

# 2016 ANUUAL REPORT

# PROFILE

The Universities Academic Pension Plan (UAPP) was established in 1978 as a defined benefit pension plan for members of the academic and professional staff of Alberta universities and The Banff Centre. The UAPP was set up under the Public-Sector Pension Plans Act (Alberta) and the Provincial Treasurer was the trustee until December 31, 2000. The UAPP became an independent pension plan registered under the Employment Pension Plans Act (Alberta) and the Income Tax Act (Canada) as of January 1, 2001. The UAPP is now established under the Sponsorship and Trust Agreement signed by the academic staff associations and the boards of governors of four Alberta universities and The Banff Centre as Sponsors.

<sup>σ</sup> The Board of Trustees, as established under the Sponsorship and Trust Agreement, is responsible for administering the Plan and investing the Fund.

 $\varpi$  The UAPP has 7,997 active members, 1,977 deferred members and 5,138 pensioners.

 $\varpi$  The UAPP Fund's market value at the end of 2016 was \$4,349 million.

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# **GOVERNANCE OF THE PLAN**

# **Board Composition**

The Board of Trustees (Board) of the UAPP oversees the Plan. The Board is composed of five employer trustees and four employee trustees. The total votes carried by the employer trustees are the same as the votes carried by the employee trustees. The offices of Chair and Vice-Chair alternate every two years between employer and employee trustees.

## **Board Mandate**

The Board is responsible for administration of the UAPP, investment of UAPP funds, setting contribution rates required to fund the UAPP and assisting Sponsors in developing appropriate plan changes to the UAPP. In carrying out its mandate, the Board is assisted by a small management team.

## Mission

It is the mission of the Board to deliver on its mandate in a manner that is consistent with:

- high quality services to the UAPP members and stakeholders,
- prudent investment of the Fund,
- seeking stable contribution rates within the funding requirements of the Employment Pension Plans Act,
- best practices in pension plan governance and management, and
- all applicable rules, laws and regulations.

## Values

In carrying out its mission, the Board is guided by the following values:

- work in full partnership with Sponsors,
- be member/stakeholder focused,
- be open, accountable and responsible for its actions,
- conduct UAPP business with trust, fairness and integrity,
- adhere to the highest ethical standards,
- value and treat its employees as a vital resource, and
- strive to adopt best business practices.

# **GOVERNANCE OF THE PLAN**

#### Employer Appointees •Bruce Byford

Linda Dalgetty (Vice Chair)
Gitta Kulczycki
Estelle Lo
Nancy Walker

#### **Employee Appointees**

- •Geoffrey Hale
- •Aditya Kaul
- •Paul Rogers (Chair)
- •Eric Wang

#### Audit Committee

Bruce Byford
Paul Rogers
Nancy Walker (Chair)

#### Actuarial Committee

Gitta Kulczycki\*
Estelle Lo (Chair)
Paul Rogers
Eric Wang
\*effective January 1, 2017

#### **Investment Committee**

Linda Dalgetty
Geoffrey Hale
Aditya Kaul (Chair)
Gitta Kulczycki\*
Bob Normand
Andrew Tambone
\*effective January 1, 2017

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# **GOVERNANCE OF THE PLAN**

## Administration Service Provider

Conduent Human Resource Services (formerly Buck Consultants) Member Pension Inquiries: 201 City Center Drive

Suite 1000 Mississauga, ON L5B 4E4 Attn: UAPP Administrator Phone: 1.866.709.2092 Email: uapp.pensions@conduent.com

#### **Investment Management**

Alberta Investment Management Corp. Beutel Goodman & Company Ltd. Fiera Capital Corporation

Asset Consultants & Actuary *Aon Hewitt* 

#### **Pensioner Payroll Provider**

CIBC Mellon Global Securities Services

Pensioner Payroll Inquiries: CIBC Mellon Pension Benefits Dept. PO Box 5858, Station B London, ON N6A 6H2 Phone: 1.800.565.0479 Website: <u>www.CIBCMellon.com</u>

Management Team Executive Director Dave Schnore Phone: 780.415.8869 Email: dave.schnore@uapp.ca

#### Director, Finance & Administration

Chris Schafer, ASA, ACIA Phone: 780.415.8870 Email: <u>chris.schafer@uapp.ca</u> Auditor KPMG LLP

#### Contact the Board UAPP Office

#1002, Park Plaza 10611 98 Avenue Edmonton, AB T5K 2P7 Fax: 780.415.8871 Website: www.uapp.ca

## Pension Officer

Vinko Majkovic, BSc, RPA Phone: 780.415.8868 Email: <u>vinko.majkovic@uapp.ca</u>

#### *Administrative Officer* Chloe Muller Phone: 780.415.8866

Phone: 780.415.8866 Email: <u>chloe.muller@uapp.ca</u>

# **BOARD MEMBERS**



Paul Rogers (Chair) University of Calgary



Geoffrey Hale University of Lethbridge



Estelle Lo Athabasca University



Linda Dalgetty (Vice-Chair) University of Calgary



Nancy Walker University of Lethbridge



Eric Wang Athabasca University



Aditya Kaul University of Alberta



Bruce Byford Banff Centre



Gitta Kulczycki University of Alberta

# **CHAIR'S MESSAGE**



On behalf of the Board, I am pleased to present the annual report of the Universities Academic Pension Plan for the year ended December 31, 2016. As has been the Board's practice for some years, this report includes the audited financial statements together with a detailed report from management on the financial position of the plan, the plan's investments, and the administration of the plan.

The UAPP Fund returned 7.1%, which exceeded the investment return assumed for actuarial purposes, and outperformed the benchmark by 0.1%. This investment performance resulted from good returns from our Canadian and Emerging Markets equities and Infrastructure investments. The UAPP Fund grew by \$305.6 million during 2016 to end the year with \$4.35 billion in assets.

Based on an actuarial extrapolation, the plan's actuarial liabilities increased by \$213.1 million during the year to \$5.17 billion at December 31, 2016. The resulting actuarial deficit is \$872.8 million, which represents a decrease of \$150.2 million from the previous year-end, with the result being that the funding position of the Plan has increased from 79.4% to 83.1%. The lion's share of the actuarial deficit, at 96% of the total, is due to the issues associated with the pre-1992 service.

In order to examine the UAPP's Investment Strategy in relation to plan liabilities, the Board completed an asset liability study during 2016. The risk and return characteristics of the existing asset mix and those of other potential asset mixes were thoroughly examined. The study included additional asset classes such as private debt and loan, hedge funds, and private equity. Projections of the Plan's assets, liabilities, normal costs and contribution rates under different asset mixes were modelled.

After reviewing the results of the study, the Board elected to change the long-term asset mix of the UAPP Fund. The Board has allocated 5% of the Fund to Private Equity, an additional 3% to Infrastructure, and another 3% to Fixed Income. Allocations to public equities and timberlands will be reduced to make room for the new investments. The investments in fixed income and infrastructure fit many of the characteristics of the Plan's liabilities while private equity is expected to yield higher returns than public equities. The goal of these changes is to reduce the volatility of contribution requirements while maintaining benefit security. Due to the nature of infrastructure and private equity investments, it will probably take a few years to invest, fully and effectively, these new allocations to these asset classes.

The Investment Committee and the Board continue to review the performance of the Fund and developments in the capital markets on an ongoing basis. The Investment Committee and the Board also regularly assess the UAPP's investment policies and asset mix.

In order to provide a more complete review of the financial position of the Plan, the Board will continue its practice of undertaking an actuarial valuation every two years, and undertake one as at December 31, 2016. This will allow for the review and adjustment, where appropriate, of the actuarial assumptions used in the valuation and the contributions required to fund the benefits. The Board remains focused on its long-term goal to ensure the provision of defined pension benefits to plan members and their beneficiaries.

The Board views the provision of high quality services to members as extremely important so I am pleased to note that members continue to be provided with excellent service, as shown by the performance against the standards set in ten key areas of service vital to our members. The details of the standards and related performance are included in this Report in the section dealing with Plan Administration.

We regularly update UAPP members and other stakeholders through publications such as the quarterly Communiqué and the website. A call centre is also available to members seeking information about the UAPP. The Retirement Planning tool that is available through the website is heavily used by the members. The Trustees' Office also provides pension information sessions when requested by employers.

It is my great pleasure, on behalf of the Board, to thank Bob Normand, Andrew Tambone and Damon Williams who, as external members of the Investment Committee, gave most generously of their time to the work of our Investment Committee. Their contributions to the asset liability study, which reached its conclusion during 2016, are greatly appreciated. Damon Williams elected to resign from the Investment Committee during the year and his assistance to the UAPP is sincerely appreciated.

Our relationship with our investment managers is vital to the successful execution of the Board's investment policies. In this regard, we thank the staff at Alberta Investment Management Corporation, Beutel Goodman & Company Ltd., and Fiera Capital Corporation for their work during the year and look forward to our on-going cooperative and mutually beneficial relationship.

On behalf of the Board, I extend thanks to Phyllis Clark who left the Board during the year after providing 12 years of dedicated service to it. Phyllis was an active participant who made valuable contributions to the work of the Board through her wisdom and knowledge. We also welcome Gitta Kulczycki to the Board as the new employer representative from the University of Alberta - I look forward to working with her.

I want to thank my colleagues on the Board for their service to the UAPP and for the support they have offered to me during my first year as Board Chair. Neither the Board nor the UAPP could function effectively without the sterling effort of the UAPP office management team. In closing I'd like to acknowledge and warmly thank the Trustees' Office team members, Dave Schnore, Chris Schafer, Vinko Majkovic, Chloe Muller, Anna Pinkowicz, and Amber Cabay for their superlative work during 2016.

Paul Nor

Paul Rogers Chair, Board of Trustees

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# **MANAGEMENT DISCUSSION AND ANALYSIS**

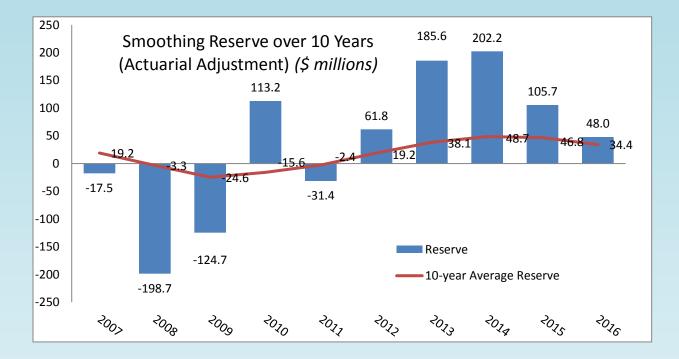
# **Financial Position of the Plan**

#### The Plan's Assets

During 2016, the market value of the Plan's assets grew by \$305.6 million, from \$4,043.7 million at the end of 2015 to \$4,349.3 million at December 31, 2016. The discount rate used in the most recent actuarial valuation is 5.95% per year and the investment return achieved by the Fund was 7.1% for 2016. This return marks the fifth consecutive year in which the Plan's investments grew more than expected yet it was the lowest annual return since the 3.2% attained during 2011. Unlike in 2015, contributions to the Fund (\$259.4 million) exceeded benefit payments (\$236.3 million) during 2016.

\$ Millions	December 31, 2016			December 31, 2015		015
Service Period	Pre-92	Post-91	Total	Pre-92	Post-91	Total
Fair Value of Net Assets	750.4	3,598.9	4,349.3	787.6	3,256.1	4,043.7
Actuarial Adjustment	(11.1)	(36.9)	(48.0)	(25.5)	(80.2)	(105.7)
Actuarial Value of Net	739.3	3,562.0	4,301.3	762.1	3,175.9	3,938.0
Assets						
Accrued Pension	1,577.7	3,596.4	5,174.1	1,627.0	3,334.0	4,961.0
Liability						
Actuarial Deficiency	(838.4)	(34.4)	(872.8)	(864.9)	(158.1)	(1,023.0)
Funded Ratio	46.9%	99.0%	83.1%	46.8%	95.3%	79.4%

Due to the point-in-time nature of market values, pension plans are permitted to "smooth" asset values when determining funding requirements under the Employment Pension Plans Act of Alberta. The actuarial value of the assets is derived using 3-year averaging in an attempt to remove some of the volatility experienced by market values. The method used by the Plan is summarized in Note 14 of the Financial Statements and in the most recent actuarial valuation report. During 2016, the actuarial value of the Plan's assets grew by \$363.3 million, from \$3,938.0 million at December 31, 2015 to \$4,301.3 million at December 31, 2016. The actuarial value of the Fund is \$48.0 million lower than the market value at the end of 2016. In 2015, the actuarial value was \$105.7 million lower than the market value. The fact the actual return exceeded the assumed discount rate of 5.95% contributed to the market value exceeding the actuarial value. In general terms, in years when the opposite is true and assumed returns are higher than actual returns, the Fund will see the actuarial value exceed the market value. The smoothing reserve has fluctuated from a high of \$202.2 million at the end of 2014 to a low of -\$198.7 million at the end of 2008, averaging \$34.4 million over the last 10 years. The smoothing reserve of \$48.0 million for 2016 is just 1.1% of the actuarial value, the smallest gap in percentage terms since 2011.

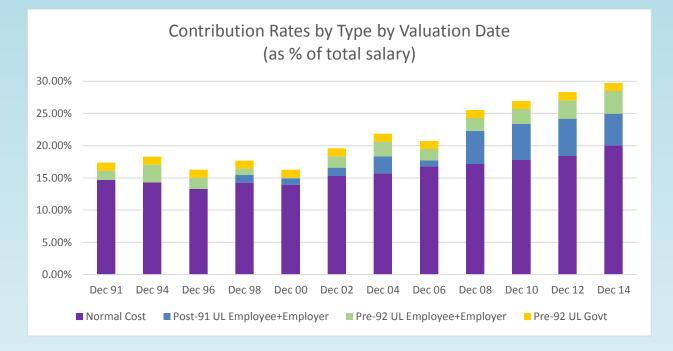


#### **The Plan's Liabilities**

The present value of all benefits accrued at a particular date in a pension plan is referred to as the plan's liability for the purposes of a funding valuation though accounting standards instead use the term pension obligation. As at December 31, 2016, the Plan's total liability is determined to be \$5,174.1 million, reflecting growth of 4.3% over the year from \$4,961.0 million at December 31, 2015. The last full actuarial valuation was completed as at December 31, 2014 and those results have been extrapolated to obtain the liabilities at both December 31, 2015 and December 31, 2016. The Plan has historically undertaken an actuarial valuation every two years with the next one scheduled as at December 31, 2016.

The assumptions used for the 2016 and 2015 financial statement extrapolations are the same as the assumptions adopted for the December 31, 2014 actuarial valuation. However, the Board will be reviewing the assumptions for the purposes of the actuarial valuation as at December 31, 2016.

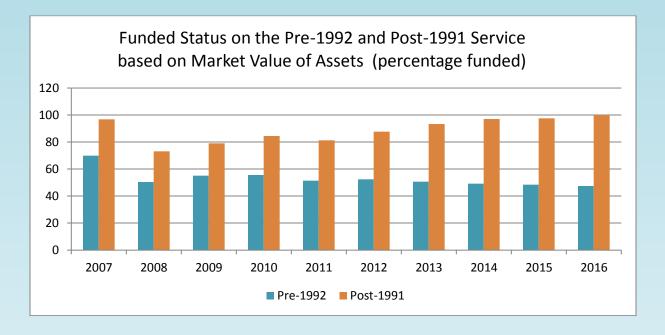
As part of the actuarial valuation, contribution rates may be adjusted to secure the future payment of the pension benefits. For plans like UAPP, contributions come in two distinct types: normal cost (also called current service) and unfunded liability (UL). Current service contributions fund pension benefits as they are earned during the current year. On the other hand, unfunded liability contributions go toward paying off past deficits, which are liabilities for which assets in the plan are insufficient. UAPP deficits are separated into a pre-1992 service portion and a post-1991 service portion because the Government of Alberta helps with some of the funding of the pre-1992 unfunded liability.



## The Plan's Funded Ratio

The Plan's funded ratio based on actuarial value of net assets increased to 83.1% at the end of 2016 from 79.4% at the end of 2015. The actual return on plan assets exceeded the assumed rate of return during 2016, contributing to the smoothing adjustment whereby the market value of net assets is greater than the actuarial value. On a market value basis, the funded ratio has increased from 81.5% to 84.1% during the year.

The funded ratio for pre-1992 service is 46.9% (2015: 46.8%) on the actuarial value basis and is 47.6% (2015: 48.4%) on the market value basis. The funded ratio for post-1991 service is 99.0% (2015: 95.3%) on the actuarial value basis and is 100.1% (2015: 97.7%) on the market value basis.



The unfunded liability for pre-1992 service is amortized such that it will be eliminated by December 31, 2043. The Government of Alberta makes contributions fixed at 1.25% of total salary towards this unfunded liability with the remainder of the deficit funding shared between the employers and employees. The required contribution rates from employers and employees are determined at each actuarial valuation. The funded ratio for pre-1992 service continues to be significantly less than the funded ratio for post-1991 service due mainly to the long amortization period for the elimination of the pre-1992 unfunded liability. The Government of Alberta's share of the contributions was approximately 50% when the cost-sharing was first established in the early 1990s. It now stands at 26.1% of the total pre-1992 unfunded liability contribution.

For post-1991 service, the Plan has been fully funded in the past and is expected to be fully funded in the future. The funded ratio for this service is significantly impacted by investment returns. Unfunded liabilities related to this service are amortized over 15 years in accordance with pension legislation and contributions are shared between employers and employees.

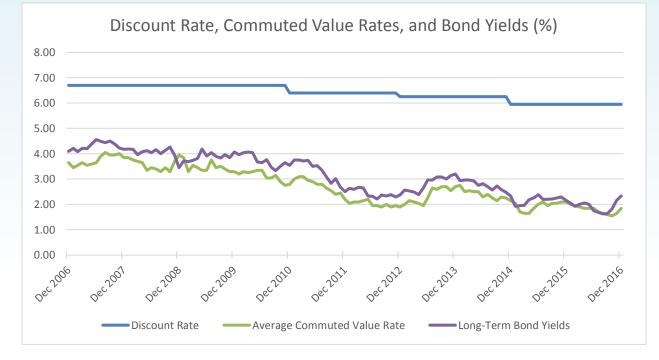
#### Looking to the Future

A revised Statement of Investment Policies and Goals, commonly referred to as the SIP&G, was adopted by the Plan effective January 1, 2017. The new SIP&G reflects a transition of some assets in accordance with the results of an Asset Liability Modeling Study commissioned by the Board and completed in 2016. The purpose of the study was to update the risk/return profile that matches the Board's current risk tolerance which would then be incorporated into the Plan's asset mix policy. The result of changes to the asset mix policy should better enable the Plan to attain its investment objectives over the long term.

The active membership has grown by 2.7% since the end of 2015, marking the highest annual increase in the Plan since 2009. The average annual rate of active membership growth over the past 10 years is 2.0%. Over the same period, the retired membership has grown by an average of 4.9% per year. This group continued to grow in size during 2016 as it increased by 3.6%, though this annual increase was the lowest the Plan has experienced since 1999.

The actuary's extrapolation report at December 31, 2016 shows continued movement towards full funding on the Plan's post-1991 service period. The Board will undertake a full actuarial valuation as at December 31, 2016. Some of the challenges facing the Plan are expected to be highlighted once the valuation is complete. These challenges include continued low interest rates, improvements in life expectancy, and legacy costs associated with the funding arrangement for the pre-1992 deficit.

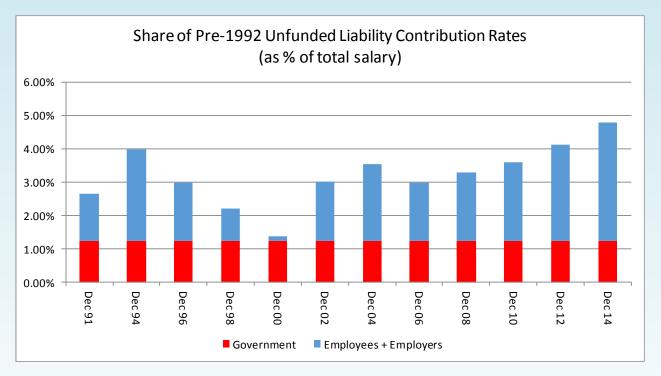
Interest rates have a direct impact on the funding of the Plan because yields on long bonds issued by the Government of Canada are used to determine the discount rate to value Plan liabilities and the interest rate to calculate commuted values. Bond yields remained low throughout most of 2016 but trended upwards to finish the year.



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UAPP pensions are paid for the lifetimes of members and surviving spouses so the mortality assumption is crucial in estimating future benefit costs. Life expectancies have historically been shown to be increasing for Canadians over the last few decades. The Plan continues to focus on mortality, including in the most recent actuarial valuation when the Plan moved to the latest tables that incorporate the actual mortality experience of Canadians in the public sector. The new tables include projection assumptions that attempt to capture anticipated increases in future life expectancies.

One of the biggest issues facing the UAPP is the pre-1992 unfunded liability. The Plan was funded on a pay-as-you-go basis prior to 1992 when the deficit was amortized over 50 years until 2043 and the cost of the amortization split between the Government of Alberta (50%) and the participating employers and members (50%). Over time, the deficit has grown but the Government share of the contributions has remained fixed at 1.25% of total payroll of active Plan members. This deficit growth has resulted in a greater share of the deficit being funded by the employers and members.



The Board will review actuarial valuation results during 2017 and, if necessary, make any required adjustments to contribution rates. An accurate picture of the financial health of the Plan is revealed through the valuation as it involves extensive work in valuing liabilities associated with every single member with benefits in the Plan. A significant number of assumptions are required as benefits are projected several decades into the future. The valuation provides an updated look at recent plan experience and projected future activities from a wide variety of perspectives, including the demographic and economic composition of Plan members and investment performance of the fund.

# **INVESTMENT REPORT** Investment Beliefs and Approach

As discussed in previous Annual Reports, the development of the UAPP's strategic, long term investment policy is based on several key beliefs.

- There is a relationship between risk and return. Achieving higher returns generally requires exposure to higher risks. The relationships between risk and return are more predictable over the longer term. Equities will, in the long term, provide greater returns than fixed income investments although with greater short term volatility. The long term strategic asset allocation decision is the most important factor in determining investment risk and return.
- In establishing the asset mix policy of the Fund, the liabilities of the Plan should be taken into consideration. As an example, inflation has a direct impact on the UAPP's liabilities. Investments in inflation-sensitive assets like Real Return Bonds, Real Estate and Infrastructure are a way of managing the inflation risk.
- Diversification within and across asset classes can reduce risk over the long term without compromising expected returns and is a prerequisite to prudent fund management. Exposure to foreign currencies as a result of moderate levels of foreign investments can provide diversification benefits. Currency hedging should only be undertaken on an opportunistic basis.
- 4. Over the long term, longer term bonds will outperform cash and short term bonds. Longer term bonds will outperform during periods of stable and declining interest rates, but will underperform during periods of significantly rising interest rates. Relative to shorter term bonds, longer term bonds generally provide better matching with the Plan's liabilities thus reducing the volatility of the required contributions and funded status.
- 5. Active management will serve the Plan better than passive management in most asset classes. Markets are efficient to varying degrees, and short term deviations from long term fundamentals can occur. Therefore, there is an expectation for skilled managers to add value and/or reduce risk relative to passive exposure to the market. The opportunity for value added and/or reduced risk from active management should be weighed against the incremental cost relative to passive market exposure.
- 6. Over the long term, but not necessarily in most years, investment in a value stock portfolio will tend to produce performance similar to or better than investment in a growth stock portfolio and the performance of the value stock portfolio will be less volatile.
- 7. A specialist manager structure offers a number of benefits over a balanced manager structure including the potential to hire the best manager for each asset class, greater flexibility to replace underperforming funds, and the ability to make use of passive investment funds for appropriate asset classes.

- 8. With respect to foreign equities, global mandates are preferred over combinations of U.S. and international equity mandates because global mandates allow managers more flexibility and greater opportunities to add value.
- 9. Market timing is not seen as an effective strategy for generating consistent returns. Therefore, a rebalancing protocol around the strategic asset mix is seen as the most effective way of ensuring that portfolio risk does not drift materially above or below the intended risk level.
- 10. Investment managers should be monitored regularly for changes in ownership, investment process and philosophy, key investment personnel, and for investment returns against relevant peer groups and indices. Managers may be terminated on the basis of qualitative issues even if investment returns are acceptable. Investment returns should be evaluated over at least a 4-year period. Emphasis should be placed, not only on the level of returns, but also on the amount of risk taken to achieve those returns. Tracking error should be assessed in terms of the impact on volatility of the Plan's required contributions and funded status.

These beliefs require an investment approach that seeks to obtain higher long term returns while containing the volatility in short term results. This goal underlies the UAPP's investment policy and risk management measures.

#### **Investment Policy**

The UAPP's investment policies are based on the investment beliefs and expectations of the Board and are set out in the Statement of Investment Policies & Goals (SIP&G). The asset mix policy, or the Fund's long term allocation to the different asset classes, is a key component of the SIP&G. It is through the asset allocation decision that the Board diversifies its investments across asset classes and attempts a balance between the objective of higher long term returns and the need to reduce shorter term volatility in those returns.

The Board, through its Investment Committee, monitors on an ongoing basis the performance of the Fund, the funded status of the Plan, capital markets and economic developments and expectations. Based on this monitoring, the Board may make adjustments to the asset mix and take other appropriate measures to control risk or improve returns. The Board reviews the SIP&G at least once a year.

	(percentage of Fund)							
		2016				2015		
Asset Class	Benchmark	Min	Max	Actual	Benchmark	Min	Max	Actual
	%			%	%			%
Money market and fixed income								
Cash & short term	0.0	0.0	1.0	0.8	0.0	0.0	1.0	0.4
Universe bonds	10.0	8.0	12.0	7.6	10.0	8.0	12.0	8.0
Private mortgages	5.0	3.0	7.0	4.0	5.0	3.0	7.0	4.8
Long duration bonds	10.0	8.0	12.0	9.3	10.0	8.0	12.0	9.7
Real return bonds	7.0	5.0	9.0	7.1	7.0	5.0	9.0	6.9
	32.0	26.0	38.0	28.8	32.0	26.0	38.0	29.8
Public equities								
Canadian	17.5	15.0	20.0	19.3	17.5	15.0	20.0	16.9
Foreign								
Global	29.5	26.0	31.0	30.6	29.5	26.0	31.0	30.4
Emerging markets	8.0	4.0	9.0	7.9	8.0	4.0	9.0	8.2
	55.0	50.0	60.0	57.8	55.0	50.0	60.0	55.5
Alternative investments								
Real estate	8.0	5.0	11.0	8.2	8.0	5.0	11.0	8.4
Infrastructure and private debt & loan	4.0	1.0	6.0	3.2	4.0	1.0	6.0	4.3
Timberland	1.0	0.0	1.0	0.9	1.0	0.0	1.0	0.8
	13.0	6.5	17.0	12.3	13.0	6.5	17.0	13.5
Strategic opportunities and currency	-	-	-	1.1	-	-	-	1.2
Total	100.0			100.0	100.0			100.0

# Long-term Policy Asset Mix

The above table compares the Board's current Long-term Policy Asset Mix benchmark and ranges to the actual asset mix of investments for 2016 and 2015. A copy of the full text of the UAPP's SIP&G is available on the UAPP website <u>www.uapp.ca</u> under Publications.

As can be seen from the table, the Plan holds a highly-diversified portfolio of investments in fixed income securities, Canadian and foreign equities, alternative investments and strategic opportunities. This includes participation in both passively and actively managed pooled investment funds. The Plan invests in units of pooled investment funds which are created and managed by investment managers. 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 sale of units. There are thousands of securities held in various pooled investment funds. These securities are bought and sold on a daily basis. The Plan has a broad global diversification across publicly traded equities and fixed income which increases opportunities to add value. In addition, the Fund's investments in real estate and infrastructure provide better cash yields that grow with inflation.

The Plan's money market and fixed income portfolio is exposed to credit risk and interest rate risk through bond and mortgage holdings and derivative products. Based on the view that currencies are a zero-sum game in the long-run, currency exposure to foreign equity markets is largely unhedged. Up to 25% of the Plan's foreign currency exposure can be hedged. Therefore, unless currency exposure is hedged, the returns from foreign markets will be impacted by changes in the exchange rate of the Canadian dollar.

#### **Investment Management**

UAPP engages three investment managers to manage its investment portfolio. Beutel, Goodman & Company Ltd. and Fiera Capital Corporation manage its Canadian long bond and universe bond portfolios totaling 16.9% of total investments. The majority of UAPP's investments totaling 83.1% are managed by AIMCo. AIMCo manages UAPP's public equity investments, alternative investments, private mortgages and real return bonds.

Beutel, Goodman & Company Ltd. is a privately owned Canadian company founded in 1967, with over \$35 billion in assets under management. Fiera Capital Corporation was established in 2003 and has approximately \$113 billion in assets under management. AIMCo is an Alberta provincial corporation established in 2008, reporting to the President of Treasury Board and Minister of Finance. In total, AIMCo administers investment portfolios of approximately \$90 billion on behalf of other public sector pension plans and the Government of Alberta. These investment managers invest the UAPP's assets subject to the investment policies set out in the Board's SIP&G. The majority of investments are managed through pooled investment funds.

To mitigate implementation risk, clearly defined benchmarks, guidelines, standards and controls have been established at both the total Fund and asset class levels. Investment managers have the flexibility to act within the prescribed limits in order to add value over the policy. Both compliance with the SIP&G and performance against the specified benchmarks are monitored formally on a quarterly basis. The Board has retained an independent asset consultant, Aon Hewitt, to provide evaluation of investment managers on a regular basis.

#### **Proxy Voting**

Proxy voting is an important tool in corporate governance. The Board delegates responsibility for proxy voting to investment managers. Pension funds are to be managed in the best interests of beneficiaries. This principle governs the voting of proxies. The UAPP Board considers proxy voting to be a key element of responsible investing and that thoughtful voting is a contributor to optimizing the long-term value of investments.

#### **Risk Management**

The Board recognizes that in order to meet the return objectives of the Plan, UAPP must take on risk inherent in the assets in which UAPP invests. UAPP invests in a diverse set of asset types to help improve the likelihood of achieving our desired results for a given level of risk.

Investment risk management is a key focus for the Board and the investment managers. Investment managers seek to measure and monitor both historic and possible future risks, allocating risk as a scarce resource to the most promising investment opportunities. A quantitative investment risk system is designed to operate across all asset classes and a variety of risk types such as credit risk, price risk, interest rate risk, currency risk and liquidity risk.

UAPP monitors the risk of the Plan's liabilities in relation to the investment assets.

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#### **Evaluating Investment Performance**

A key assumption in calculating the Plan's pension obligation is the discount rate. The estimated value of the Plan's pension obligation is highly sensitive to this assumption. According to the audited financial statements, a decrease in the discount rate by 1% increases the pension obligation by approximately \$721.6 million. The current discount rate of 5.95% includes a long term real return rate of 3.7% and an assumed inflation rate of 2.25%. This rate represents the Plan's long term investment return objective for funding purposes.

The Plan's investment performance can also be assessed in terms of whether investment managers are adding value above their respective benchmarks. In this case, the performance of the Plan is measured against a policy benchmark return calculated using the Plan's policy allocation to each asset class and the market index return for the specific class.

While investment performance can be compared to other funds, this comparison is meaningful only to the extent that the funds being compared have similar investment objectives, risks and constraints and policies. A fund that is 100% invested in fixed income, for example, does not provide a valid comparison to a fund that is 100% invested in equities.

#### **2016 Investment Performance**

**Investments: \$4.329 billion** (2015: \$4.025 billion)

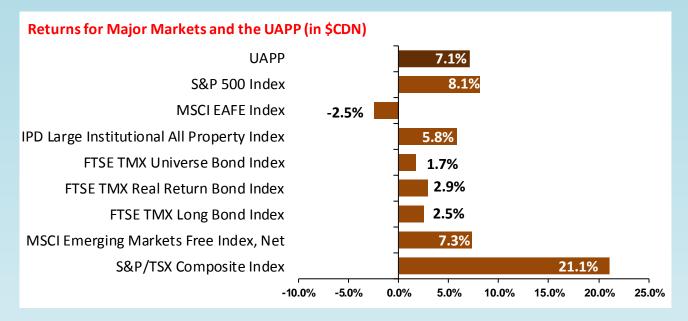
**Return on Investments: 7.1%** (2015: 7.6%)

Investment Income: \$295.4 million (2015: \$294.7 million)

Investment Expense: \$10.7 million (2015: \$13.8 million) At December 31, 2016, the fair value of the Plan's investments totaled \$4.329 billion, up from \$4.025 billion at the end of the previous year.

UAPP finished the 2016 year earning an overall investment return of 7.1%, after expenses, compared to 7.6% in 2015.

The year started out weak, with UAPP losing 1.1% on its investments in the 1<sup>st</sup> quarter. A stronger Canadian dollar in the early part of the year contributed to the negative returns on foreign investments. Investment markets recovered in the 2<sup>nd</sup> and 3<sup>rd</sup> quarters with UAPP's investments gaining 2.4% and 4.5% respectively. Following decisions by OPEC to cut oil production (which pushed oil prices higher) and by the US Federal Reserve to increase interest rates, bond yields increased, resulting in negative fixed income returns, lowering overall returns going into the end of the year. In the 4<sup>th</sup> quarter, investments earned 1.3% for a final year end return of 7.1%. The following chart summarizes the market returns in Canadian dollars from various indices around the world and the overall return of UAPP for 2016.



The Standard & Poor's (S&P) 500 Index, which tracks the performance of the top 500 American companies, gained 8.1% in Canadian dollars (12.0% in U.S. dollars) compared to 21.6% in Canadian dollars (1.4% in U.S. dollars) in 2015.

Approximately 18% of the Plan's investments (2015: 18%) are denominated in U.S. dollars. The stronger Canadian dollar in relation to the U.S. dollar had a negative impact on the value of U.S. dollar investments held by the Plan. At December 31, 2016, one U.S. dollar was worth \$1.34 Canadian compared to \$1.38 Canadian at the beginning of the year. As a result, U.S. dollar investments were worth less when translated into Canadian dollars at December 31, 2016 resulting in lower returns in Canadian dollars.

The MSCI EAFE Index covering Europe, Australasia and the Far East, lost 2.5% in Canadian dollars compared to a gain of 19.0% in 2015. Approximately 20% (2015: 22%) of the Plan's investments are denominated in currencies other than the Canadian and U.S. dollar including the Euro which comprises 4% (2015: 4%) of the Plan's investments. At December 31, 2016, one Euro was worth \$1.42 Canadian compared to \$1.50 Canadian at the beginning of the year.

The Canadian real estate market represented by the IPD Large Institutional All Property Index increased by 5.8% in 2016 compared to an increase of 8.0% in 2015.

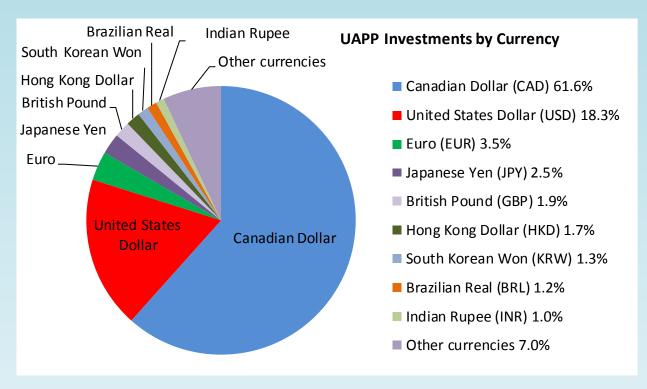
The FTSE TMX Universe Bond Index, FTSE TMX Real Return Bond Index, and FTSE TMX Long Bond Index posted gains of 1.7%, 2.9%, and 2.5% respectively compared to gains of 3.5%, 2.8%, and 3.8% in 2015.

Outside of Canada, the Morgan Stanley Capital International (MSCI) Emerging Markets Free Index gained 7.3% in 2016 in Canadian dollars compared to a gain of 2.0% in 2015.

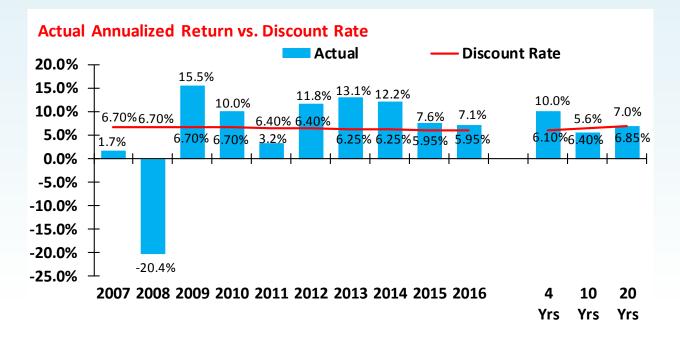
The Canadian stock market represented by the S&P Toronto Stock Exchange (TSX) Composite Index gained 21.1% in 2016 compared to a loss of 8.3% in 2015.

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The table below shows UAPP's exposure to foreign currencies and its investments in Canadian dollars.



The chart below compares the Plan's actual return over one year and annualized returns over four, ten and twenty years against the Plan's discount rate for funding purposes (i.e. for 2016, asset real rate of return of 3.70% plus an assumed inflation rate of 2.25%).

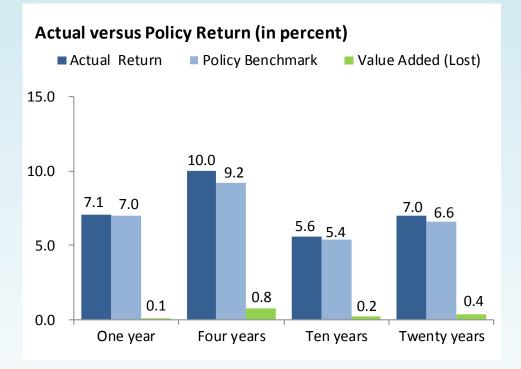


The Plan's annualized returns over four, ten and twenty years are 10.0%, 5.6% and 7.0% respectively. The Plan's actual investment return is greater than the cumulative discount rate for funding purposes over four and twenty years and lower over ten years.

#### **Actual versus Policy Return**

According to the Plan's SIP&G, the Board has set a performance goal based on the expectation that investment management will add 0.5% per annum over a four-year period beyond the passively managed market-based policy benchmark.

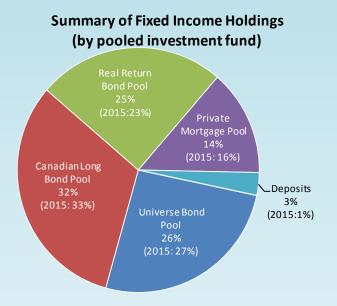
Over the past four years, the value added by investment management decisions was 0.8% per annum.



#### PERFORMANCE BY ASSET CLASS

#### **Fixed Income**

At December 31, 2016, fixed income holdings comprise 28.8% of the Plan's total investments or \$1,247 million compared to 29.8% or \$1,201 million at December 31, 2015. The Canadian long bond portfolio and the universe bond portfolio are managed by Beutel, Goodman & Company Ltd. and Fiera Capital Corporation. AIMCo manages private mortgages, real return bonds and deposits in the Consolidated Cash Investment Trust Fund.



In 2016, the Plan's total fixed income securities gained 2.7%, 0.4% better than the combined benchmark gain of 2.3%.

		Benchmark Index	Net Value
	Actual Return	Combined Benchmark*	Added (Lost)
Total Fixed Income	%	%	%
One year	2.7	2.3	0.4
Four year	3.1	3.2	(0.1)

\* The combined benchmark includes the FTSE TMX Long Bond Index, FTSE TMX Real Return Bond Index FTSE TMX Universe Bond Index and FTSE TMX 91-Day T-Bill Index.

## **Canadian Equities**

At December 31, 2016, Canadian public equities represented 19.3% of the Plan's total investments or \$836 million up from 16.9% or \$678 million at the end of the previous year. The Plan's Canadian equity portfolio is invested in AIMCo's Canadian Equities Master Pool. The Pool includes directly held investments in Canadian public companies and structured equity products which replicate Canadian public equity investments using index swaps and futures contracts linked to the Standard and Poor's Toronto Stock Exchange (S&P/TSX). Interest bearing securities support the notional value of index swaps and futures contracts.

Canadian Equities Master Pool Industry Exposure Relative to Benchmark December 31, 2016	Benchmark TSX Composite Index	Over (Under) Benchmark
Sector	%	%
Consumer discretionary	5.1	0.6
Consumer staples	3.8	0.6
Energy	21.5	1.3
Financials	35.0	(0.3)
Health Care	0.6	(0.3)
Industrials	8.9	(0.8)
Information technology	2.7	0.4
Materials	11.8	(0.4)
Real estate	3.0	0.9
Telecommunications	4.8	(0.2)
Utilities	2.8	0.3
	100.0	

In 2016, the Canadian equity portfolio gained 20.3%, 0.8% less than the benchmark gain of 21.1%.

Total Canadian Equities	Actual Return %	Benchmark Index S&P/TSX Composite %	Net Value Added (Lost) %
One year	20.3	21.1	(0.8)
Four year	9.6	8.5	1.1

#### **Foreign Public Equities**

At December 31, 2016, foreign public equities comprised 38.5% of the Plan's total investments or \$1,666 million compared to 38.6% or \$1,555 million the previous year. UAPP's global public equity portfolio consists of units owned in AIMCo's Global Equities Master Pool (79%) and Emerging Markets Equity Pool (21%).

In 2016, the foreign public equity portfolio gained 4.6%, 0.1% less than the benchmark gain of 4.7%.

	Actual Return	Benchmark Index Combined Benchmark*	Net Value Added (Lost)
Total Foreign Equities	%	%	%
One year	4.6	4.7	(0.1)
Four year	16.0	14.9	1.1

\* The combined benchmark includes the MSCI World Index and the MSCI Emerging Markets Index.

#### **Global Equities Master Pool**

The Plan's global equity portfolio is invested in units of AIMCo's Global Equities Master Pool. The Pool's investment in global developed equity markets consists of countries whose economies and capital markets are well established and mature. The Pool's global developed portfolio includes directly held investments in public companies in the U.S., Europe, Australasia, and the Far East (EAFE) with smaller allocations to emerging markets and Canada. The Pool replicates exposure to foreign equity markets by investing in structured equity products using index swaps and futures contracts. Interest bearing securities support the notional value of index swaps and futures contracts.

In 2016, the Plan's global equity portfolio gained 3.4%, 0.4% less than the MSCI World Index gain of 3.8%.

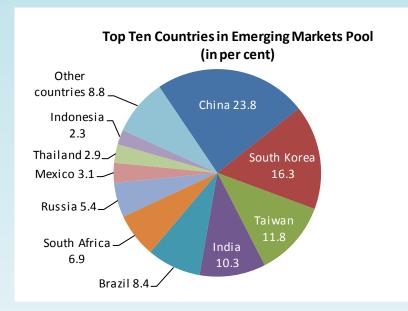
Global Equities Master Pool Industry Exposure Relative to Benchmark December 31, 2016	Benchmark MSCI World Total Return Index	Over (Under) Benchmark
Sector	%	%
Consumer discretionary	12.3	0.9
Consumer staples	9.7	(1.2)
Energy	7.3	(0.8)
Financials	18.0	2.3
Health Care	12.1	0.2
Industrials	11.2	(0.6)
Information technology	14.6	0.3
Materials	5.0	(0.1)
Real estate	3.2	(1.2)
Telecommunications	3.4	0.3
Utilities	3.2	(0.2)
	100.0	

Global Equities Master Pool Relative Regional Exposure to Benchmark December 31, 2016	Benchmark MSCI World Total Return Index	Over (Under) Benchmark
Region	%	%
United States	60.1	(0.8)
Europe, Australasia & the Far East	36.3	(0.6)
Canada	3.6	0.3
Emerging markets	0.0	1.1
	100.0	_

## **Emerging Markets Pool**

Approximately 21% of UAPP's foreign equity portfolio includes an investment in AIMCo's Emerging Market Pool which holds actively managed investments in economies which are in the early stages of development and whose market has sufficient size and liquidity and is receptive to foreign investment.

In 2016, the Plan's emerging markets portfolio gained 8.7%, 1.4% more than the MSCI Emerging Markets Index gain of 7.3%.



#### **Alternative Investments**

Alternative investments totaling \$530 million or 12.3% (2015: \$544 million or 13.5%) of the Plan's total portfolio includes real estate, infrastructure and private debt and timberland investments. In 2016, the Plan's actual gain from alternative investments was 6.5%, 0.3% greater than the combined benchmark gain of 6.2%. Over four years, the annualized return was 7.8%, 0.2% greater than the combined benchmark gain of 7.6%.

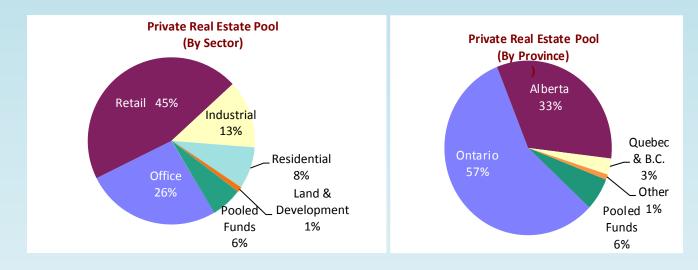
#### **Real Estate**

At December 31, 2016, real estate investments comprised 8.2% of the Plan's total investments or \$355 million compared to 8.4% or \$339 million the previous year. Real estate investments provide diversification, high cash flow and are expected to provide protection from inflation. The UAPP invests in AIMCo's Private Real Estate Pool which includes a mix of office, retail, industrial and residential properties located in Ontario, Alberta, Quebec and British Columbia.

In 2016, the Plan's actual gain from real estate investments was 5.4%, 1.2% less than the benchmark gain of 6.6%.

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Real Estate	Actual Return %	Benchmark Index IPD Large Institutional All Property Index %	Net Value Added (Lost) %
One year	5.4	5.8	(0.4)
Four year	7.3	7.9	(0.6)



#### Private Income (Infrastructure and Private Debt and Loan)

At December 31, 2016, the UAPP's investment in AIMCo's Infrastructure and Private Debt and Loan Pools comprised 3.2% of total Plan investments or \$139 million compared to 4.3% or \$171 million at the end of the previous year. The investment in infrastructure pools, totaling \$94 million (2015: \$122 million), includes projects that provide attractive returns and include projects in transportation (e.g. toll roads, airports, ports and rails), power (e.g. contracted power generation and power transmission pipelines) and utilities (e.g. water, waste water and natural gas networks). The investment in the Private Debt and Loan Pool, totaling \$45 million (2015: \$49 million), include investments in debt instruments such as senior secured debt and convertible debt which are generally unrated or non-investment grade.

In 2016, investments in infrastructure and private debt and loan gained 8.3%, 1.1% more than the benchmark gain of 7.2%.

	Benchmark Index Consumer Price Index (CPI) Net Value			
Infrastructure and Private	Actual Return	Plus 6%	Added (Lost)	
Debt and Loan	%	%	%	
One year	8.3	7.2	1.1	
Four year	8.4	7.3	1.1	

## Timberland

At December 31, 2016, the UAPP's investment in AIMCo's Timberland Pool comprised 0.9% of total Plan investments or \$37 million compared to 0.8% or \$34 million at the end of the previous year. The Timberland investment includes forestry land in Canada and globally. The investment in Canada represents an interest in a limited partnership which holds forestry land and land held for higher and better use in the Province of British Columbia. The foreign investment primarily includes forestry and agricultural land in Australia and New Zealand.

	Benchmark Index Consumer Price Index (CPI) Net Value Actual Return Plus 4% Added (Lost)			
Timberland	%	%	%	
One year	10.1	5.2	4.9	
Four year	10.0	5.3	4.7	

In 2016, the Timberland investment gained 10.1%, 4.9% more than the benchmark gain of 5.2%.

#### **Strategic Opportunities Pool and Currency Hedges**

At December 31, 2016, the UAPP's investment in AIMCo's Strategic Opportunities Pool comprised 1.1% of total Plan investments or \$49.6 million compared to 1.2% or \$47.6 million at the end of the previous year. AIMCo's Strategic Opportunities Pool consists of investments in infrastructure and hydropower in emerging market countries in Brazil and Columbia. In 2016, the Strategic Opportunities Pool had a loss of 3.2%, 7.0% less than the benchmark gain of 3.8%.

At December 31, 2016, the fair value of the UAPP's investment in foreign forward exchange contracts totaled a negative \$0.1 million compared to a negative \$0.5 million at the end of the previous year.

# **Table of Investment Returns**

		December 3	31, 2016		Annı	ual Retu	rns	
	١n	vestments	Asset Mix	2016	2015	2014	2013	Annualized
	(in	millions)	(%)	%	%	%	%	4 yr %
Total Fund	\$	4,329.2	100.0%	7.1	7.6	12.2	13.1	10.0
Policy Return				7.0	6.5	11.8	11.2	9.2
Value Added from Active Management				0.1	1.1	0.4	1.9	0.8
Consumer Price Index (1)				1.2	1.4	2.0	0.9	1.2
Total Fixed Income	\$	1,247.2	28.8%	2.7	3.0	11.7	(5.0)	3.1
Combined Benchmarks				2.3	3.4	12.5	(5.6)	3.2
Short-term fixed income		33.9	0.8%	0.9	0.9	1.2	1.2	1.1
FTSE TMX 91-Day T-Bill Index				0.5	0.6	0.9	1.0	0.8
Universe Bonds		330.2	7.6%	2.1	2.7	7.4	0.4	3.2
FTSE TMX Universe Bond Index				1.7	3.5	8.8	(1.2)	3.1
Private Mortgages		171.1	4.0%	2.1	5.0	9.7	0.4	4.2
FTSE TMX Universe Bond Index plus 1%				2.7	4.5	9.8	(0.2)	3.9
Long Duration Bonds		403.6	9.3%	2.9	2.4	15.5	(6.3)	3.6
FTSE TMX Long Bond Index				2.5	3.8	17.5	(6.2)	4.1
Real Return Bonds		308.4	7.1%	3.5	3.0	13.5	(12.5)	1.4
FTSE TMX Real Return Bond Index				2.9	2.8	13.2	(13.1)	1.0
Total Public Equities	\$	2,502.1	57.8%	9.6	9.0	13.8	24.5	14.1
Combined Benchmark				10.0	7.1	12.2	23.2	13.0
Total Canadian Equities		836.2	19.3%	20.3	(7.4)	12.3	15.5	9.6
S&P/TSX Composite Capped Index				21.1	(8.3)	10.6	13.0	8.5
Foreign Equities				4.6	17.3	14.4	28.7	16.0
MSCI World Index and MSCI Emerging Markets	Index	(		4.7	15.1	12.8	28.1	14.9
Global Equities		1,322.5	30.6%	3.4	20.6	15.4	35.5	18.2
MSCI World Index				3.8	18.9	13.5	31.1	16.4
Emerging Markets		343.4	7.9%	8.7	6.2	10.4	5.4	7.6
MSCI Emerging Markets Index				7.3	2.0	10.1	17.2	9.0
Alternative Investments	\$	530.4	12.3%	6.5	9.5	6.2	11.0	7.8
Combined Benchmark				6.2	7.6	7.3	10.4	7.6
Real Estate		354.7	8.2%	5.4	5.1	6.4	12.7	7.3
IPD Large Institutional All Property Index				5.8	8.0	7.1	10.9	7.9
Infrastructure and Private Debt and Loan		138.7	3.2%	8.3	19.1	8.1	4.7	8.4
CPI plus 6%				7.2	7.4	8.0	6.9	7.3
Timberland		37.0	0.9%	10.1	7.6	(2.9)	28.4	10.0
CPI plus 4%				5.2	5.4	6.0	4.9	5.3
Strategic Investments	\$	49.6	1.1%	(3.2)	42.9	16.0	9.0	16.6
Currency Hedges		(0.1)	-	n/a	n/a	n/a	n/a	n/a

(1) The Consumer Price Index (CPI) is reported on a one month lagged basis.

# **ADMINISTRATION REPORT**

The Board is responsible for the ongoing operation and administration of the UAPP, including the collection of member data and contributions, the calculation and payment of pensions and related benefits, and the communication of pension information to members, pensioners, and employers. The 2016 results in these areas are as follows.

#### **ACTIVE MEMBERSHIP & CONTRIBUTIONS**

Active membership in the UAPP increased 2.7% in 2016 to 7,997 members at December 31, 2016 from 7,790 at the end of 2015. The active member growth in 2016 was the largest annual increase seen in the UAPP since 2009 (4.6%). Over the last decade, active membership in the UAPP has grown at an average annual rate of 2.0%. As a result of growth in active membership, higher salaries, and higher contribution rates, total contributions received from employers, employees, and the Province of Alberta grew by 7.7%, to \$259.4 million in 2016 from \$240.9 million in 2015.

#### **PENSIONERS & BENEFIT PAYMENTS**

The number of retired members and surviving spouses of pensioners receiving a pension from the UAPP increased by 3.6% during 2016, rising to 5,138 from 4,960 at December 31, 2015. During the year, the total payments to pensioners rose by 4.3% (2015: 7.0%), to \$220.5 million from \$211.4 million in 2015. Pensioners were granted a cost-of-living increase of 0.72% effective January 1, 2016. The most popular pension choice among new retirees with a spouse continues to be a Joint Life pension.

#### PARTICIPATION

Participation	2016	2015
Active Members	7,997	7,790
Deferred Members*	1,977	1,849
Pensioners	5,138	4,960
TOTAL	15,112	14,599

\*includes non-vested, terminated members

#### **NEW PENSIONERS**

Retirement Type	2016	2015
Retirements at Age 65 or Later	63	100
Retirements Before Age 65	163	154
Pensions to Surviving Spouses	3	9
TOTAL	229	263

#### **NEW PENSIONER RETIREMENT CHOICES**

Percentage Electing Option	2016	2015
Single life – with or without guarantee	33%	28%
Joint life – 2/3 spouse, no guarantee	8%	15%
Joint life – 2/3 spouse, 10-year guarantee	21%	15%
Joint life – 100% spouse, no guarantee	14%	18%
Joint life – 100% spouse, 10-year guarantee	24%	24%
TOTAL	100%	100%

#### Monthly Payment Distribution As At December 31, 2016

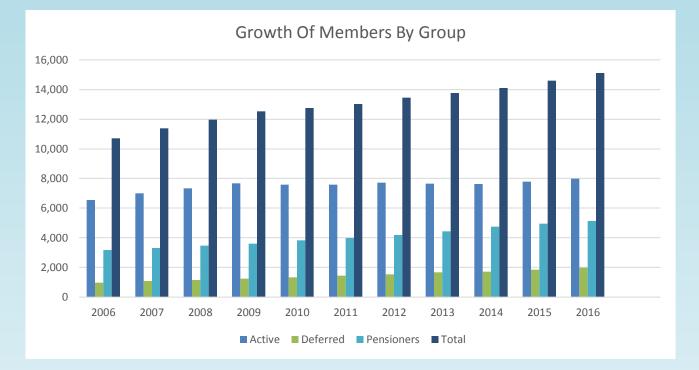
\$ Value Per Month	<b>Member Pensions</b>	Spouse Pensions	Total
1 to 1,999	776	23	799
1,000 to 1,999	679	37	716
2,000 to 2,999	658	33	691
3,000 to 3,999	692	23	715
4,000 to 4,999	752	13	765
5,000 to 5,999	592	7	599
6,000 to 6,999	419	7	426
7,000 and Over	424	3	427
Total	4,992	146	5,138

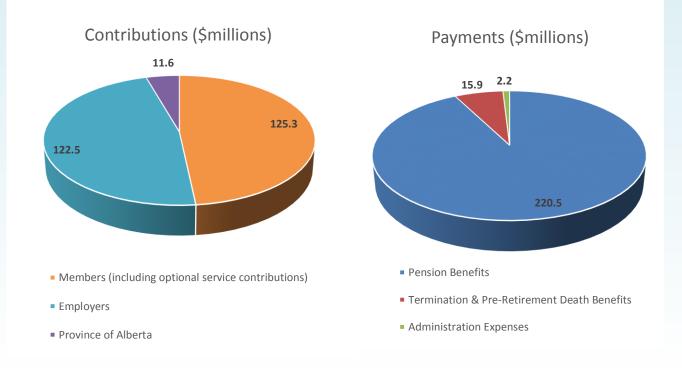
#### TERMINATED, DEFERRED, AND DECEASED MEMBERS

Termination and pre-retirement death benefits amounting to \$15.9 million (2015: \$32.2 million) were paid during 2016 to or on behalf of former members of the UAPP. The significant decrease in the amount of benefits paid is due to a decrease in the number of members who terminated and withdrew benefits. The number of terminated members who continue to have funds in the Plan increased to 1,977 at December 31, 2016 from 1,849 at the end of 2015.

#### **PLAN EXPENSES**

Management continues to work hard to ensure efficient and cost-effective services are provided to the UAPP. During 2016, the UAPP's general plan expenses amounted to \$2.2 million (\$145 per member) compared to \$2.1 million (\$147 per member) during 2015.





#### **SERVICE TO MEMBERS**

Management strives to provide high-quality pension services in a timely manner to UAPP members. Service standards have been established and the delivery of services against those standards is closely monitored in an effort to assess and promote quality service.

Responsibilities	Service Level Standards	2016 Results
Time to answer calls	80% of calls answered within 20 seconds with a call abandonment rate below 5%	94.5% of calls answered within 20 seconds with a call abandonment rate of 2.7%
Escalated calls and voicemails	Answered within 1 business day	97.1% of calls answered within 1 business day
Emails	Answered within 2 business days	98.8% of emails answered within 2 business days
Written enquiries	Answered within 5 business days	90.0% of written enquiries answered within 5 business days
Statement of options on termination	5 business days from receipt of all required information	98.7% of options on termination issued within 5 business days from receipt of all required information
Statement of options on retirement	5 business days from receipt of all required information	97.6% of options on retirement issued within 5 business days from receipt of all required information
Statement of options on death	5 business days from receipt of all required information	100% of options on death issued within 5 business days from receipt of all required information
MPO* estimate requests	5 business days from receipt of all required information	88.7% of MPO estimates issued within 5 business days from receipt of all required information
MPO final calculations	10 business days from receipt of all required information	100% of MPO final calculations issued within 10 business days from receipt of all required information
MPO payment authorization	3 business days from receipt of all required information	100% of all MPO payment authorizations issued within 3 business days from receipt of all required information

Service standards of direct interest to members are as follows:

\*Matrimonial Property Order

#### PLAN COMMUNICATIONS

Member Handbooks were updated and posted to our website in February 2016, and the Communiqué was issued quarterly to update members and employers on topical subjects related to UAPP and pensions. Personal annual statements giving the details of their entitlements as at December 31, 2015 were made available to active members in May and to retired members in June. Two new Information Sheets, New Member Basics and the Retired Member Guide, were posted on the UAPP website. The Trustees' Office continued to offer pension seminars for groups of employees as well as one-on-one information sessions to promote member understanding of the UAPP. A video version of the seminar is posted on the website.

The UAPP website experienced a significant increase in number of visitors during 2016 as it had over 57,000 hits in the year. Popular subjects of interest included Frequently Asked Questions, Contact Us, Communiqués, Member Handbook, Links, Forms, News, Information Sheets, Annual Report, Contribution Rates, and Video Member Seminar. Plan members also continued to make use of the Conduent helpline for pension-related information as there were over 2,800 calls handled by the call center during 2016. Plan members accessed the Retirement Planner over 7,600 times during the year.

#### **OTHER DEVELOPMENTS IN 2016**

- The UAPP website experienced a significant increase in traffic from 2015 and some minor improvements were made during the year.
- A sixth pensioner audit commenced in 2016 in accordance with the audit policy.
- New Information Sheets were prepared and posted to the website including New Member Basics, which highlights key points about the plan for new members, and Retired Member Guide, designed as a quick reference for retired members.
- A live demonstration of the Retirement Planner was added to the member information seminars offered during the year.
- Returned member satisfaction surveys provided to new retirees suggest members are satisfying their information needs by attending information sessions, reviewing the UAPP website, and utilizing the Conduent helpline and their employer's Human Resources group.
- The Pension Benefits Administration User Group continued to meet to discuss common issues.

#### THE YEAR AHEAD

Key plans for 2017 include:

- Assess effectiveness of and seek improvements to re-designed UAPP website.
- Confirm pension payment status of approximately 25% of the pensioners.
- Review and re-design pension forms and standard letters.
- Continue to offer member information seminars and one-on-one member sessions.
- Work with employers to review potential improvements to processes.
- Upgrade Retirement Planner for members and make improvements to the employer experience with the system, including the development of an administrative manual.

# **Management's Responsibility for Financial Reporting**

The financial statements and information in the 2016 Annual Report are the responsibility of management and have been approved by the Board of Trustees.

The financial statements have been prepared in conformity with Canadian accounting standards for pension plans and, of necessity, include some amounts that are based on estimates and judgments. Financial information presented in the 2016 Annual Report that relates to the operations and financial position of the Universities Academic Pension Plan is consistent with that in the financial statements.

Alberta Investment Management Corporation (AIMCo), Beutel Goodman & Company Ltd. and Fiera Capital Corporation, acting as investment managers, and Buck Consultants Limited (operating as Conduent Human Resource Services effective January 1, 2017) and CIBC Mellon, acting as pension administrators, maintain systems of internal control, including written policies, standards and procedures and formal authorization structures.

These systems are designed to provide management with reasonable assurance that transactions are properly authorized, reliable financial records are maintained and assets are adequately accounted for and safeguarded.

The Audit Committee assists the Board of Trustees in discharging its responsibility to approve the annual financial statements. The Committee meets regularly with both management and external auditors to review the scope and timing of the audit as well as to review any internal control or financial issues and their resolution. The Committee reviews the annual financial statements and recommends them to the Board of Trustees for approval.

KPMG LLP (KPMG), the Plan's external auditor, provides an independent audit of the operations, investments, and financial statements. Their examination is conducted in accordance with Canadian generally accepted auditing standards and includes tests and other procedures that allow them to report on the fairness of the financial statements in accordance with Canadian accounting standards for pension plans. KPMG has full and unrestricted access to discuss the audit and related findings regarding the integrity of financial reporting and the adequacy of internal controls.

Dave Schnore Executive Director

LC: SCR

Chris Schafer Director, Finance & Administration

# **Independent Auditor's Report**

#### To the Board of Trustees of Universities Academic Pension Plan

We have audited the accompanying financial statements of Universities Academic Pension Plan, which comprise the statement of financial position as at December 31, 2016 the statements of changes in net assets available for benefits and changes in pension obligation for the year then ended, and notes, comprising 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 necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

#### Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform an 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 our 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, we consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management as well as evaluating the overall presentation of the financial statements.

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

#### Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of Universities Academic Pension Plan as at December 31, 2016, and the 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.

KPMG LLP

Chartered Professional Accountants Edmonton, Canada March 30, 2017

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# **Financial Statements**

# **Statement of Financial Position**

As at December 31, 2016	(\$ thousands)		ands)
		2016	2015
Net assets available for benefits			
Assets	\$	4,329,190	\$ 4,024,583
Investments (Note 3)			
Contributions receivable		9,937	9,154
Employers		10,154	9,355
Employees		624	1,131
Province of Alberta		185	324
Accounts receivable and accrued investment income		4,350,090	4,044,547
Total Assets			
Liabilities		815	893
Accounts payable and accrued liabilities		815	893
Total Liabilities			
Net assets available for benefits	Ş	4,349,275	\$ 4,043,654
Pension obligation and deficit	\$	5,174,100	\$ 4,961,000
Pension obligation (Note 5)	7	(824,825)	(917,346)
Deficit (Note 6)	_	(== !)==0)	(0 = 7)0 107
	\$	4,349,275	\$ 4,043,654
Pension obligation and deficit	-		

# **Statement of Changes in Net**

## **Assets Available For Benefits**

For the year ended December 31, 2016

	(\$ thousands)	
	2016	2015
Increase in assets		
Contributions (Note 7)	\$ 259,353	\$ 240,861
Investment income (Note 8)	295,434	294,704
	554,787	535,565
Decrease in assets		
Benefit payments (Note 10)	(236,336)	(243,587)
Investment expenses (Note 11)	(10,678)	(13,777)
Administrative expenses (Note 12)	(2,152)	(2,121)
	(249,166)	(259,485)
Increase in net assets	305,621	276,080
Net assets available for benefits at beginning of year	4,043,654	3,767,574
Net assets available for benefits at end of year	\$ 4,349,275	\$ 4,043,654

The accompanying notes are part of these financial statements.

# Statement of Changes in Pension Obligation

For the year ended December 31, 2016

		2016		2015	
	Pre-1992	Post-1991	Total	Total	
Increase in pension obligation					
Interest accrued on pension obligations	\$ 96,800	\$ 208,400	\$ 305,200	\$ 303,900	
Benefits earned	-	169,200	169,200	154,000	
Actuarial assumption changes (Note 5(a))	-	-	-	110,700	
	96,800	377,600	474,400	568,600	
Decrease in pension obligation					
Benefits paid, including interest	137,900	105,500	243,400	251,200	
Net experience gains	-	-	-	46,600	
Cost-of-living experience gain	8,200	9,700	17,900	17,800	
	146,100	115,200	261,300	315,600	
Net increase(decrease)in pension obligation	(49,300)	262,400	213,100	253,000	
Pension obligation at beginning of year	1,627,000	3,334,000	4,961,000	4,708,000	
Pension obligation at end of year (Note 5)	\$ 1,577,700	\$ 3,596,400	\$ 5,174,100	\$ 4,961,000	

The accompanying notes are part of these financial statements.

# Notes to the Financial Statements

For the year ended December 31, 2016

#### NOTE 1 SUMMARY DESCRIPTION OF THE PLAN

Effective January 1, 2001, the Universities Academic Pension Plan (the "Plan") became a nonstatutory pension plan subject to and registered under the Employment Pension Plans Act of Alberta. The Plan is also registered under the Income Tax Act. The Plan's registration number is 0339572. The Plan operates under a Sponsorship and Trust Agreement signed by the Plan Sponsors. A complete description of the Plan can be found in the Sponsorship and Trust Agreement. The Board of Trustees appointed by Plan Sponsors is responsible for administration of the Plan. The summary description of the Plan described below applies to members who contribute to the Plan on or after January 1, 2001.

#### a) **GENERAL**

The Plan is a contributory defined benefit pension plan for academic staff members and other eligible employees of the Universities of Alberta, Calgary and Lethbridge, Athabasca University and The Banff Centre.

In addition, employees of the Board of Trustees and the professional staff of the University of Calgary Faculty Association, the Association of Academic Staff University of Alberta and the Athabasca University Faculty Association also participate in the Plan.

#### b) FUNDING POLICY

Contributions and investment earnings are expected to fund all benefits payable under the Plan. Employees and employers are responsible for fully funding service after 1991.

The unfunded liability for service prior to January 1, 1992 is financed by additional contributions from the Province of Alberta, employers and employees. These contribution rates are set on the basis that the additional contributions will eliminate the pre-1992 service unfunded liability on or before December 31, 2043. The Province pays 1.25% of salary and the balance of the required contributions are equally split between employees and employers.

Under the Employment Pension Plans Amendment Regulation 245/2003 (Order in Council 357/203), the Plan is exempt from funding solvency deficiencies effective January 1, 2003 in respect of all service.

The Board of Trustees, in consultation with the Plan's actuary, reviews the contribution rates at least once every three years.

The contribution rates in effect from July 1, 2016 for employees of the Universities of Alberta, Calgary and Lethbridge, employees of the Board of Trustees, and the professional staff of the University of Calgary Faculty Association and the Association of Academic Staff University of Alberta were 12.41% (11.82% to June 30, 2016) of pensionable salary up to the YMPE, 15.91% (15.02% to June 30, 2016) on pensionable salary above the YMPE and up to the pensionable salary cap, and 1.77% (1.44% to June 30, 2016) on earnings above the pensionable salary cap. Employers contribute at the same rate as employees.

The contribution rates in effect from July 1, 2016 for employees of Athabasca University, The Banff Centre and the professional staff of the Athabasca University Faculty Association were 11.91% (11.32% to June 30, 2016) of pensionable salary up to the YMPE and 15.41% (14.52% to June 30, 2016) on pensionable salary above the YMPE and up to the pensionable salary cap. Employers contribute at a rate 1.0% higher than employees. In addition, employees and employers provide equal matching contributions of 1.77% (1.44% to June 30, 2016) on earnings above the pensionable salary cap.

#### c) **RETIREMENT BENEFITS**

The Plan provides for a pension based upon the average pensionable salary of the highest five consecutive years. For service before 1994, the pension is 2% for each year of pensionable service. From January 1, 1994, the Plan's benefits and contributions were integrated with the Canada Pension Plan. As a result, pensions for service after 1993 are reduced at age 65. The reduction is 0.6% of the average YMPE for the same five years as used in calculating the average pensionable salary of the highest five consecutive years. The maximum service allowable under the Plan is 35 years.

Members are entitled to an unreduced pension for service before 1994 if they have attained age 55.

Members are entitled to an unreduced pension for service after 1993 if they have either attained age 60 or have attained age 55 and the sum of their age and years of membership equals at least 80. Members are entitled to a reduced pension for service after 1993 if they have attained age 55.

Members who become disabled and are not in receipt of benefits from an approved disability plan are eligible to apply for a disability pension.

#### d) DEATH BENEFITS

Death benefits are payable on the death of a member. A surviving spouse may choose to receive a pension based on total service or a lump sum payment. For a beneficiary other than a spouse, a lump sum payment must be paid.

#### e) **TERMINATION BENEFITS**

Members who terminate and are not immediately entitled to a pension may elect to receive a deferred pension or a lump sum refund.

Refunds on service performed before 1994 equal employee and employer contributions plus interest, or the commuted value of the member's earned pension, whichever is greater.

Refunds on service performed after 1993 equal 1.75 times employee contributions plus interest, or the commuted value of the member's earned pension, whichever is greater.

Refunds are subject to the Plan's lock-in provisions and excess contribution rules.

#### f) **DISABILITY BENEFITS**

Members who become disabled and are in receipt of benefits from an approved disability plan continue to earn pensionable service credits under the Plan.

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#### g) OPTIONAL SERVICE

Leaves of absence which are purchased before April 30th following a return to work are costed based on the contributions which would have been paid during the leave period plus interest. All other optional service purchases are costed on an actuarial reserve basis and are cost neutral to the Plan. Funds related to the transfer of service to other plans are based on the regular termination benefits.

#### h) COST-OF-LIVING ADJUSTMENTS

Pensions payable are increased each year on January 1st 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 31st 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) STANDARDS ISSUED BUT NOT YET EFFECTIVE

In July 2014, the International Accounting Standards Board issued: IFRS9 – Financial Instruments (effective for annual periods beginning on or after January 1, 2018) to replace IAS 39 – Financial Instruments and IFRIC – Reassessment of Embedded Derivatives and seeks to establish principles for the financial reporting that will present relevant and useful information to users of financial statements. Management is currently assessing the impact of this 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").

Contracts to buy and sell financial instruments in the pools are between the investment managers and the third parties 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. The investment managers control the creation of the pools and the

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#### c) VALUATION OF INVESTMENTS (continued)

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 the investment managers (see Note 3(b)). 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 the investment managers 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.

Investments in 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 prorate 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) CONTRIBUTIONS, BENEFIT PAYMENTS AND ADMINISTRATIVE EXPENSES

Contributions, benefit payments, administrative expenses and related accounts receivable and payable are recorded on an accrual basis.

#### g) 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. A valuation must be performed 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.

#### h) 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, 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

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#### h) MEASUREMENT UNCERTAINTY (continued)

ii) the estimated fair values of the Plan's private investments, 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, 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.

#### i) 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. The Plan's assets are managed 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 the pool units. The investment managers are delegated authorities 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 V	alue Hierarch	y <sup>(a)</sup>	2016	2015
Asset class	Level 1	Level 2	Level 3	Fair Value	<b>Fair Value</b>
Fixed Income					
Cash and short-term securities	\$-	\$ 33,911	\$-	\$ 33,911	\$ 15,570
Bonds and mortgages	-	733,804	171,103	904,907	909,836
Real return bonds	-	308,414		308,414	275,924
	-	1,076,129	171,103	1,247,232	1,201,330
Public Equities					
Canadian	762,675	66,834	6,671	836,180	677,787
Global	981,842	237,954	102,776	1,322,572	1,224,625
Emerging markets	331,994	11,398		343,392	330,213
	2,076,511	316,186	109,447	2,502,144	2,232,625
Alternatives					
Real estate	-	-	354,717	354,717	338,754
Infrastructure, private debt and loan	-	-	138,676	138,676	171,056
Timberland	-	-	36,962	36,962	33,676
	-	-	530,355	530,355	543,486
Strategic and currency investments*	-	(107)	49,566	49,459	47,142
<b>Total investments</b>	\$ 2,076,511	\$ 1,392,208	\$860,471	\$ 4,329,190	\$ 4,024,583

\* 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 totaling \$2,076,511 (2015: \$1,835,642).

- Level 2: fair value is estimated using valuation techniques that make use of marketobservable inputs other than quoted market prices. This level includes debt securities and derivative contracts not traded on a public exchange totaling \$1,392,208 (2015: \$1,304,895). 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 and all alternative investments totaling \$860,471 (2015: \$884,046).

#### **Reconciliation of Level 3 Fair Value Measurements:**

	(\$ thousands)	
	2016	2015
Balance, beginning of year	\$884,046	\$740,684
Investment income *	47,221	79,785
Purchases of Level 3 pooled fund units	42,145	121,202
Sale of Level 3 pooled fund units	(112,941)	(57 <i>,</i> 625)
Balance, end of year	÷ 0 0 0 171	
	\$860,471	\$884,046

\* Investment income includes unrealized gains (losses) of \$(165) (2015: \$43,544).

#### b) Valuation of Financial Instruments 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. Cash flows are discounted using appropriate interest rate premiums over similar Government of Canada benchmark bonds trading in the market.
- **Public 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.
- *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 the discounted cash flows. The fair value of infrastructure investments is estimated by managers or general partners of infrastructure funds, pools and limited partnerships. Valuation methods 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. Private debt and loans are valued similar to private mortgages. The fair value of timberland investments is appraised annually by independent third party evaluators.

- **Strategic and currency investments:** The estimated fair value of infrastructure investments held in emerging market countries is estimated by managers or general partners of private equity funds and joint ventures. 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 values of derivative contracts in favourable and unfavourable positions are recorded at fair value and are included in the fair value of pooled investment funds (see Note 4(f)). The estimated fair values of equity and bond index swaps are 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. 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 assets are 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 4(b)).

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 asset mix policy ranges:

	Target	Actual Asset Mix								
Asset Class	Asset	2016		2016		2016			2015	
		(\$ thousands) %		(\$ thousands)		%	(\$	thousands)	%	
Fixed income	26.0 - 38.0%	\$	1,247,232	28.8	\$	1,201,330	29.8			
Public equities	50.0 - 60.0%		2,502,144	57.8		2,232,625	55.5			
Alternatives	6.5 - 17.0%		530,355	12.3		543,486	13.5			
Strategic and currency investments	(a)		49,459	1.1		47,142	1.2			
		\$	4,329,190	100.0	\$	4,024,583	100.0			

(a) An investment manager may, at its discretion, use currency overlays limited to a notional amount of 2.5% of that manager's mandate of the Plan's assets.

#### a) Credit Risk

i) Debt securities

The Plan is indirectly exposed to credit risk associated with the underlying debt securities held in the pools. Counterparty credit risk is the risk of loss arising from the failure of a counterparty to fully honor its financial obligations. The credit quality of financial assets is generally assessed by reference to external credit ratings. 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 are with counterparties with credit ratings considered to be investment grade.

The table below summarizes these debt securities by counterparty credit rating at December 31, 2016:

Credit rating	2016	2015
Investment Grade (AAA to BBB-)	83.8%	84.2%
Speculative Grade (BB+ or lower)	0.0%	0.0%
Unrated	16.2%	15.8%
	100.0%	100.0%

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

The Plan's maximum credit risk in respect of derivative financial instruments is the fair value of all contracts with counterparties in a favorable position (see Note 4(f)). The Plan can only transact with counterparties to derivative contracts with a credit rating of A+ or higher by at least two recognized ratings agencies. Provisions are in place to either transfer or terminate existing contracts when the counterparty has their credit rating downgraded. The exposure to credit risk on derivatives is reduced by entering into master netting agreements and collateral agreements with counterparties.

#### a) Credit Risk (continued)

To the extent that any unfavorable contracts with the counterparty are not settled, they reduce the Plan's net exposure in respect of favorable contracts with the same counterparty.

iii) Security lending risk

To generate additional income, the Plan participates 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, 2016, the Fund's share of securities loaned under this program is \$361,730 (2015: \$179,945) and collateral held totals \$386,476 (2015: \$192,807). 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 value of investments denominated in foreign currencies is 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 38% (2015: 40%) of the Plan's investments, or \$1,662,359 (2015: \$1,614,547), are denominated in currencies other than the Canadian dollar, with the largest foreign currency exposure being to the US dollar at 18% (2015: 18%) and the Euro at 4% (2015: 4%).

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 3.5% of total investments (2015: 3.6%).

#### b) Foreign Currency Risk (continued)

The following table summarizes the Plan's exposure to foreign currency investments held in the pools at December 31, 2016:

(\$ thousands)							
2016			2015				
Currency		Fair Value	Currency		Fair Value		
US dollar	\$	791,593	US dollar	\$	718,777		
Euro		152,143	Euro		148,828		
Japanese yen		109,258	Japanese yen		106,616		
British pound		82,843	British pound		90,176		
Hong Kong dollar		72,811	Hong Kong dollar		88,435		
South Korean won		56,587	Indian rupee		50,448		
Brazilian real		52,337	South Korean won		47,782		
Indian rupee		43,068	New Taiwan dollar		46,717		
Other foreign currencies (<1%)		301,719	Other foreign currencies (<1%)		316,768		
Total foreign currencies	\$	1,662,359	Total foreign currencies	\$	1,614,547		

#### c) Interest Rate Risk

The Plan is exposed to interest rate risk associated with the underlying interest-bearing securities held in pooled investment funds. Interest rate risk relates to the possibility that the 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 1.0%, and all other variables are held constant, the potential loss in fair value to the Plan would be approximately 4.8% (2015: 5.0%) of total investments.

#### d) Price Risk

Price risk relates to the possibility that equity investments will change in value due to future fluctuations in market prices 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 the pools. 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 5.7% (2015: 5.3%) of total investments. 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 active markets that are easily sold and converted to cash. These sources of cash are used to pay pension benefits and operating expenses, purchase new investments, settle derivative transactions with counterparties and settle margin calls on futures contracts. The Plan's future liabilities include the accrued pension benefits obligation and exposure to net payables to counterparties (Note 4(f)).

#### 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. Derivative financial instruments are used 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			t Share
			(\$ thou	san	ds)
	Number of				
By counterparty	counterparties		2016		2015
Contracts in favourable position (current					
credit exposure)	39	\$	22,590	\$	16,785
Contracts in unfavourable position	8	-	(4,899)		(27,336)
Net fair value of derivative contracts	47	\$	17,691	\$	(10,551)

- Current credit exposure: The current credit exposure is limited to the amount of loss that would occur if all counterparties to contracts in a favorable position totaling \$22,590 (2015: \$16,785) 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.

f)	Use of Derivative Financial Instruments in Pooled Investment Funds (continued)	
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	Plan's Indirect Share			lirect Share
	(\$ thousands)			ds)
Types of derivatives used in pools		2016		2015
Structured equity replication derivatives	\$	17,278	\$	163
Foreign currency derivatives		(181)		(9,172)
Interest rate derivatives		(325)		(1,673)
Credit risk derivatives		919		131
Net fair value of derivative contracts	\$	17,691	\$	(10,551)

- i) Structured equity replication derivatives: Equity index swaps 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 index swap. 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, 2016 deposits in futures contracts margin accounts totalled \$13,452 (2015: \$8,261) and deposits as collateral for derivative contracts totalled \$nil (2015: \$288).

#### NOTE 5 PENSION OBLIGATION

#### a) ACTUARIAL VALUATION AND EXTRAPOLATION

An actuarial valuation of the Plan was carried out as at December 31, 2014 by the Plan's actuarial consultants, Aon Hewitt. The December 31, 2014 valuation results were extrapolated to December 31, 2016.

The pension obligation was determined using the projected benefit method prorated on service. The assumptions used in the valuation extrapolation were developed as the best estimate of expected short-term and long-term market conditions and other future events. After consultation with the Plan's actuary, the Board of Trustees adopted this best estimate.

#### a) ACTUARIAL VALUATION AND EXTRAPOLATION (continued)

The major assumptions used were:

	2014 Valuation and 2016 Extrapolation	2014 Valuation and 2015 Extrapolation
	%	%
Asset real rate of return	2 70	2 70
For 2 years after valuation	3.70	3.70
Thereafter	3.70	3.70
Inflation rate		
For 2 years after valuation	2.25	2.25
Thereafter	2.25	2.25
Discount rate	5.95	5.95
Salary escalation rate *		
For 2 years after valuation	1.00	1.00
Thereafter	2.75	2.75
merearter	2.75	2.75
Mortality table	85% (100% for females) of 2014 Public Sector Canadian Pensioner table with	85% (100% for females) of 2014 Public Sector Canadian Pensioner table with
	generational projection	generational projection
	(Scale CPM-B)	(Scale CPM-B)

\* In addition to merit and promotion

An actuarial valuation of the Plan will be carried out no later than December 31, 2017. 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 the following year.

#### b) SENSITIVITY OF CHANGES IN MAJOR ASSUMPTIONS

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

	(\$ thousands)				
	Changes in Assumptions %	Increase in Plan's Actuarial Deficiency \$	Increase in Current Service Cost as a % of Pensionable Earnings *		
Inflation rate increase holding discount rate					
and salary escalation assumptions constant	1.0	349,900	1.49		
Salary escalation rate increase holding					
inflation rate and discount rate assumptions					
constant	1.0	79,200	0.82		
Discount rate decrease holding inflation					
rate and salary escalation assumptions					
constant	(1.0)	721,600	4.11		

\* The current service cost as a % of pensionable earnings as determined by the December 31, 2014 valuation is 20.03% (December 31, 2012 valuation: 18.40%)

#### NOTE 6 DEFICIT

	(\$ thousands)			
		2016		
	Pre-1992	Pre-1992 Post-1991 Total		
Deficit (surplus), beginning of year	\$ 839,400	\$ 77,946	\$ 917,346	\$ 940,426
Decrease (increase) in net assets available for benefits	37,200	(342,821)	(305,621)	(276,080)
Net (decrease) increase in accrued pension liability	(49,300)	262,400	213,100	253,000
Deficit (surplus), end of year	\$ 827,300	\$ (2,475)	\$ 824,825	\$ 917,346

In accordance with the requirements of the Public Sector Pension Plans Act, separate accounting is required of the pension deficit with respect to service that was recognized as pensionable as at December 31, 1991.

The following table summarizes the net assets available for benefits, pension obligation, and the resulting deficit (surplus) as at December 31, 2016 allocated between the pre-1992 and post-1991 periods:

	(\$ thousands)						
		2016					
	Pre-1992	Total					
Net assets available for benefits	\$ 750,400	\$3,598,875	\$4,349,275	\$4,043,654			
Pension obligation	1,577,700	3,596,400	5,174,100	4,961,000			
Deficit (surplus)	\$ 827,300	\$ (2,475)	\$ 824,825	\$ 917,346			

The deficit (surplus) for accounting purposes may differ from that for funding purposes (see Note 14).

#### NOTE 7 CONTRIBUTIONS

	(\$ thousands)			ds)
	2016 201			2015
Current service				
Employers	\$	84,145	\$	76,610
Employees		84,094		76,527
Contributions to meet post-1991 unfunded liability and optional service				
Employers		23,473		24,107
Employees		26,281		26,760
Contributions to meet pre-1992 unfunded liability				
Employers		14,884		12,851
Employees		14,884		12,851
Province of Alberta		11,592		11,155
	\$	259,353	\$	240,861

#### NOTE 8 INVESTMENT INCOME

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

	(\$ thousands)					
	Income	Change in	2016	2015		
	(Loss)	Fair Value	Total	Total		
Fixed income	\$ 65,221	\$ (32,900)	\$ 32,321	\$ 35,415		
Public equities						
Canadian	53,533	94,577	148,110	(53,557)		
Foreign	107,967	(27,125)	80,842	252,614		
	161,500	67,452	228,952	199,057		
Alternatives						
Real estate	13,725	5,980	19,705	17,301		
Infrastructure and private debt & loans	29,381	(16,638)	12,743	28,700		
Timberland	(689)	4,264	3,575	2,574		
	42,417	(6,394)	36,023	48,575		
Strategic and currency investments	(2,896)	1,034	(1,862)	11,657		
	\$ 266,242	\$ 29,192	\$ 295,434	\$ 294,704		

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 \$11,759 and \$18,924 respectively (2015: \$19,672 and \$(40,592) respectively). Realized and unrealized gains and losses on currency hedges total \$(1,846) and \$355 respectively (2015: \$(3,881) and \$193 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 write-downs 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), the annual change in net assets, the annual change in the pension obligation and the percentage of the pension obligation supported by net assets.

	(percentage)				
	2016	2015	2014	2013	2012
Increase (decrease) in net assets attributed to:					
Investment income					
Policy benchmark return (PBR) on investments	7.0	6.5	11.8	11.2	9.4
Value added (lost) by investment managers	0.1	1.1	0.4	1.9	2.4
Total return on investments <sup>(a)</sup>	7.1	7.6	12.2	13.1	11.8
Other sources <sup>(b)</sup>	0.5	(0.3)	0.0	0.6	0.7
Percent change in net assets <sup>(c)</sup>	7.6	7.3	12.2	13.7	12.5
Percent change in pension obligation (c)	4.3	5.4	8.5	8.6	4.6
Percent of pension obligation supported by net assets	84	82	80	77	74

- a) The annualized total return and policy benchmark return on investments over five years is 10.3% (PBR: 9.2%), ten years is 5.6% (PBR: 5.4%) and twenty years is 7.0% (PBR: 6.6%). The Plan's actuary estimates the long-term net investment return on assets for funding purposes to be 5.95% (2015: 5.95%).
- 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 percent change in net assets and pension obligation are based on the amounts reported on the statement of changes in net assets available for benefits and the statement of changes in pension obligations, respectively.

#### NOTE 10 BENEFIT PAYMENTS

	(\$ thousands)		
	2016 2015		
Retirement benefits	\$ 220,463	\$ 211,414	
Termination benefits	15,520	29,166	
Death benefits	353	3,007	
	\$ 236,336	\$ 243,587	

#### NOTE 11 INVESTMENT EXPENSES

	(\$ thousands)	
Amount charged:	2016	2015
Management fees <sup>(a)</sup>	\$ 10,624	\$ 13,723
Alberta Treasury Board and Finance <sup>(b)</sup>	54	54
Total investment expenses	\$ 10,678	\$ 13,777
Increase (decrease) in expenses	(22.5%)	7.8%
Increase in average investments under management	7.5%	9.6%
Increase (decrease) in value of investments attributed to active management	(0.2%)	1.1%
Investment expenses as a percent of :		
Dollar earned	3.6%	4.7%
Dollar invested	0.3%	0.4%

a) For investment management services, including non-recoverable GST of \$297 (2015: \$260).

b) For investment accounting and Plan reporting services.

#### NOTE 12 ADMINISTRATIVE EXPENSES

	(\$ thousands)			
	2016		2015	
General administration costs	\$	1,956	\$	1,943
Board costs		71		62
Actuarial fees		70		62
Audit fees		55		54
	\$	2,152	\$	2,121

General Plan costs, including the costs for benefit administration and delivery, amounted to \$145 per member (2015: \$147 per member).

#### NOTE 13 REMUNERATION OF BOARD MEMBERS

	 Chair		Trustee
Remuneration rates effective April 1, 2009			
Up to 4 hours	\$ 219	\$	164
4 to 8 hours	383		290
Over 8 hours	601		427
	 2016		2015
The following amounts were paid:			
Remuneration			
Chair	\$ 4,047	\$	4,866
Trustees (8)	30,971		24,565
Travel expenses			
Chair	1,161		2,427
Trustees (8)	15,656		13,288

Plan Sponsors may determine remuneration rates. Current remuneration rates are as follows:

Trustees are paid for attending and preparing for Board and Committee meetings and for time spent on specified UAPP business upon the approval of the Board. Preparation time for a meeting is remunerated at no more than 4 hours.

#### NOTE 14 CAPITAL

The Plan defines its capital as the funded position. 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.

The Plan's surplus or deficit is 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. Under this method, asset values are calculated based on what the asset value would be at the valuation date had the assets earned precisely the rate of return assumed in the actuarial valuation. This calculation is carried out independently at each of two starting points, namely the market value as at each of the two calendar year-ends preceding the valuation date. These two calculated values, together with the market value as at the valuation date, are averaged to determine the actuarial value of assets with a constraint limiting the actuarial value not to exceed 110% or fall below 90% of net assets available for benefits.

Actuarial asset values for funding valuation purposes amounted to \$4,301,275 at December 31, 2016 (2015: \$3,937,954), comprising of \$739,300 (2015: \$762,100) pre-1992 and \$3,561,975 (2015: \$3,175,854) post-1991.

The following table summarizes on the funding basis, the accrued pension liability, net assets available for benefits, and the resulting deficit as at December 31, 2016 allocated between the pre- 1992 and post-1991 periods:

	(\$thousands)						
		2016					
	Pre-1992	Post-1991	Total	Total			
Net assets available for benefits	\$ 750,400	\$ 3,598,875	\$ 4,349,275	\$4,043,654			
Actuarial adjustment for fluctuation							
in fair value of net assets	(11,100)	(36,900)	(48,000)	(105,700)			
Actuarial value of net assets							
available for benefits	739,300	3,561,975	4,301,275	3,937,954			
Pension obligation	1,577,700	3,596,400	5,174,100	4,961,000			
Actuarial deficit	\$ 838,400	\$ 34,425	\$ 872,825	\$ 1,023,046			

The Plan's unfunded liability for service prior to January 1, 1992 is being financed by additional contributions of 1.25% of salaries by the Province of Alberta with employers and employees equally sharing the balance of the contributions of 3.54% (2.87% to June 30, 2016) of salaries as required to eliminate the unfunded liability on or before December 31, 2043. The actuarial valuation shows the present value of the Province of Alberta's obligation for future additional contributions was \$237.4 million at December 31, 2014.

The Plan's unfunded liability for service after December 31, 1991 is being financed by special payments of 4.93% (5.79% to June 30, 2016) of salaries shared equally between employers and employees to eliminate the unfunded liability on or before December 31, 2027.

The additional contributions and special payments have been included in the rates shown in Note 1(b).

#### NOTE 15 COMPARATIVE INFORMATION

Comparative information has been reclassified to be consistent with 2016 presentation.

#### NOTE 16 APPROVAL OF FINANCIAL STATEMENTS

These financial statements were approved by the Board of Trustees of the Plan.

# Glossary Terms

# Absolute Return Strategies/ Hedge Funds

Encompass a wide variety of investments and trading strategies in private and publicly-traded securities with the objective of realizing positive returns independent of market direction. Investments in absolute return strategies are made through fund-offunds and specific fund investments to increase strategy diversification.

### **Active Management**

Managing the investments of a portfolio with the objective of outperforming the return of its benchmark. Active management generally takes two forms security selection and change in asset allocations within the prescribed ranges. Security selection is the buying and selling of particular securities to earn a return above a market index. Asset allocation refers to changing asset class or sector weights to earn a return above what would be available from maintaining the asset class or sector weight in the benchmark.

# **Asset Mix/Allocation**

The allocation of a pensions fund's investments among various asset classes such as bonds, equities, real estate, etc.

# Benchmark

A standard against which investment performance is measured.

## Bonds

Certificates of indebtedness issued by corporations, municipalities or governments on which the issuer promises to pay a specified amount of interest for a specified length of time and to repay the loan on maturity or the expiration date. A bond purchaser is lending money to the issuer. Bonds have terms to maturity greater than one year.

# **Emerging Market**

An economy in the earlier stages of development whose markets have sufficient size and liquidity and are receptive to foreign investment. Examples include China, Greece, and Brazil.

# **Equities/Common Stock**

Units of ownership of a corporation where owners typically are entitled to vote on the selection of directors and other important matters as well as to receive dividends on their holdings. In the event that a corporation is liquidated, the claims of secured and unsecured creditors and owners of bonds and preferred stock take precedence over the claims of those who own common stock. The liability of owners of equity is limited to the amount paid for the stock.

# **External Manager**

A third-party firm contracted by the Investment Manager to provide investment management services.

# Glossary Terms

# **Growth Stock**

A share in a company whose earnings are expected to grow at an above-average rate relative to the market.

# Large Cap

"Large cap" refers to firms with large market capitalization. Market capitalization is simply the market value of a corporation's outstanding shares. In the US market, this refers to companies with market capitalization between \$10 billion and \$200 billion. These are mega companies of the financial world and include ExxonMobil, Microsoft, Citigroup, Wal-Mart and General Electric. Classifications such as "large cap" or "small cap" are only approximations that change over time.

# **Passive Management**

Managing the investments of a portfolio with the objective of matching/replicating the performance of a given market index or benchmark.

# Policy Benchmark/Return

The "policy benchmark" is a composite return based on the percentage of a pension plan's fund allocated by policy to each asset class and the market index for that class. It is used to measure the plan's relative performance.

# **Pooled Fund**

A fund in which money from two or more investors is accepted for investment and where units allocated to each investor serve to establish the proportionate interest at any time of each investor in the assets of the fund.

# Private Income/Infrastructure

Private income opportunities represent privately-negotiated investments in private and publicly-traded entities. These investments are selected, structured and managed to provide (i) a current income component of total return, (ii) diversification and (iii) an inflation hedge. These investment opportunities are typically capital-intensive and may include infrastructure projects (long-life assets used to provide essential services), bridge loans and corporate finance arrangements (with a current income component of total return). Most infrastructure asses are illiquid assets.

# **Real Return Bond**

A fixed-income security (a bond) that generates a specified real rate of return. The real interest rate is the nominal (set) interest rate minus inflation.

# Glossary Terms

# Small Cap

"Small cap" refers to firms with relatively smaller market capitalization. Though there is no rigorous definition, in the US, a company with a market capitalization of between \$300 million and \$2 billion is considered a small cap. The definition can change over time.

# Statement of Investment Policies and Goals

A comprehensive statement by the Board outlining, among other things, the asset mix of the Fund, the allowable range for each asset class and the benchmarks for measuring performance.

### Swap

A privately-negotiated contract between two parties to exchange a stream of periodic payments on certain dates in the future based on an underlying investment. The size of these payments is normally determined in relation to a nominal, underlying amount, called the notional amount. The underlying security, representing the notional amount, is not exchanged between counterparties. Swaps available in and between all financial markets include, but are not exclusive to, equities, currencies, fixed income and commodities.

### Timberland

Timberland investments are made primarily in privately-owned areas of woodland; that is, forested areas consisting of both hardwood and softwood species. When responsibly managed, timberland investments are a renewable and sustainable resource. Timberland investments are illiquid assets.

### **Total Return**

Interest and dividend income plus price increases or decreases.

## **Tracking Error**

The difference between the performance of a position and the performance of a benchmark.

### **Treasury Bill/T-Bill**

A short-term government debt security.

# **Unfunded Liability**

When the actuarial valuation determines that a pension fund's accrued liabilities exceed the assets available for the payment of benefits.

#### **Value Stock**

A stock that tends to trade at a lower price relative to its fundamentals (i.e. dividends, earnings, sales, etc.) and thus considered undervalued by an investor.

# YMPE (Year's Maximum Pensionable Earnings)

The maximum earnings set each year by the Canada Pension Plan (CPP) up to which employers and employees are required to make CPP contributions.

# Glossary Indices

# **BMO Small Cap Index**

An index maintained by Bank of Montreal that is made up of 400 representative Canadian public companies and income trusts with market capitalizations of less than 0.1% of the S&P/TSX Composite total capitalization. This index is market capitalization weighted.

# **Consumer Price Index (CPI)**

An indicator of the prices encountered by consumers. It is obtained by calculating, on a monthly basis, the cost of a fixed "basket" of commodities purchased by a typical consumer during a given month. The CPI is published by Statistics Canada and is a widely used indicator of inflation (or deflation) in Canada.

# FTSE TMX 91-Day T-Bills Index

An index maintained by PC Bond that represents the performance of Government of Canada 91-day Treasury Bills.

# FTSE TMX Long Bond Index

An index maintained by PC Bond that tracks the performance of most marketable, domestically issued, Canadian bonds with terms to maturity of more than 10 years. This index is comprised of Canada's, provincial, municipal, and AAA- through BBB-rated corporate issuers.

# FTSE TMX Long Government Bond Index

An index maintained by PC Bond that tracks the performance of bonds issued by the Government of Canada (including crown corporations), provincial governments (including provincially guaranteed securities) and municipal governments with terms to maturity of more than 10 years.

# FTSE TMX Real Return Bond Index

An index maintained by PC Bond that tracks the performance of real return (inflationlinked) bonds issued in Canada with terms to maturity of more than one year and a minimum credit rating of BBB.

# FTSE TMX Universe Bond Index

An index maintained by PC Bond that tracks the performance of most marketable, domestically issued, Canadian bonds with terms to maturity of more than one year. This index is comprised of Canada's, provincial, municipal and AAA- through BBBrated corporate issuers.

# Glossary Indices

# MSCI ACWI (Morgan Stanley Capital International All Country World Index)

An index maintained by the MSCI Index Committee designed to measure market equity performance of developed and emerging markets. The MSCI ACWI is a free float-adjusted market capitalization index that is calculated on a total return basis, which includes re-investment of net dividends after deduction of withholding taxes. The MSCI ACWI consists of more than 2,400 securities across large and midcap segments and across style and sector segments in 46 developed and emerging markets.

# MSCI EAFE (Morgan Stanley MSCI EAFE (Morgan Stanley Capital International – Europe, Australasia, Far East)

An index maintained by the MSCI Index Committee that is designed to measure developed public market equity performance, excluding the US and Canada. The MSCI EAFE Index consists of 21 market country indices capturing large and mid-cap equities across developed markets in Europe, Australasia, and the Far East.

# MSCI (Morgan Stanley Capital International) Emerging Markets Free Index

An index maintained by the MSCI Index Committee that is designed to measure emerging public market equity performance net of withholding taxes. The MSCI Emerging Market Index consists of 23 emerging market country indices.

# REALpac/IPD Large Institutional All Property Index

An index maintained by the Canadian Institute of Real Estate Investment Managers/International Property Databank that measures the total return from a diversified pool over 2,100 properties.

# **Russell 2500 Index**

An index maintained by Russell Investments that measures the performance of the 2500 smallest companies in the Russell 3000. The Russell 2500 is taken to represent small and mid-cap US Equities.

# S&P/TSX Capped Composite Index

An index maintained by the S&P Canadian Index Committee that measures the return on the largest companies and trust units listed on the Toronto Stock Exchange. Any stock in the S&P/TSX Capped Composite Index whose float capitalization exceeds 10% of the Index is capped at 10% during the quarterly rebalancing process.

# Standard & Poor's 500 Index

An index maintained by the Standard & Poor's Index Committee that includes a representative sample of 500 leading operating companies in the US economy to create a broad market portfolio representing approximately 75% of the market capitalization of US public equities.

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