, down from 2.8 per cent or $332 million at the end of the previous year. Private equity investments primarily include buyout investments such as expansion capital, acquisition financings, management buyouts, family succession, turnaround financings, project financings and leverage reductions.

| Private Equities | Actual Return % | Combined Benchmark (1) % | Value Lost % |
|---|---|---|---|
| One Year | (1.4) | 8.6 | (10.0) |
| Four Years (annualized) | 9.3 | 11.8 | (2.5) |

(1) Effective January 1, 2016, CPI + 7.0%. Previously, MSCI ACWI.

# Alternative Investments

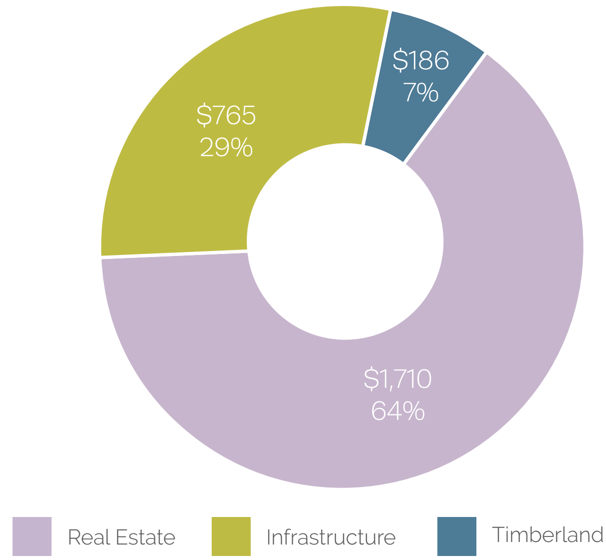
At December 31, 2017, alternative investments comprised 19.8 per cent of total PSPP investments, or $2,661 million, compared to 20.8 per cent, or $2,476 million, at the end of the previous year. Alternative investments include real estate, infrastructure and timberland investments.

## Real Estate

At December 31, 2017, real estate comprised 12.7 per cent of PSPP's total investments or $1,710 million compared to 13.9 per cent or $1,653 million at the end of the previous year. Real estate investments are held primarily in the AIMCo's Canadian Private Real Estate Pool ($1,490 million) and in the Foreign Private Real Estate Pool ($220 million).

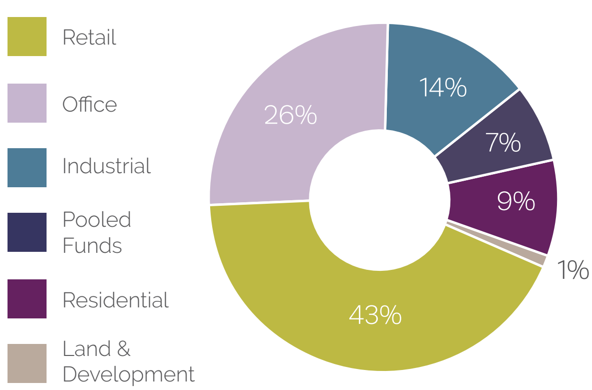
The Canadian real estate portfolio includes office, retail, industrial and residential properties located in major urban centers in Ontario, Alberta, Quebec and British Columbia. The focus is on quality properties with strong locations and tenants.

**Alternative Investments**
December 31, 2017 (in millions)

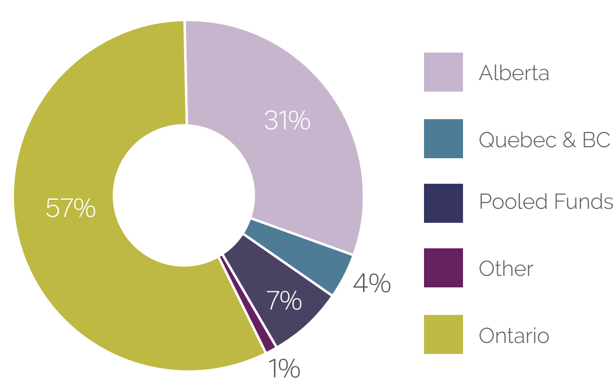



| Real Estate | Actual Return % | Benchmark IPD Large Institutional Index % | Value Added (Lost) % |
|---|---|---|---|
| One Year | 8.8 | 7.0 | 1.8 |
| Four Years (annualized) | 6.9 | 7.0 | (0.1) |

**Canadian Private Real Estate Pool By Sector**
December 31, 2017




**Canadian Private Real Estate Pool By Province**
December 31, 2017



## Infrastructure

At December 31, 2017, investments in AIMCo's infrastructure pools comprised 5.7 per cent of the total PSPP's investments or $765 million, up from 5.4 per cent or $649 million at the end of the previous year. The Infrastructure Pools include investments in projects that provide attractive returns plus inflation sensitivity with a long investment horizon. Infrastructure projects include transportation/logistics (e.g. toll roads, airports, ports, and rail), power/energy (e.g. contracted power generation, power transmission pipelines) and utilities (e.g. water, waste water, natural gas networks).

| Infrastructure | Actual Return % | Combined Benchmark [1] % | Value Added % |
|---|---|---|---|
| One Year | 9.2 | 6.1 | 3.1 |
| Four Year (annualized) | 9.3 | 8.6 | 0.7 |

(1) Effective November 1, 2015, CPI + 4.5%. Previously, 50% FTSE TMX Real Return Bond (RRB) Index and 50% MSCI ACWI.

## Timberland

At December 31, 2017, the Plan's investment in units of AIMCo's Timberland Pool comprised 1.4 per cent of the total PSPP investments or $186 million, compared to 1.5 per cent or $174 million the previous year. Timberland investments are located in Canada and globally, including an ownership interest in timber and related land located in the Province of British Columbia and forestry and agricultural land in Australia and New Zealand.

| Timberland | Actual Return % | Combined Benchmark [1] % | Value Added (Lost) % |
|---|---|---|---|
| One Year | 17.5 | 6.1 | 11.4 |
| Four Years (annualized) | 7.6 | 8.6 | (1.0) |

(1) Effective November 1, 2015, CPI + 4.5%. Previously, 50% FTSE TMX RRB Index and 50% MSCI ACWI.

## Strategic Opportunities and Currency Hedges

At December 31, 2017, the Plan's investment in AIMCo's Strategic Opportunities Pool and currency hedges comprised 0.6 per cent of total investments or $85 million compared to 0.7 per cent or $88 million the previous year. The Strategic Opportunities Pool consists of investments in infrastructure and hydropower in emerging market countries in Brazil and Columbia. In 2017, the Strategic Opportunities Pool earned 5.0 per cent (2016: (3.2) per cent).

**PUBLIC SERVICE PENSION PLAN**

# Financial Statements

Year Ended December 31, 2017

# Independent Auditor's Report

Auditor General OF ALBERTA

To the President of Treasury Board and Minister of Finance
and the Public Service Pension Board of Trustees

## Report on the Financial Statements

I have audited the accompanying financial statements of the Public Service Pension Plan, which comprise the statement of financial position as at December 31, 2017, and the statements of changes in net assets available for benefits and changes in pension obligation for the year then ended, and a summary of significant accounting policies and other explanatory information.

## Management's Responsibility for the Financial Statements

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

## Auditor's Responsibility

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

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

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

## Opinion

In my opinion, the financial statements present fairly, in all material respects, the financial position of the Public Service Pension Plan as at December 31, 2017, and changes in its net assets available for benefits and changes in its pension obligation for the year then ended in accordance with Canadian accounting standards for pension plans.

[Original signed by Merwan N. Saher FCPA, FCA]

Auditor General

April 19, 2018

Edmonton, Alberta

# Statement of Financial Position

As at December 31, 2017

| | ($ thousands) | |
|---|---|---|
| | **2017** | **2016** |
| **Net assets available for benefits** | | |
| Assets | | |
| Investments (Note 3) | $ 13,419,292 | $ 11,888,002 |
| Contributions receivable | | |
| Employers | 14,525 | 13,321 |
| Employees | 14,594 | 13,414 |
| Accounts receivable | 11,189 | 12,330 |
| Total Assets | 13,459,600 | 11,927,067 |
| Liabilities | | |
| Accounts payable | 28,291 | 15,066 |
| Liabilities for investment purchases | 5,000 | 1,342 |
| Total Liabilities | 33,291 | 16,408 |
| **Net assets available for benefits** | $ 13,426,309 | $ 11,910,659 |
| **Pension obligation and surplus** | | |
| Pension obligation (Note 5) | $ 12,150,466 | $ 11,607,684 |
| Surplus (Note 6) | 1,275,843 | 302,975 |
| **Pension obligation and surplus** | $ 13,426,309 | $ 11,910,659 |

*The accompanying notes are part of these financial statements.*

# Statement of Changes in Net Assets Available for Benefits

Year ended December 31, 2017

| | ($ thousands) 2017 | 2016 |
|---|---|---|
| **Increase in assets** | | |
| Contributions (Note 7) | $ 730,454 | $ 702,615 |
| Investment income (Note 8) | 1,419,843 | 814,309 |
| Transfers from other plans | 3,888 | 6,415 |
| | 2,154,185 | 1,523,339 |
| **Decrease in assets** | | |
| Benefit payments (Note 10) | 554,481 | 481,821 |
| Transfers to other plans | 6,400 | 10,311 |
| Investment expenses (Note 11) | 64,616 | 44,442 |
| Administrative expenses (Note 12) | 13,038 | 13,304 |
| | 638,535 | 549,878 |
| **Increase in net assets** | 1,515,650 | 973,461 |
| **Net assets available for benefits at beginning of year** | 11,910,659 | 10,937,198 |
| **Net assets available for benefits at end of year** | $ 13,426,309 | $ 11,910,659 |

*The accompanying notes are part of these financial statements.*

# Statement of Changes in Pension Obligation

## Year ended December 31, 2017

| | ($ thousands) 2017 | 2016 |
|---|---|---|
| **Increase in pension obligation** | | |
| Interest accrued on opening pension obligation | $ 705,303 | $ 663,275 |
| Benefits earned | 470,189 | 460,504 |
| Net decrease (increase) due to actuarial assumption changes (Note 5a) | 50,943 | (148,823) |
| | 1,226,435 | 974,956 |
| **Decrease in pension obligation** | | |
| Benefits, transfers and interest | 560,881 | 492,132 |
| Net experience gains (losses) (Note 5b) | 122,772 | (54,474) |
| | 683,653 | 437,658 |
| **Net increase in pension obligation** | 542,782 | 537,298 |
| **Pension obligation at beginning of year** | 11,607,684 | 11,070,386 |
| **Pension obligation at end of year (Note 5)** | $ 12,150,466 | $ 11,607,684 |

*The accompanying notes are part of these financial statements.*

Financial Statements

# Notes to the Financial Statements

Year ended December 31, 2017

**(All dollar amounts in thousands, except per member data)**

## NOTE 1 SUMMARY DESCRIPTION OF THE PLAN

The following description of the Public Service Pension Plan (the Plan) is a summary only. For a complete description of the Plan, reference should be made to the *Public Sector Pension Plans Act*, Revised Statutes of Alberta 2000, Chapter P-41, and the *Public Service Pension Plan* Alberta Regulation 368/93, as amended. Unless otherwise stated, all terms that are not defined below have the meaning prescribed to them in the Plan. Should anything in Note 1 or the financial statements conflict with the legislation, the legislation shall apply.

### a) GENERAL

The Plan is a contributory defined benefit pension plan for eligible employees of the Province of Alberta, approved provincial agencies and public bodies.

The Plan is a registered pension plan as defined in the *Income Tax Act.* The Plan's registration number is 0208769. The President of Treasury Board, Minister of Finance is the legal trustee for the Plan and Alberta Treasury Board and Finance is management for the purpose of these financial statements. The Plan is governed by the Public Service Pension Board (the Board). The Board has certain statutory functions with respect to the Plan, including but not limited to, setting general policy guidelines on investment and management of the Plan's assets and administration of the Plan, setting contribution rates, conducting actuarial valuations and recommending amendments to the Plan rules.

### b) PLAN FUNDING

Current service costs and the Plan's actuarial deficiency (see Note 14) are funded equally by employers and employees at contribution rates, which together with investment earnings, are expected to provide for all benefits payable under the Plan. The contribution rates in effect at December 31, 2017 are unchanged at 11.70% (2016: 11.70%) of pensionable earnings up to the Canada Pension Plan's Year's Maximum Pensionable Earnings (YMPE) and 16.72% (2016: 16.72%) of pensionable earnings over the YMPE, with matching contributions by employers.

The contribution rates were reviewed by the Board in 2017 and are to be reviewed at least once every three years based on recommendations of the Plan's actuary. As a result of this review, the contribution rates have decreased at January 1, 2018 as follows: 10.47% of pensionable salary up to the Canada Pension Plan's YMPE and 14.95% of pensionable earnings over the YMPE, with matching contributions by employers.

### c) RETIREMENT BENEFITS

The Plan provides a pension of 1.4% for each year of pensionable service based on average salary of the highest five consecutive years up to the YMPE over the same five consecutive year period and 2.0% on the excess, subject to the maximum pension benefit limit allowed under the *Income Tax Act*. The maximum combined pensionable service allowable under the Plan is 35 years. Pensions are payable to vested members at retirement who have attained age 65, or have attained age 55 and the sum of their age and years of service equals 85. Reduced pensions are payable to members at age 55 or older retiring early with a minimum of two years of combined pensionable service.

**d) DISABILITY PENSIONS**

Unreduced pensions may be payable to members who become totally disabled and have at least two years of combined pensionable service. Reduced pensions may be payable to members who become partially disabled and have at least two years of combined pensionable service.

Individuals who became members after June 30, 2007 and had no combined pensionable service prior to July 1, 2007 are not entitled to disability pensions.

**e) DEATH BENEFITS**

Death benefits are payable on the death of a member prior to retirement. If the member has at least two years of combined pensionable service and a surviving pension partner, the surviving pension partner may choose to receive a survivor pension. For a beneficiary other than a pension partner or where combined pensionable service is less than two years, a lump sum payment must be chosen.

**f) TERMINATION BENEFITS AND REFUNDS TO MEMBERS**

Members who terminate with at least two years of combined pensionable service and who are not immediately entitled to a pension may receive the commuted value for all years of membership, with the commuted value being subject to locking-in provisions. Any Purchased Service purchased wholly by the member is not included in the commuted value and is paid as contributions with interest. If the remaining member contributions fund more than 50% of the commuted value, that excess is paid as a cash refund under the 50% excess rule. Alternatively, they may elect to receive a deferred pension which is also subject to the 50% excess rule. Members who terminate with less than two years of combined pensionable service receive a refund of their contributions and interest. The refunds are accounted for as benefit payments on the statement of changes in net assets available for benefits.

**g) PURCHASED SERVICE AND TRANSFERS**

All Purchased Service purchases are to be cost-neutral to the Plan. The actuarial present value of pension entitlements is paid when service is transferred out of the Plan under a transfer agreement. The cost to recognize service transferred into the Plan under a transfer agreement is the actuarial present value of the benefits that will be created as a result of the transfer.

**h) COST-OF-LIVING ADJUSTMENTS**

Pensions payable are increased each year on January $1^{st}$ by an amount equal to 60% of the increase in the Alberta Consumer Price Index. The increase is based on the increase during the twelve-month period ending on October $31^{st}$ in the previous year.

## NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND REPORTING PRACTICES

### a) BASIS OF PRESENTATION

These financial statements are prepared on the going concern basis in accordance with Canadian accounting standards for pension plans. The Plan has elected to apply International Financial Reporting Standards (IFRS) for accounting policies that do not relate to its investment portfolio or pension obligation. The statements provide information about the net assets available in the Plan to meet future benefit payments and are prepared to assist Plan members and others in reviewing the activities of the Plan for the year.

### b) FUTURE CHANGES IN ACCOUNTING POLICY

In July 2014 the International Accounting Standard Board issued the accounting standard IFRS 9 – Financial Instruments (effective for annual periods beginning on or after January 1, 2018) to replace International Accounting Standard (IAS) 39 – Financial Instruments: Recognition and Measurement and establishes principles for the financial reporting of financial assets and financial liabilities that will present relevant and useful information to users of financial statements. Management is currently assessing the impact of this financial standard on the financial statements.

### c) VALUATION OF INVESTMENTS

Investments are recorded at fair value. As disclosed in Note 3, the Plan's investments consist primarily of direct ownership in units of pooled investment funds ("the pools"). The pools are established by Ministerial Order 16/2014, being the Establishment and Maintenance of Pooled Funds, pursuant to the *Financial Administration Act* of Alberta, Chapter F-12, Section 45, and the *Alberta Investment Management Corporation Act* of Alberta, Chapter A-26.5, Section 15 and 20. Participants in pools include government and non-government funds and plans.

Contracts to buy and sell financial instruments in the pools are between the Province of Alberta and the third party to the contracts. Participants in the pools are not party to the contracts and have no control over the management of the pool and the selection of securities in the pool. Alberta Investment Management Corporation (AIMCo), a Crown corporation within the Ministry of Treasury Board and Finance, controls the creation of the pools and the management and administration of the pools including security selection. Accordingly, the Plan does not report the financial instruments of the pools on its statement of financial position.

The Plan becomes exposed to the financial risks and rewards associated with the underlying financial instruments in a pool when it purchases units issued by the pools and loses its exposure to those financial risks and rewards when it sells its units. The Plan reports its share of the financial risks in Note 4.

The fair value of units held by the Plan is derived from the fair value of the underlying financial instruments held by the pools as determined by AIMCo (see Note 3b). Investments in units are recorded in the Plan's accounts. The underlying financial instruments are recorded in the accounts of the pools. The pools have a market-based unit value that is used to distribute income to the pool participants and to value purchases and sales of the pool units. The pools include various financial instruments such as bonds, equities, real estate, derivatives, investment receivables and payables and cash.

The Plan's cut-off policy for valuation of investments, investment income and investment performance is based on valuations confirmed by AIMCo on the fourth business day following the year end. Differences in valuation estimates provided to Treasury Board and Finance after the year end cut-off date are reviewed by management. Differences considered immaterial by management are included in investment income in the following period.

Investments in pool units are recorded in the Plan's accounts on a trade date basis.

All purchases and sales of the pool units are in Canadian dollars.

Fair value is the amount of consideration agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act.

**d) INVESTMENT INCOME**

(a) Investment income is recorded on an accrual basis.

(b) Investment income is reported in the statement of changes in net assets available for benefits and in Note 8 and includes the following items recorded in the Plan's accounts:

i. Income distributions from the pools, based on the Plan's pro-rata share of total units issued by the pools; and

ii. Changes in fair value of units including realized gains and losses on disposal of units and unrealized gains and losses on units determined on an average cost basis.

**e) INVESTMENT EXPENSES**

Investment expenses include all amounts incurred by the Plan to earn investment income (see Note 11). Investment expenses are recorded on an accrual basis. Transaction costs are expensed as they are incurred.

**f) VALUATION OF PENSION OBLIGATION**

The value of the pension obligation and changes therein during the year are based on an actuarial valuation prepared by an independent firm of actuaries. The valuation is made at least every three years and results from the most recent valuation are extrapolated, on an annual basis, to year-end. The valuation uses the projected benefit method pro-rated on service and management's best estimate, as at the valuation and extrapolation date, of various economic and non-economic assumptions.

**g) MEASUREMENT UNCERTAINTY**

In preparing these financial statements, estimates and assumptions are used in circumstances where the actual values are unknown. Uncertainty in the determination of the amount at which an item is recognized in the financial statements is known as measurement uncertainty. Such uncertainty exists when there is a variance between the recognized amount and another reasonably possible amount, as there is whenever estimates are used.

Measurement uncertainty exists in the valuation of the Plan's pension obligation, private investments, hedge funds, real estate and timberland pools. Uncertainty arises because:

i) the Plan's actual experience may differ, perhaps significantly, from assumptions used in the extrapolation of the Plan's pension obligation, and

## NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES... CONTINUED

ii) the estimated fair values of the Plan's private investments, hedge funds, real estate and timberland pools may differ significantly from the values that would have been used had a ready market existed for these investments.

While best estimates have been used in the valuation of the Plan's pension obligation, private investments, hedge funds, real estate and timberland investments, management considers that it is possible, based on existing knowledge, that changes in future conditions in the short term could require a material change in the recognized amounts.

Differences between actual results and expectations in the Plan's pension obligation are disclosed as assumption or other changes and net experience gains or losses in the statements of changes in pension obligation in the year when actual results are known.

Differences between the estimated fair values and the amount ultimately realized for investments are included in net investment income in the year when the ultimate realizable values are known.

### h) INCOME TAXES

The Plan is a registered pension plan, as defined by the *Income Tax Act* (Canada) and, accordingly, is not subject to income taxes.

## NOTE 3 INVESTMENTS

The Plan's investments are managed at the asset class level for purposes of evaluating the Plan's risk exposure and investment performance against approved benchmarks based on fair value. AIMCo invests the Plan's assets in accordance with the Statement of Investment Policies and Goals (SIP&G) approved by the Plan's board. The fair value of the pool units is based on the Plan's share of the net asset value of the pooled fund. The pools have a market based unit value that is used to allocate income to participants of the pool and to value purchases and sales of pool units. AIMCo is delegated authority to independently purchase and sell securities in the pools and Plan, and units of the pools, within the ranges approved for each asset class (see Note 4).

| | ($ thousands) | | | | |
|---|---|---|---|---|---|
| | Fair Value Hierarchy [(a)] | | | 2017 | 2016 |
| **Asset class** | Level 1 | Level 2 | Level 3 | **Fair Value** | **Fair Value** |
| **Fixed income** | | | | | |
| Money market | $ - | $ 78,382 | $ - | $ 78,382 | $ 91,894 |
| Bonds, mortgages and private debt | - | 2,232,171 | 610,417 | 2,842,588 | 2,403,402 |
| | - | 2,310,553 | 610,417 | 2,920,970 | 2,495,296 |
| **Equities** | | | | | |
| Canadian | 1,388,798 | 104,975 | 328,569 | 1,822,342 | 1,677,462 |
| Global developed | 3,959,105 | 274,191 | 666,204 | 4,899,500 | 4,238,421 |
| Emerging market | 535,916 | 40,997 | 126,790 | 703,703 | 580,865 |
| Private | - | - | 327,336 | 327,336 | 331,683 |
| | 5,883,819 | 420,163 | 1,448,899 | 7,752,881 | 6,828,431 |
| **Alternatives** | | | | | |
| Real estate | - | - | 1,710,356 | 1,710,356 | 1,652,503 |
| Infrastructure | - | - | 764,537 | 764,537 | 649,482 |
| Timberland | - | - | 186,069 | 186,069 | 174,046 |
| | - | - | 2,660,962 | 2,660,962 | 2,476,031 |
| **Opportunistic and currency investments *** | - | - | 84,479 | 84,479 | 88,244 |
| **Total investments** | $5,883,819 | $ 2,730,716 | $4,804,757 | $13,419,292 | $11,888,002 |

* This asset class is not listed separately in the SIP&G as it relates to strategic investments and currency overlays made on an opportunistic and discretionary basis (see Note 4).

a) **Fair Value Hierarchy:** The quality and reliability of information used to estimate the fair value of investments is classified according to the following fair value hierarchy with level 1 being the highest quality and reliability.

- ***Level 1*** - fair value is based on quoted prices in an active market. This level includes publicly traded listed equity investments totalling $5,883,819 (2016: $5,263,031).
- ***Level 2*** - fair value is estimated using valuation techniques that make use of market-observable inputs other than quoted market prices. This level includes debt securities and derivative contracts not traded on a public exchange totalling $2,730,716 (2016: $2,544,003). For these investments, fair value is either derived from a number of prices that are provided by independent pricing sources or from pricing models that use observable market data such as swap curves and credit spreads.
- ***Level 3*** - fair value is estimated using inputs based on non-observable market data. This level includes private mortgages, hedge funds, private equities and inflation sensitive investments totalling $4,804,757 (2016: $4,080,968).

NOTE 3 INVESTMENTS CONTINUED

### Reconciliation of Level 3 Fair Value Measurements

| | ($ thousands) 2017 | 2016 |
|---|---|---|
| **Balance, beginning of year** | $ 4,080,968 | $ 3,993,164 |
| Investment income * | 285,972 | 202,523 |
| Purchases of Level 3 pooled fund units | 1,295,829 | 482,398 |
| Sale of Level 3 pooled fund units | (858,012) | (597,117) |
| **Balance, end of year** | $ 4,804,757 | $ 4,080,968 |

* Investment income includes unrealized losses of $72,778 (2016: $114,858).

### b) Valuation of Financial Instruments recorded by AIMCo in the Pools

The methods used to determine the fair value of investments recorded in the pools is explained in the following paragraphs:

- ***Fixed Income:*** Public interest-bearing securities are valued at the year-end closing sale price or the average of the latest bid and ask prices quoted by an independent securities valuation company. Private mortgages are valued based on the net present value of future cash flows discounted using appropriate interest rate premiums over similar Government of Canada benchmark bonds trading in the market. Private debt and loans is valued similar to private mortgages.
- ***Equities:*** Public equities are valued at the year-end closing sale price or the average of the latest bid and ask prices quoted by an independent securities valuation company. The fair value of hedge fund investments is estimated by external managers. The fair value of private equities is estimated by managers or general partners of private equity funds, pools and limited partnerships. Valuation methods for private equities may encompass a broad range of approaches. The cost approach is used to value companies without either profits or cash flows. Established private companies are valued using the fair market value approach reflecting conventional valuation methods including discounted cash flows and earnings multiple analysis.
- ***Alternatives:*** The estimated fair value of private real estate investments is reported at the most recent appraised value, net of any liabilities against the real property. Real estate properties are appraised annually by qualified external real estate appraisers. Appraisers use a combination of methods to determine fair value including replacement cost, direct comparison, direct capitalization of earnings and discounted cash flows. The fair value of timberland investments is appraised annually by independent third party evaluators. Infrastructure investments are valued similar to private equity investments.
- ***Strategic and currency investments:*** The estimated fair value of infrastructure investments held in emerging market countries are valued similar to private equities. For tactical asset allocations, investments in derivative contracts provides overweight or underweight exposure to global equity and bond markets, including emerging markets. Currency investments consist of directly held currency forward and spot contracts.

- ***Foreign currency:*** Foreign currency transactions in pools are translated into Canadian dollars using average rates of exchange. At year end, the fair value of investments in other assets and liabilities denominated in a foreign currency are translated at the year-end exchange rates.
- ***Derivative contracts:*** The carrying value of derivative contracts in a favourable and unfavourable position is recorded at fair value and is included in the fair value of the pools (see Note 4f). The estimated fair value of equity and bond index swaps is based on changes in the appropriate market-based index net of accrued floating rate interest. Interest rate swaps and cross-currency interest rate swaps are valued based on discounted cash flows using current market yields and exchange rates. Credit default swaps are valued based on discounted cash flows using current market yields and calculated default probabilities. Forward foreign exchange contracts and futures contracts are valued based on quoted market prices. Options to enter into interest rate swap contracts are valued based on discounted cash flows using current market yields and volatility parameters which measure changes in the underlying swap. Warrants and rights are valued at the year-end closing sale price or the average of the latest bid and ask prices quoted by an independent securities valuation company.

## NOTE 4 INVESTMENT RISK MANAGEMENT

The Plan is exposed to financial risks associated with the underlying securities held in the pooled investment funds created and managed by AIMCo. These financial risks include credit risk, market risk and liquidity risk. Credit risk relates to the possibility that a loss may occur from the failure of another party to perform according to the terms of a contract. Market risk is comprised of currency risk, interest rate risk and price risk. Liquidity risk is the risk the Plan will not be able to meet its obligations as they fall due.

The investment policies and procedures of the Plan are clearly outlined in the SIP&G approved by the Board. The purpose of the SIP&G is to ensure the Plan is invested and managed in a prudent manner in accordance with current, accepted governance practices incorporating an appropriate level of risk. The Board manages the Plan’s return-risk trade-off through asset class diversification, target ranges on each asset class, diversification within each asset class, quality constraints on fixed income instruments and restrictions on amounts exposed to countries designated as emerging markets. Forward foreign exchange contracts may be used to manage currency exposure in connection with securities purchased in a foreign currency (see Note 4b).

## NOTE 4 INVESTMENT RISK MANAGEMENT CONTINUED

Actuarial liabilities of the Plan are primarily affected by the long-term real rate of return expected to be earned on investments. In order to earn the best possible return at an acceptable level of risk, the Board has established the following target policy asset mix:

| Asset Class | Target Asset Policy Mix | Actual Asset Mix 2017 ($ thousands) | 2017 % | Actual Asset Mix 2016 ($ thousands) | 2016 % |
|---|---|---|---|---|---|
| Fixed income | 11 - 33% | $ 2,920,970 | 21.8 | $ 2,495,296 | 21.0 |
| Equities | 37 - 65% | 7,752,881 | 57.8 | 6,828,431 | 57.5 |
| Alternatives | 15 - 30% | 2,660,962 | 19.8 | 2,476,031 | 20.8 |
| Opportunistic and currency investments | (a) | 84,479 | 0.6 | 88,244 | 0.7 |
| | | $13,419,292 | 100.0 | $11,888,002 | 100.0 |

(a) In accordance with the SIP&G, AIMCo may invest up to 3% of the fair value of the Plan's investments in opportunistic investments that are outside of the asset classes listed above. AIMCo may, at its discretion, invest the funds in currency overlays.

### a) Credit Risk

#### i) Debt securities

The Plan is indirectly exposed to credit risk associated with the underlying debt securities held in the pools managed by AIMCo. Counterparty credit risk is the risk of loss arising from the failure of a counterparty to fully honour its financial obligations. The credit quality of financial assets is generally assessed by reference to external credit ratings. The credit rating of a debt security may be impacted by the overall credit rating of the counterparty, the seniority of the debt issue, bond covenants, maturity distribution and other factors. Credit risk can also lead to losses when issuers and debtors are downgraded by credit rating agencies usually leading to a fall in the fair value of the counterparty's obligations. Credit risk exposure for financial instruments is measured by the positive fair value of the contractual obligations with counterparties. The fair value of all investments reported in Note 3 is directly or indirectly impacted by credit risk to some degree. The majority of investments in debt securities have credit ratings considered to be investment grade.

The following table summarizes the Plan's investment in debt securities by credit rating at December 31, 2017:

| Credit rating | 2017 | 2016 |
|---|---|---|
| Investment Grade (AAA to BBB-) | 78.9% | 80.7% |
| Speculative Grade (BB+ or lower) | 0.3% | 0.1% |
| Unrated | 20.8% | 19.2% |
| | 100.0% | 100.0% |

#### ii) Counterparty default risk - derivative contracts

The Plan is exposed to counterparty credit risk associated with the derivative contracts held in the pools. The maximum credit risk in respect of derivative financial instruments is the fair value of all contracts with counterparties in a favourable position (see Note 4f). AIMCo is responsible for selecting and monitoring derivative counterparties on behalf of the Plan. AIMCo monitors counterparty risk exposures and actively seeks to mitigate counterparty risk by requiring that counterparties collateralize mark-to-market gains for the Plan. Provisions are in place to allow for termination of the contract should there be a material downgrade in a counterparty's credit rating. The exposure to credit risk on derivatives is reduced by entering into master netting agreements and collateral agreements with counterparties. To the extent that any unfavourable contracts with the counterparty are not settled, they reduce the Plan's net exposure in respect of favourable contracts with the same counterparty.

iii) Security lending risk

To generate additional income, the pools participate in a securities-lending program. Under this program, the custodian may lend investments held in the pools to eligible third parties for short periods. At December 31, 2017, the Plan's share of securities loaned under this program is $1,452,969 (2016: $1,156,519) and collateral held totals $1,563,812 (2016: $1,232,445). Securities borrowers are required to provide the collateral to assure the performance of redelivery obligations. Collateral may take the form of cash, other investments or a bank-issued letter of credit. All collateralization, by the borrower, must be in excess of 100% of investments loaned.

**b) Foreign Currency Risk**

The Plan is exposed to foreign currency risk associated with the underlying securities held in the pools that are denominated in currencies other than the Canadian dollar. Foreign currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The fair values of investments denominated in foreign currencies are translated into Canadian dollars using the reporting date exchange rate. As a result, fluctuations in the relative value of the Canadian dollar against these foreign currencies can result in a positive or negative effect on the fair value of investments. Approximately 41% (2016: 39%) of the Plan's investments, or $5,472,434 (2016: $4,670,105), are denominated in currencies other than the Canadian dollar, with the largest foreign currency exposure being to the US dollar, 22% (2016: 21%) and the Euro, 4% (2016: 3%).

If the value of the Canadian dollar increased by 10% against all other currencies, and all other variables are held constant, the potential loss in fair value to the Plan would be approximately 4.1% of total investments (2016: 3.9%).

The following table summarizes the Plan's exposure to foreign currency investments held in the pools at December 31, 2017:

| | *($ thousands)* | | | |
|---|---|---|---|---|
| | **2017** | | **2016** | |
| **Currency** [a] | **Fair Value** | **Sensitivity** | **Fair Value** | **Sensitivity** |
| U.S. dollar | $2,885,640 | $ (288,564) | $2,492,281 | $ (249,228) |
| Euro | 569,736 | (56,973) | 413,037 | (41,304) |
| Japanese yen | 444,776 | (44,478) | 368,483 | (36,848) |
| British pound | 300,018 | (30,002) | 252,199 | (25,220) |
| Hong Kong dollar | 200,780 | (20,078) | 155,632 | (15,563) |
| Swiss franc | 139,332 | (13,933) | 135,735 | (13,574) |
| Australian dollar | 137,152 | (13,715) | 125,315 | (12,532) |
| Other foreign currency | 795,000 | (79,500) | 727,423 | (72,742) |
| **Total foreign currency investments** | $5,472,434 | $ (547,243) | $4,670,105 | $ (467,011) |

(a) Information on specific currencies is disclosed when the current year fair value is greater than 1% of the Plan's net assets.

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**NOTE 4** INVESTMENT RISK MANAGEMENT CONTINUED

**c) Interest Rate Risk**

The Plan is exposed to interest rate risk associated with the underlying interest-bearing securities held in the pools managed by AIMCo. Interest rate risk relates to the possibility that the fair value of investments will change in value due to future fluctuations in market interest rates. In general, investment returns from bonds and mortgages are sensitive to changes in the level of interest rates, with longer term interest bearing securities being more sensitive to interest rate changes than shorter-term bonds. If interest rates increased by 1%, and all other variables are held constant, the potential loss in fair value to the Plan would be approximately 2.0% of total investments (2016: 1.8%).

**d) Price Risk**

Price risk relates to the possibility that pool units will change in fair value due to future fluctuations in market prices of equities held in the pools caused by factors specific to an individual equity investment or other factors affecting all equities traded in the market. The Plan is exposed to price risk associated with the underlying equity investments held in pools managed by AIMCo. If equity market indices (S&P/TSX, S&P500, S&P1500 and MSCI ACWI and their sectors) declined by 10%, and all other variables are held constant, the potential loss in fair value to the Plan would be approximately 6.5% of total investments (2016: 6.0%). Changes in fair value of investments are recognized in the statement of changes in net assets available for benefits.

**e) Liquidity Risk**

Liquidity risk is the risk that the Plan will encounter difficulty in meeting obligations associated with its financial liabilities. Liquidity requirements of the Plan are met through income generated from investments, employee and employer contributions, and by investing in pools that hold publicly traded liquid assets traded in an active market that are easily sold and converted to cash. Units in pools that hold private investments like real estate, timberland, infrastructure and private equities are less easily converted to cash since the underlying securities are illiquid because they take more time to sell. These sources of cash are used to pay pension benefits and operating expenses, purchase new investments, settle derivative transactions with counterparties and margin calls on futures contracts. The Plan's future liabilities include the accrued pension benefits obligation and exposure to net payables to counterparties (Note 4f).

**f) Use of Derivative Financial Instruments in Pooled Investment Funds**

The Plan has indirect exposure to derivative financial instruments through its investment in units of the pools. AIMCo uses derivative financial instruments to cost effectively gain access to equity markets in the pools, manage asset exposure within the pools, enhance pool returns and manage interest rate risk, foreign currency risk and credit risk in the pools.

| | | Plan's Indirect Share ($ thousands) | |
|---|---|---|---|
| By counterparty | Number of counterparties | **2017** | **2016** |
| Contracts in net favourable position (current credit exposure) | 64 | $ 161,761 | $ 53,438 |
| Contracts in net unfavourable position | 11 | (84,810) | (13,436) |
| **Net fair value of derivative contracts** | 75 | $ 76,951 | $ 40,002 |



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(i) Current credit exposure: The current credit exposure is limited to the amount of loss that would occur if all counterparties to contracts in a net favourable position totaling $161,761 (2016: $53,438) were to default at once.

(ii) Cash settlements: Receivables or payables with counterparties are usually settled in cash every three months.

(iii) Contract notional amounts: The fair value of receivables (receive leg) and payables (pay leg) and the exchange of cash flows with counterparties in pooled funds are based on a rate or price applied to a notional amount specified in the derivative contract. The notional amount itself is not invested, received or exchanged with the counterparty and is not indicative of the credit risk associated with the contract. Notional amounts are not assets or liabilities and do not change the asset mix reported in Note 3. Accordingly, there is no accounting policy for their recognition in the statement of financial position.

| | Plan's Indirect Share ($ thousands) | |
|---|---|---|
| Types of derivatives used in pools | 2017 | 2016 |
| Structured equity replication derivatives | $ 28,307 | $ 32,867 |
| Foreign currency derivatives | 25,625 | 4,600 |
| Interest rate derivatives | 19,188 | (1,389) |
| Credit risk derivatives | 3,831 | 3,924 |
| **Net fair value of derivative contracts** | $ 76,951 | $ 40,002 |

(i) Structured equity replication derivatives: Equity derivatives are structured to receive income from counterparties based on the performance of a specified market-based equity index, security or basket of equity securities applied to a notional amount in exchange for floating rate interest paid to the counterparty. Floating rate notes are held in equity pools to provide floating rate interest to support the pay leg of the equity derivatives. Rights, warrants, futures and options are also included as structured equity replication derivatives.

(ii) Foreign currency derivatives: Foreign currency derivatives include contractual agreements to exchange specified currencies at an agreed upon exchange rate and on an agreed settlement date in the future.

(iii) Interest rate derivatives: Interest rate derivatives exchange interest rate cash flows (fixed to floating or floating to fixed) based on a notional amount. Interest rate derivatives primarily include interest rate swaps and cross currency interest rate swaps, futures contracts and options.

(iv) Credit risk derivatives: Credit risk derivatives include credit default swaps allowing the pools to buy and sell protection on credit risk inherent in a bond. A premium is paid or received, based on a notional amount in exchange for a contingent payment should a defined credit event occur with respect to the underlying security.

(v) Deposits: At December 31, 2017 deposits in futures contracts margin accounts totalled $15,228 (2016: $27,339) and deposits as collateral for derivative contracts totalled ($279) (2016: $52).

## NOTE 5 PENSION OBLIGATION

### a) ACTUARIAL VALUATION AND EXTRAPOLATION ASSUMPTIONS

An actuarial valuation of the Plan was carried out as at December 31, 2016 by George and Bell Consulting and results were then extrapolated to December 31, 2017.

The actuarial assumptions used in determining the value of the pension obligation of $12,150,466 (2016: $11,607,684) reflect management's best estimate, as at the valuation and extrapolation date, of future economic events and involve both economic and non-economic assumptions. The non-economic assumptions include considerations such as mortality as well as withdrawal and retirement rates. The primary economic assumptions include the discount rate, inflation rate, and the salary escalation rate. The discount rate is based on the average from a consistent modeled investment return, net of investment

**NOTE 5** PENSION OBLIGATION CONTINUED

expenses, and an additive for diversification and rebalancing. It does not assume a return for active management beyond the passive benchmark.

The major assumptions used for accounting purposes were:

| | 2017 | 2016 |
|---|---|---|
| | % | |
| Discount rate | 6.10 | 6.10 |
| Inflation rate | 2.00 | 2.00 |
| Salary escalation rate* | 3.00 | 3.00 |
| Mortality rate | 2014 Canadian Pension Mortality Table (Public Sector) | |

* In addition to age specific merit and promotion increase assumptions.

The next actuarial valuation of the Plan is expected to be completed as at December 31, 2019. Any differences between the actuarial valuation results and extrapolation results as reported in these financial statements will affect the financial position of the Plan and will be accounted for as gains or losses in 2020.

### b) NET EXPERIENCE GAINS

Net experience gains of $122,772 (2016: losses $54,474) reflect the results of the valuation as at December 31, 2016 extrapolated to December 31, 2017.

### c) SENSITIVITY OF CHANGES IN MAJOR ASSUMPTIONS

The Plan's future experience will differ, perhaps significantly, from the assumptions used in the actuarial valuation and extrapolation. Any differences between the actuarial assumptions and future experience will emerge as gains or losses in future valuations and will affect the financial position of the Plan.

The following is a summary of the sensitivities of the Plan's deficiency and current service cost to changes in assumptions used in the actuarial extrapolation at December 31, 2017:

| | ($ thousands) | | |
|---|---|---|---|
| | Changes in Assumptions % | Increase in Plan Deficiency $ | Increase in Current Service Cost as a % of Pensionable Earnings * |
| Inflation rate increase holding discount rate and salary escalation assumptions constant | 1.0 | 884,300 | 1.5 |
| Salary escalation rate increase holding inflation rate and discount rate assumptions constant | 1.0 | 281,626 | 1.0 |
| Discount rate decrease holding inflation rate and salary escalation assumptions constant | (1.0) | 1,584,820 | 2.9 |

* The current service cost as a percentage of pensionable earnings is 17.1% at December 31, 2017

## NOTE 6 SURPLUS

| | ($ thousands) 2017 | 2016 |
|---|---|---|
| **Surplus at beginning of year** | $ 302,975 | $ (133,188) |
| Increase in net assets available for benefits | 1,515,650 | 973,461 |
| Net increase in pension obligation | (542,782) | (537,298) |
| **Surplus at end of year** | $ 1,275,843 | $ 302,975 |

## NOTE 7 CONTRIBUTIONS

| | ($ thousands) 2017 | 2016 |
|---|---|---|
| Current service | | |
| Employers | $ 361,885 | $ 347,860 |
| Employees | 360,647 | 347,836 |
| Past service | | |
| Employers | 1,863 | 2,223 |
| Employees | 6,059 | 4,696 |
| | $ 730,454 | $ 702,615 |

## NOTE 8 INVESTMENT INCOME

The following is a summary of the Plan's investment income (loss) by asset class:

($ thousands)

| | Income | Change in Fair Value | 2017 Total | 2016 Total |
|---|---|---|---|---|
| **Fixed income** | $ 126,834 | $ (8,043) | $ 118,791 | $ 101,221 |
| **Equities** | | | | |
| Canadian | 82,962 | 98,332 | 181,294 | 293,949 |
| Foreign | 677,775 | 191,246 | 869,021 | 250,407 |
| Private | 34,122 | (32,468) | 1,654 | 25,720 |
| | 794,859 | 257,110 | 1,051,969 | 570,076 |
| **Alternatives** | | | | |
| Real estate | 85,178 | 63,232 | 148,410 | 85,791 |
| Infrastructure | 69,836 | (3,469) | 66,367 | 60,531 |
| Timberland | 18,440 | 11,692 | 30,132 | 16,833 |
| | 173,454 | 71,455 | 244,909 | 163,155 |
| **Opportunistic and currency investments** | 10,636 | (6,462) | 4,174 | (20,143) |
| | $ 1,105,783 | $ 314,060 | $ 1,419,843 | $ 814,309 |

The change in fair value includes realized and unrealized gains and losses on pool units and currency hedges. Realized and unrealized gains and losses on pool units total $143,592 and $170,468 respectively (2016: $124,494 and ($71,877) respectively).

## NOTE 8 INVESTMENT IMCOME CONTINUED

Realized and unrealized gains and losses on currency hedges total $nil and $nil respectively (2016: ($21,376) and $2,359 respectively).

Income earned in pooled investment funds is distributed to the Plan daily based on the Plan's pro rata share of units issued by the pool. Income earned by the pools is determined on an accrual basis and includes interest, dividends, security lending income, realized gains and losses on sale of securities determined on an average cost basis, income and expense on derivative contracts and writedowns of securities held in pools which are indicative of a loss in value that is other than temporary.

## NOTE 9 INVESTMENT RETURNS, CHANGE IN NET ASSETS AND PENSION OBLIGATION

The following is a summary of investment returns (losses), and the annual change in net assets compared to the annual change in the pension obligation and the per cent of pension obligation supported by net assets:

| | 2017 | 2016 | 2015 | 2014 | 2013 |
|---|---|---|---|---|---|
| | | | *in per cent* | | |
| Increase (decrease) in net assets attributed to: | | | | | |
| Investment income | | | | | |
| Policy benchmark return on investments | 9.7 | 6.6 | 8.0 | 12.5 | 12.6 |
| Value added (lost) by AIMCo | 1.6 | 0.3 | 1.8 | (0.3) | 1.5 |
| **Time weighted rate of return, at fair value** [(a)] | **11.3** | **6.9** | **9.8** | **12.2** | **14.1** |
| Other sources [(b)] | 1.4 | 2.0 | 2.0 | 2.1 | 3.1 |
| **Per cent change in net assets** [(c)] | **12.7** | **8.9** | **11.8** | **14.3** | **17.2** |
| **Per cent change in pension obligation** [(c)] | **4.7** | **4.9** | **4.5** | **7.9** | **9.7** |
| Per cent of pension obligation supported by net assets | **111** | **103** | **99** | **92** | **87** |

(a) All investment returns are provided by AIMCo and are net of investment expenses. The annualized total return and policy benchmark return (PBR) on investments over five years is 10.8% (PBR: 9.8%), ten years is 6.9% (PBR: 6.6%) and 20 years is 7.3% (PBR: 6.9%). The Plan's actuary estimates the long-term net investment return on assets for funding purposes to be 5.5% (2016: 6.05%).

(b) Other sources includes employee and employer contributions and transfers from other plans, net of benefit payments, transfers to other plans and administration expenses.

(c) The percentage change in net assets and the pension obligation is based on the amounts reported on the statement of changes in net assets available for benefits and the statement of changes in pension obligation.

## NOTE 10 BENEFIT PAYMENTS

| | *($ thousands)* | |
|---|---|---|
| | **2017** | **2016** |
| Retirement benefits | $ 404,951 | $ 374,533 |
| Disability pensions | 1,568 | 1,606 |
| Termination benefits | 113,388 | 78,995 |
| Death benefits | 34,574 | 26,687 |
| | $ 554,481 | $ 481,821 |

## NOTE 11 INVESTMENT EXPENSES

| | ($ thousands) 2017 | 2016 |
|---|---|---|
| Amounts charged by AIMCo for: | | |
| Investment costs [a] | $ 52,923 | $ 42,126 |
| Performance based fees [a] | 9,052 | 577 |
| GST [b] | 2,589 | 1,687 |
| | 64,564 | 44,390 |
| Amounts charged by Treasury Board and Finance for: | | |
| Investment accounting and Plan reporting | 52 | 52 |
| **Total investment expenses** | $ 64,616 | $ 44,442 |
| **Increase (decrease) in expenses** [a] | 45.4% | (17.0%) |
| **Increase in average investments under management** | 11.1% | 10.2% |
| **Increase in value of investments attributed to AIMCo** | 1.6% | 0.3% |
| **Investment expense as a percent of:** | | |
| Dollar earned | 4.6% | 5.5% |
| Dollar invested | 0.5% | 0.4% |
| Investment expenses per member | $ 766 | $ 519 |

[a] Investment expenses are charged by AIMCo on a cost recovery basis. Please refer to AIMCo's financial statements for a more detailed breakdown of the types of expenses incurred by AIMCo. Amounts recovered by AIMCo for investment costs include those costs that are primarily non-performance related including external management fees, external administration costs, employee salaries and incentive benefits and overhead costs. Amounts recovered by AIMCo for performance based fees relate to external managers hired by AIMCo.

The per cent increase (decrease) in investment costs and performance based fees is 45.1% (2016: (18.3%)).

[b] GST includes $626 (2016: $nil) which was recorded as a receivable in prior years but determined to be unrecoverable and was expensed in the year.

## NOTE 12 ADMINISTRATIVE EXPENSES

| | ($ thousands) 2017 | 2016 |
|---|---|---|
| General administration costs | $ 12,630 | $ 12,955 |
| Board costs | 124 | 91 |
| Actuarial fees | 129 | 110 |
| Other professional fees | 155 | 148 |
| | 13,038 | 13,304 |
| Member service expenses per member | $ 154 | $ 155 |

General administration and the Board costs were paid to Alberta Pensions Services Corporation (APS) on a cost-recovery basis.

The Plan's share of APS's operating and Plan specific costs was based on cost allocation policies approved by the President of Treasury Board and Minister of Finance.

## NOTE 13 TOTAL PLAN EXPENSES

Total Plan expenses of investment expenses per Note 11 and administrative expenses per Note 12 are $77,654 (2016: $57,746) or $920 (2016: $674) per member and 0.58% (2016: 0.49%) of net assets under administration.

## NOTE 14 CAPITAL

The Plan defines its capital as the funded status. In accordance with the *Public Sector Pension Plans Act*, the actuarial surplus or deficit is determined by an actuarial funding valuation performed, at a minimum, every three years. The objective is to ensure that the Plan is fully funded over the long term through the management of investments, contribution rates and benefits. Investments, the use of derivatives and leverage are based on an asset mix and risk policies and procedures that are designed to enable the Plan to meet or exceed its long-term funding requirement within an acceptable level of risk, consistent with the Plan's SIP&G approved by the Board.

The Plan's asset values are determined on the fair value basis for accounting purposes. However for funding valuation purposes, asset values are adjusted for fluctuations in fair values to moderate the effect of market volatility on the Plan's funded status. Actuarial asset values for funding valuation purposes amounted to $12,691,000 at December 31, 2017 (2016: $11,346,000).

In accordance with the *Public Sector Pension Plans Act*, the actuarial deficiency determined by the December 31, 2016 actuarial funding valuation is being funded by a special payment in the amount of 4.34% of pensionable earning shared between employees and employers until December 31, 2026.

The special payments have been included in the rates shown in Note 1b.

## NOTE 15 COMPARATIVE FIGURES

Comparative figures have been reclassified to be consistent with 2017 presentation.

## NOTE 16 RESPONSIBILITY FOR FINANCIAL STATEMENTS

These financial statements were approved by the Deputy Minister of Treasury Board and Finance, based on information provided by APS, AIMCo and the Plan's actuary, and after consultation with the Board.

Public Service Pension Plan