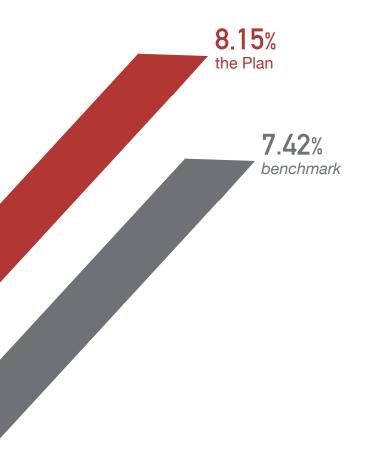
Nova Scotia Teachers' Pension Plan annual report 2016



2016 at a glance...

Investment Return

The Nova Scotia Teachers' Pension Plan (Plan or TPP) achieved a positive *return on investments* of 8.15 per cent. The investment return is reported *gross of investment management fees.*



Plan Funded Ratio

As at December 31, 2016, the Plan's *funded ratio* increased to 77.7 per cent from 76.7 per cent in 2015. A *funded ratio* of 100 per cent or more would mean that the Plan is fully funded.



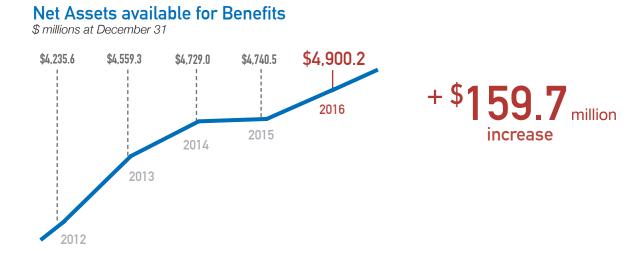
A look back

The chart below highlights the Plan's funded status over the past 5 years.



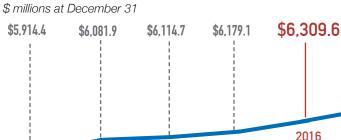


2016 at a glance...





2012





- **3** million

decrease

For an explanation on the breakdown of Plan liabilities, in dollar amounts by each member group, please see the Going Concern Actuarial Plan liabilities chart on page 3.

2014

2013

2015



For an explanation on how to calculate an unfunded liability, see the Plan Valuation section on page 9.

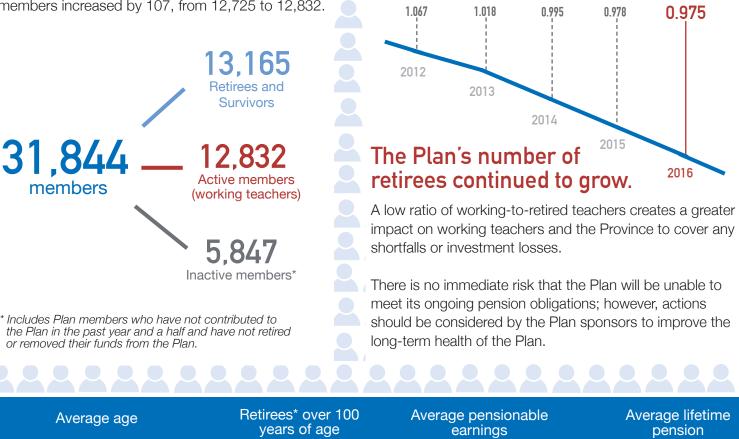
The Plan's membership.

As at December 31, 2016

The Plan had a total of 31,844 members. The number of retirees grew by 156, from 13,009 to 13,165 in 2016; while the number of active Plan members increased by 107, from 12,725 to 12,832.



0.975 active member for 1 retiree.



70 4 Working Teacher Retired Teacher

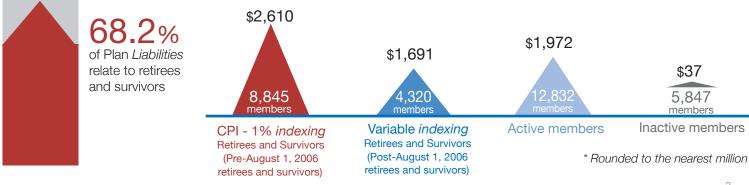
* Includes survivors

\$70.852 Active members

Retirees

Going Concern Actuarial Plan *liabilities* increased to \$6.309 billion

Retirees and survivors who began receiving their pension prior to August 1, 2006 account for the greatest portion of Plan liabilities. The chart below details the Plan liabilities, in dollar amounts*, by each member group (as at December 31st).



2016 Nova Scotia Teachers' Pension Plan Annual Report

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Glossary Italicized terms that appear in the Report to Members and Investment Management sections are defined in the Glossary.

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about the Teachers' Pension Plan

The TPP is one of the largest public sector pension plans in the Province. The Plan is a defined benefit registered pension plan that offers you a lifetime pension benefit when you retire. Your pension benefit is funded by contributions made by you and your employer, as well as investment income generated by the Plan's investment *assets*. This Annual Report details the Plan's investment performance and financial health at December 31, 2016.



All information presented in this document is premised on the Plan rules and criteria which currently exist under the *Teachers' Pension Act* and the Regulations made thereunder. This document explains in plain language the financial status of the Nova Scotia Teachers' Pension Plan. Plan members, beneficiaries, and others who wish to determine their legal rights and obligations under the Plan should refer to the Plan text. In the event of a discrepancy between the information provided in this document and the Plan text, the latter takes precedence.

Persentered Description of the sector of th

On behalf of the Teachers' Pension Plan Trustee Inc., I am pleased to present the annual report of the Plan for the fiscal year ended December 31, 2016. This report provides you with details on the financial health of the Teachers' Pension Plan and a comprehensive review of its investment activities.

The Plan experienced positive investment results in 2016, with the Plan's investment assets growing from approximately \$4.74 billion to \$4.9 billion. The rate of return on investments was 8.15 per cent before investment management expenses. The Plan's funded status improved from 76.7 per cent to 77.7 per cent.

While the Plan's financial position improved marginally in 2016, it remains in a deficit situation and continues to face significant challenges. The deficit was \$1,409 million. The Plan's maturity continues to increase with the number of retirees continuing to grow. There is no immediate risk that the Plan will be unable to meet its ongoing pension obligations; however, actions should be considered by the Plan sponsors to improve the long-term health of the Plan. Without such actions, the Plan's financial position is likely to further deteriorate going forward.

In 2016, we focused on the implementation of the new policy asset mix. This was a result of the asset liability study that we conducted in 2015. The study confirmed our investment priorities are well aligned with the maturity of the Plan and its significant monthly benefit payments. These priorities include reducing equity risk, focusing on less volatile asset classes, and increasing diversification of investments. During the year, we established mandates for fixed income and equity, as well as additional investments in the real asset portfolio. In the coming year, we will continue to work with our Investment team to implement these changes.

Throughout the year, we also continued to develop initiatives related to our sustainable investment policy. In April, we co-hosted a sustainable investment conference that focused on climate change and investment risks and opportunities. Work in this area progressed throughout the remainder of the year as new initiatives were developed.

On behalf of the Trustee, it is an honour to recognize retired Trustee director Russell Comeau for his hard work, professionalism and commitment to the long-term sustainability of the Plan. I also would like to thank the staff of Nova Scotia Pension Services Corporation for all of their efforts during the past year.

Teachers' Pension Plan Trustee Inc. Board of Directors (at December 31, 2016)

Karen Gatien

Associate Deputy

Minister. Education

& Early Childhood

Committee work:

* Governance

Appointed: 2015

Government Rep.

Development



Russell Comeau Teacher, Tri-County Regional School Board Committee work: * Governance Appointed: 2011 NSTU Rep.

Bill Redden

BA, BEd, MEd(Adm), **RPA** Retired Committee work: * Governance, Chair * Investment Appointed: 2006 NSTU Rep.

Vicki Clark

Director, Capital Markets Admin. and Compliance and Reporting, Dept. of Fin. and Treasury Board Committee work: Audit and Actuarial, Chair

Appointed: 2016 Government Rep.

Steve Mahoney

CFA, FSA, CAIA, PRM Vice President. Institutional Sales Committee work: * Investment Appointed: 2016 NSTU Rep.

Jack MacLeod

B.Sc., B.Ed. Executive Staff Officer - Member Services, NSTU Committee work: * Investment, Chair * Audit and Actuarial

Appointed: 2013 NSTU Rep.

John Carter

FCPA. FCA, ICD.D, Retired, Ernst and Young LLP The Chair is an Ex-Officio member on all committees Appointed: 2010

Bruce Osborne

Executive Director, Marine NS Dept. of Fisheries and Aquaculture Committee work: * Audit and Actuarial Appointed: 2016 Government Rep. * not pictured above

Charles Allain

Executive Director Liability Management & Treasury Services Dept. of Finance and Treasury Board Committee work: Investment Appointed: 2016 Government Rep.

About the Board

Teachers' Pension Plan Trustee Inc. (TPPTI) is comprised of nine directors. Four directors are appointed by the Nova Scotia Teachers' Union (NSTU) and four directors are appointed by Nova Scotia's Minister of Finance and Treasury Board. The independent Chair of the TPPTI is mutually appointed by the NSTU and the Minister of Finance and Treasury Board

TPPTI directors have extensive experience in a wide range of disciplines required to oversee the Plan. They are drawn from the fields of pension plan governance, pension benefits, labour relations, investment management, and accounting. TPPTI meets five to six times a year.

Directors of the TPPTI oversee all aspects of the Plan through three committees.

The TPPTI committees are:

Audit and Actuarial:

Oversight of the Plan's auditors and actuaries. Conducts a detailed review of the audited financial statements and actuarial valuation reports. Reviews quarterly compliance reports.

Governance, Communications, and Member Services: Ensures the Trustee's duties and responsibilities are clear and sets the goals for the Plan administrator.

Investment:

Reviews, monitors, and approves all investment management policies and investment decisions.

Plan Governance

TPPTI is the Trustee of the Plan. TPPTI was established in 2006 under a Joint Trust Agreement (which was amended in 2014) between the NSTU and the Province of Nova Scotia (Province). TPPTI ensures that the Plan is operated with strong controls and risk management practices, transparent reporting, and prudent management of the Plan's investment *assets*.

The Plan Sponsors are the NSTU and the Province. The Sponsors are advised by the Teachers' Pension Board (Board) which includes representation from the NSTU and the Province. The Board is responsible for setting contribution rates, Plan regulations and benefits, and the Plan's funding targets. The Board is also responsible for setting the Plan's actuarial assumptions.

The roles and responsibilities within the TPP's governance structure are highlighted below:

Teachers' Pension Board *

Sets the actuarial assumptions used to value Plan *liabilities* and advises the Plan Sponsors on:

- Plan regulations and benefits
- Employer and Member Contribution rates
- The Plan's funding targets
- * Includes representatives from the NSTU and the Province.

Teachers' Pension Plan Trustee Inc. (TPPTI) *

- Fiduciary responsibility for the Plan and investment assets
- Responsible for the Plan's overall operations and investment decisions
- Sets policy framework and strategic direction for the investment *assets*
- * Includes representatives from the NSTU and the Province.

The Board of Directors of Pension Services Corp.

- Oversight of Pension Services Corp.
- Sets strategic direction, approves operational budget,and makes key decisions
- * Includes directors from the TPPTI and the Public Service Superannuation Plan Trustee Inc.

Nova Scotia

Pension Services Corporation

- Manages day-to-day operation of Plan investments and benefit administration
- Provides Plan member, retiree, and employer services
- Jointly owned by TPPTI and the Public Service Superannuation Plan Trustee Inc.
- * See page 8 for more information

Delivering outstanding pension and investment services to Nova Scotia's public sector pension plans...



Nova Scotia Pension Services Corporation

Our service teams are responsible for providing pension services to Plan members, retirees, and employers. When a Plan member retires, we administer their pension payments and provide assistance throughout their retirement process. We also assist Plan members with counselling and support in making informed retirement decisions.

<image><equation-block><equation-block><text>

Visit us online:

www.novascotiapension.ca www.nstpp.ca

@yourNSTPP

My Retirement Plan website https://nspensions.hroffice.com

My Retirement Plan website allows <u>active</u> Plan members secure access to their personal pension information online.

Since we launched the site in 2015, we have noticed Plan members are using this service to obtain pension estimates and view their Annual Member Statements. The site's usage statistics are below:

778

Plan Members used the Pension Projection tool 543

Plan Members used the Annual Statement tool 262 Plan Members used the Pension Profile tool

The Plan's Financial Position

Plan Liabilities (as at December 31, 2016)

Plan *liabilities* were calculated to be \$6.309 billion. The calculation of Plan *liabilities* is derived by using several key assumptions. The most impactful assumption is the *discount rate* which is a forecast of the long-term rate of return from investment *assets*.

For the 2016 valuation, the *discount rate* has been set at 6.15 per cent which includes a provision for adverse deviation. This represents a reduction of 0.10 per cent from the 2015 *discount rate* of 6.25 per cent. The reduction reflects the continued moderation of the unadjusted best estimate return on the target portfolio of the Plan. A reduction in the *discount rate* causes an increase in Plan *liabilities*. The 2016 reduction in the *discount rate* caused Plan *liabilities* to increase by \$74 million.

No other assumptions were changed.

Plan Assets (as at December 31, 2016)

Plan *assets* were \$4,900 million and the Plan *funded ratio* was 77.7 per cent. The Plan *funded ratio* is the ratio of Plan *assets* to Plan *liabilities*. The *funded ratio* increased by 1.0 per cent from 76.7 per cent in 2015.

The improvement in *funded ratio* was the result of three main factors:

- Contributions received by the Plan exceeded the current service cost (i.e. the cost of benefits earned during the year) by \$69 million.
- The investment return of 8.15 per cent exceeded the *discount rate* of 6.25 per cent by 1.90 per cent. This resulted in a gain to the Plan of \$65 million.
- Plan experience (relative to actuarial assumptions) resulted in a net gain of \$56 million. Salary and *Year's Maximum Pensionable Earnings* (*YMPE*) increases being different than assumed represented \$36 million of this gain, while indexing being less than assumed resulted in an \$18 million gain.

The Plan is not at risk of being unable to meet its pension obligations over the short term; however, with a funding deficit of \$1,409 million, the Plan remains significantly under-funded. Detailed information on the Plan's investment performance is in the Investment Management Discussion and Analysis section of this Annual Report on page 11.

You can learn more about the financial position of the Plan by referring to the audited financial statements for the year ended December 31, 2016 located on page 18 of this Annual Report or on our website: www.nstpp.ca

You can also refer to the Report on the Actuarial Valuation as at December 31, 2016, which is available on our website: www.nstpp.ca

This section includes information on the TPP Fund and the factors that influenced its 2016 investment performance.

Overview

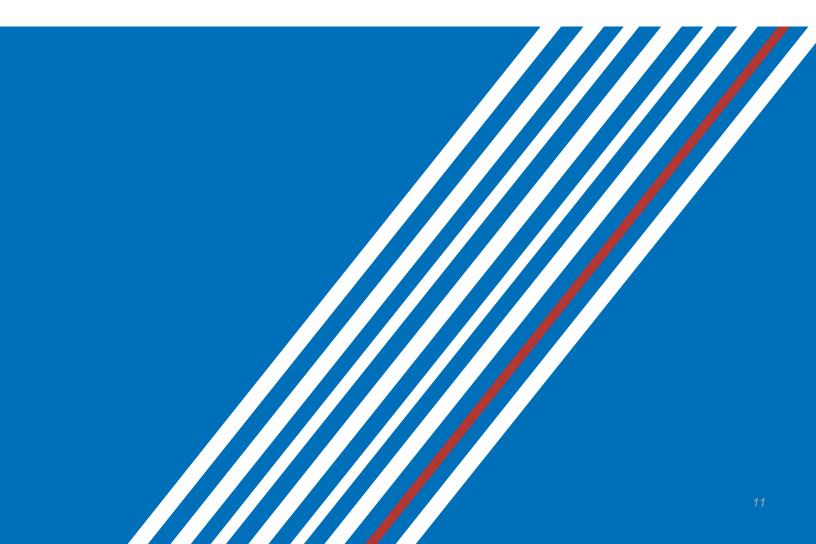
The Goal

The primary goal of the Teachers' Pension Fund (Fund) is to invest Plan *assets* in a manner that maximizes investment returns, within an acceptable level of risk, to enable the Plan to meet its long-term funding requirements.

The SIP&G

The investment of Plan *assets* is guided by the Fund's Statement of Investment Policies & Goals (SIP&G) as written by the Teachers' Pension Plan Trustee Inc. The SIP&G sets out the parameters within which the investments may be made.

These parameters include permissible investments and the policy *asset mix*. The Investment Beliefs, also found within the SIP&G, state the general principles upon which the investments are made.

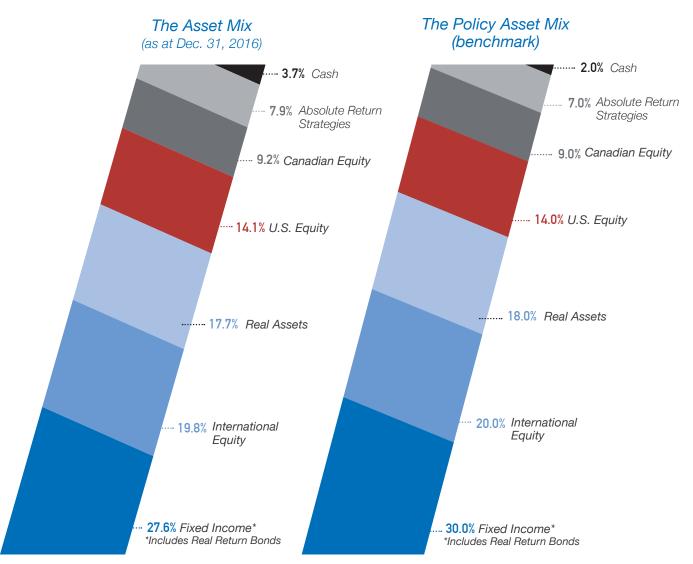


The Asset Mix

In 2015, the Trustee completed an *asset liability study* which led to the approval of a new policy *asset* mix. The purpose for the change was the desire to further diversify the Fund and lower *volatility* without diminishing future investment returns. The new policy *asset* mix reduces the Fund's exposure to *equities*, increases the targeted allocation to real *assets* and alternatives, while increasing the exposure to fixed income credit.

In 2016, the Trustee focused on the implementation of the new policy *asset* mix. Aligning the current policy *asset* mix to the new targeted *asset* mix progressed as several new fixed income and *equity* mandates were established and additional investments in the real *asset* portfolio were completed. The transition will continue over the next year and a half as investments within the real *asset* portfolio are secured.

Over the year, positioning of the Fund's *asset* classes was maintained close to *benchmark*. The *volatility* of capital markets within the first half of the year and macro-economic events throughout the second half dampened the intent to establish meaningful over or *underweights*.



2016 Nova Scotia Teachers' Pension Plan Annual Report

2016 Investment Performance

In 2016, the Fund achieved a one year return of 8.15 per cent, *gross of investment management fees* (7.87 per cent net of investment management fees). The Fund outperformed the policy *benchmark* of 7.42 per cent as well as the *actuarial assumed rate of return* of 6.25 per cent.

Despite early fears about China, continued oil weakness, and whispers of a U.S. recession, U.S. *equity* markets bounced back with the S&P 500 index rising 11.95 per cent with the help of solid economic data and low interest rates. Despite some major macro events, such as the U.K. BREXIT referendum and the buildup to the U.S. election, U.S. *equity* markets continued forward and rallied significantly at the end of the year with the Trump victory.

Canadian *equity* markets were among the best performers in the world during 2016 with the S&P TSX Composite index rising 21.08 per cent. On the tail of rising commodity prices and continuing accommodative monetary policy, the energy and financial heavy Canadian index soared.

Developed international *equities* advanced modestly during the year with the *MSCI EAFE* index advancing 1.59 per cent, supported by central bank stimulus measures and modestly improving economic growth.

Emerging markets, as measured by the *MSCI EM index*, had their strongest year since 2012 advancing 11.27 per cent. Emerging Markets benefited from strengthening commodity prices, accommodative monetary policies, and reform efforts in some countries.

Corporate fixed income had a modest year with the Barclays US Credit index gaining 5.63 per cent. Despite a turbulent start to the year with widening corporate spreads, investment grade and high-yield bond credit spreads tightened throughout the remainder of the year as markets began to stabilize as renewed economic confidence took hold.

Canadian government fixed income delivered mixed results with the Universe All Government Bond Index advancing 0.89 per cent. Canadian government yield rose in tandem with US rates as the markets anticipated central banks to start raising short-term interest rates. After the US Federal Reserve hiked rates in December 2015, the market view was for 2-3 more in 2016 but the end result was just one more hike in December.

For the Fund, active performance was relatively strong during the year. The Fund's performance, on a net basis, outperformed the *benchmark* by 39 basis points. Positive performance versus their *benchmarks* by the Fund's corporate fixed income, foreign exchange and Canadian *equity* managers, as well the real estate and infrastructure portfolios, benefited the Fund.



8.15%

the Plan

7.42% benchmark

6.25% actuarial assumed rate of return

2016 Economic and Key Events

The Global Picture

Global output growth is estimated at about 3.0 per cent (at an annualized rate) for the third quarter of 2016.¹ This stable average growth rate; however, masks divergent developments in different countries. There has been a stronger-than-expected pickup in growth in advanced economies, due mostly to a reduced drag from inventories and some recovery in manufacturing output. In contrast, it is matched by an unexpected slowdown in some emerging market economies. Oil prices have been stabilizing largely due to an agreement among major producers to reduce production.

In 2016, China's economic stabilization, fueled by accommodative fiscal and monetary policy, was a key factor in ending the steep global trade recession, and could continue to support global growth in the coming year.

The North American Picture

Growth in the Canadian economy increased modestly from 0.9 per cent in 2015 to 1.3 per cent in 2016. The rebound in commodities was a tailwind to Canadian GDP despite weakness in the first half of 2016 largely due to the wild fires in Alberta halting oil production.

The *International Monetary Fund (IMF)* estimates that economic growth will rebound slightly in the next two years, to 1.9 per cent in 2017 and 2.0 per cent in 2018.

The U.S. economy continued to expand at a modest pace. GDP growth was revised to an annualized rate of 3.2 per cent in the third quarter, up from 1.4 per cent in the second quarter. The *IMF* estimates that the 2016 year over year GDP will be 1.6 per cent. The economy is expected to continue growing in the next two years to 2.3 per cent in 2017 and 2.5 per cent in 2018.

The US unemployment rate fell to 4.6 per cent in November, down 0.4 per cent from the previous year. Job gains averaged 180,000 per month for the year to date through November, roughly 20 per cent less than in 2015, while hourly wages increased an average of 2.5 per cent.

With global economic conditions sluggish the Fed delayed raising the federal funds rate until December, a year after its first hike since 2008. Fed Chair Janet Yellen cited full employment and inflation nearing the 2 per cent target as factors in the unanimous decision. Significantly, the central bank's outlook for rate hikes in 2017 rose from two to three.

Global output growth is estimated at about
3.0% (at an annualized rate) for the third quarter of 2016.¹

Growth in the Canadian economy increased modestly to 1.3%.

 > US GDP growth was revised to an annualized rate of
 3.2% in the third quarter.

The Eurozone managed to grow by 1.7%

Economic activity in both advanced economies and emerging markets is forecast to accelerate in 2017–2018, with global growth projected to be 2 00

^{5 De} **3.4% & 3.6%** respectively

¹ Global GDP sourced from the World Economic Outlook Update, January 2016 as published by the IMF. 2015 GDP figures are IMF estimates only.

The International Picture

Europe's industrial activity has recovered and economic expectations have risen across several large developed economies, although the political environment poses risks in 2017 with several core-country elections. The global economic outlook for 2017 is for modest cyclical traction, abating global deflationary pressures, and a low probability of global recession.

The Eurozone managed to grow 1.7 per cent in 2016, slightly above potential, thanks in part to the European Central Bank's aggressive stimulus that managed to rekindle credit growth. Government expenditures on housing and social services to address the migrant crisis also helped. Thanks to a 15th consecutive quarter of growth in Q4, the Eurozone's output excluding Germany is finally back to pre-recession levels.

The Emerging Markets Picture

The picture for emerging market and developing economies remains much more diverse. The growth rate in China was a bit stronger than expected, supported by continued policy stimulus. But activity was weaker than expected in some Latin American countries currently in recession, such as Argentina and Brazil, as well as in Turkey. Activity in Russia was slightly better than expected, in part reflecting firmer oil prices.

The Global Economic Picture - Looking forward

Economic activity in both advanced economies and emerging markets is forecast to accelerate in 2017–2018, with global growth projected to be 3.4 per cent and 3.6 per cent, respectively.

Advanced economies are now projected to grow by 1.9 per cent in 2017 and 2.0 per cent in 2018. This forecast is particularly uncertain in light of potential changes in the policy stance of the United States under the new Trump administration. These policy uncertainties create the widest range of possible scenarios among the developed economies. The current projection assumes significant fiscal stimulus that leads growth to rise to 2.3 per cent in 2017 and 2.5 per cent in 2018 for the US economy.

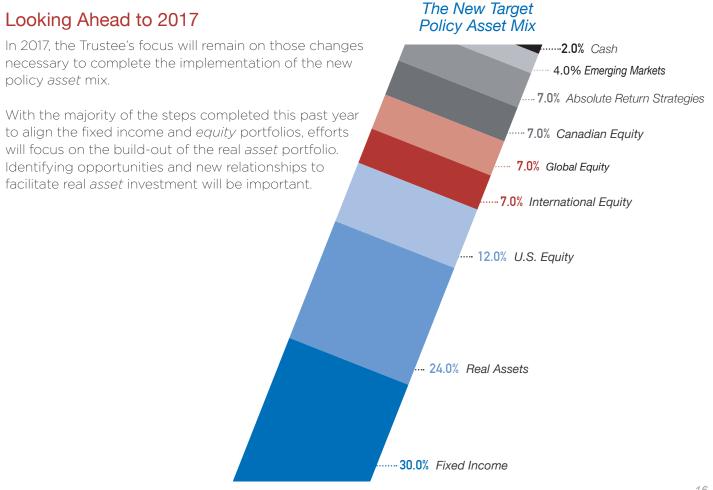
Growth projections for 2017 have also been revised upward for Germany, Japan, Spain, and the United Kingdom, mostly on account of a stronger-than-expected performance during the latter part of 2016. These upward revisions more than offset the downward revisions to the outlook for Italy and Korea.

2016 Significant Investment Accomplishments

Transitioning to the Fund's new policy asset mix was the prime focus for the Trustee in 2016. Modifications to the policy *asset* mix and investment strategies included:

- Enhancement of the Fund's fixed income credit portfolio with the addition of two new mandates:
- Realignment of the *equity* portfolio and the addition of global *equity* mandates;
- Expansion of the real *asset* portfolio through investments in real estate and infrastructure and exploratory work on a prospective agriculture portfolio.

Throughout the year, the Trustee continued to develop initiatives related to its sustainable investment policy. In April 2016, the Trustee co-hosted a sustainable investment conference in Halifax that focused on climate change and the consequences for future risk and investment opportunities. Work in this area progressed throughout the remainder of the year as new initiatives were developed.



Glossary

Actuarial assumed rate of return: The long term rate of return assumed by the Plan's external actuary in determining the value of the Plan's liabilities. Also, referred to as the discount rate.

Asset(s): Financial and real items owned by the Plan which have a monetary value, including cash, stocks, bonds, real estate, etc.

Asset Mix: The allocation of funds to be used for investment purposes between different types of *assets,* including cash, stocks, bonds, real estate, etc.

Asset Liability Study: An asset liability study analyzes a pension fund's risk and reward profile by examining not only the plan's assets but also the plan's liabilities. The study is designed to evaluate the probable change in liabilities over time in order to develop asset allocation recommendations that best meet these liabilities.

Benchmark: A standard against which the performance of the Plan's return on investment can be measured.

Discount Rate: See actuarial assumed rate of return

Equity(ies): Common or preferred stock representing ownership in a company.

Funded Ratio: A ratio of the Plan's *assets* to *liabilities*, expressed as a percentage. A ratio above 100 per cent indicates that the Plan has more *assets* than required to fund its future estimated *liabilities*.

Gross Domestic Product (GDP): Is the total market value of all final goods and services produced in a country in a given year. *GDP* is one of the primary indicators used to gauge the health of a country's economy.

Gross of investment management fees: Refers to the fact that the *return on investment* is reported before the deduction of management fees or expenses.

Indexing: Refers to the linking of retirement payments made to existing retirees with overall price increases in the economy, as measured by the *Consumer Price Index*.

International Monetary Fund (IMF): An organization of 188 countries working to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world.

Liabilities: An estimate of the current value of future obligations of the Plan as a result of retirement commitments made to past, current, and future employees.

MSCI Europe, Australasia and Far East (EAFE) Index: Is a stock market index that is designed to measure the *equity* market performance of developed markets outside of the U.S. and Canada.

MSCI Emerging Markets (EM) Index: Is a stock market index that captures large and mid-capitalization representation across 23 emerging market countries.

Overweight/Underweight: Refers to the difference relative to the *benchmark* portfolio. Underweight indicates less than the *benchmark*, while *overweight* indicates more than the *benchmark*.

Return on investment(s): A performance measure used to evaluate the efficiency of the Plan's investments, expressed as a percentage gain or loss on the initial investment at the beginning of the period.

Unfunded Liability: An unfunded liability is present when the Plan's funded ratio is below 100 per cent. The unfunded liability is a measure, in dollars, of the amount by which the Plan's liabilities exceed its assets.

Volatility: A measure of the variation in the price of a security or the returns of the Plan. High *volatility* indicates increased risk.

Year's Maximum Pensionable Earnings (YMPE): A figure set each year by the Canada Revenue Agency (CRA) that determines the maximum amount on which to base contributions to the Canada Pension Plan (CPP).

Financial Statements of

TEACHERS' PENSION PLAN

Year ended December 31, 2016



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 Telephone
 (902) 492-6000

 Fax
 (902) 492-1307

 www.kpmg.ca

INDEPENDENT AUDITORS' REPORT

To the Teachers' Pension Plan Trustee Inc.

We have audited the accompanying financial statements of Teachers' Pension Plan, which comprise the statement of financial position as at December 31, 2016, and the statements of changes in net assets available for benefits, changes in pension obligations and changes in deficit 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 is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on 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 Teachers' Pension Plan as at December 31, 2016 and the changes in its net assets available for benefits, changes in pension obligations and changes in deficit for the year then ended in accordance with Canadian accounting standards for pension plans.

KPMG LLP

Chartered Professional Accountants, Licensed Public Accountants April 25, 2017 Halifax, Canada

Financial Statements

Year ended December 31, 2016

Financial Statements

Statement of Financial Position	1
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Statements of Changes in Pension Obligations and Changes in Deficit	3
Notes to Financial Statements	4

Statement of Financial Position (in thousands of dollars)

December 31, 2016, with comparative information for 2015

		2016		2015			
Net Assets Available for Benefits							
Assets							
Cash	\$	47,536	\$	43,110			
Contributions receivable:							
Employers'		6,312		6,335			
Employees'		2,863		2,877			
Special contribution from the Province of Nova	Scotia	-		13,699			
Due from administrator (note 12)		2,916		2,907			
Receivable from pending trades		15,041		1,649			
Accounts receivable		1,689		279			
Prepaid expenses		4		-			
Deposit on pending investment purchase (note 3(f)))	10 762		11,113			
Accrued investment income Investments (note 5)		10,762 4,900,887		12,877 4,710,260			
Total assets		4,988,010		4,805,106			
Liabilities:							
Payable for pending trades	\$	59,599	\$	7,876			
Accounts payable and accrued liabilities		3,773		3,696			
Investment-related liabilities (note 5)		24,402		53,049			
Total liabilities		87,774		64,621			
Net assets available for benefits	\$	4,900,236	\$	4,740,485			
Accrued Pension Obligation and Deficit							
Accrued pension obligation (note 7)	\$	6,309,580	\$	6,179,118			
Deficit (note 7)		(1,409,344)		(1,438,633)			
Commitments (note 8)							
Accrued pension obligation and deficit	\$	4,900,236	\$	4,740,485			
	·		ψ	7,740,400			
The accompanying notes are an integral part of these	financial sta	tements.					
On behalf of the Board:							
Original signed by 'Vicki Clark' D	irector, Teac	hers' Pension Pl	an Tru	stee Inc.			
Original signed by 'Jack MacLeod' D	irector, Teac	hers' Pension Pl	an Tru	stee Inc.			
Original signed by 'John P. Cartor'	Chair, Taaahara' Banajan Blan Trustaa Ina						

Chair, Teachers' Pension Plan Trustee Inc.

Statement of Changes in Net Assets Available for Benefits (in thousands of dollars)

Year ended December 31, 2016, with comparative information for 2015

	2016	2015
Increase in Assets		
Contributions (note 4)	\$ 194,258	\$ 180,355
Transfers from other pension plans	989	1,053
Investment activities (note 5)	138,205	136,683
Change in market value of investments (note 5)	238,476	100,285
Total increase in assets	571,928	418,376
Decrease in Assets		
Benefits paid (note 9)	388,125	383,720
Transfers to other pension plans	2,378	1,700
Administrative expenses (note 10)	21,674	21,514
Total decrease in assets	412,177	406,934
Increase in net assets available for benefits	159,751	11,442
Net assets available for benefits, beginning of year	4,740,485	4,729,043
Net assets available for benefits, end of year	\$ 4,900,236	\$ 4,740,485

The accompanying notes are an integral part of these financial statements.

Statement of Changes in Pension Obligations (in thousands of dollars)

Year ended December 31, 2016, with comparative information for 2015

	2016	2015
Accrued pension obligation, beginning of year	\$ 6,179,118 \$	6,114,741
Increase in accrued pension benefits:		
Interest on accrued pension obligation Contributions and transfers from other pension plans Changes in actuarial assumptions	386,195 195,248 72,849	391,343 181,408 -
	654,292	572,751
Decrease in accrued pension benefits:		
Benefits paid and transfers to other pension plans Net experience losses Contributions in excess of current service cost Changes in actuarial assumptions	390,503 64,150 69,177	385,420 62,345 52,176 8,433
'	523,830	508,374
Net increase in accrued pension benefits	130,462	64,377
Accrued pension obligation, end of period	\$ 6,309,580 \$	6,179,118

Statement of Changes in Deficit (in thousands of dollars)

Year ended December 31, 2016, with comparative information for 2015

	2016	2015
Deficit, beginning of year Increase in net assets available for benefits Net increase in accrued pension obligation	\$ 1,438,633 (159,751) 130,462	\$ 1,385,698 (11,442) 64,377
Deficit, end of year	\$ 1,409,344	\$ 1,438,633

See accompanying notes to financial statements.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

1. Authority and description of Plan:

The following description of the Teachers' Pension Plan (the "Plan") is a summary only. For more complete information, reference should be made to the Plan legislative documents and agreements.

General:

The Plan is governed by the Teachers' Pension Act (the "Act") as part of the Acts of Nova Scotia. It is a contributory defined benefit pension plan covering public school and community college teachers and is co-sponsored by the Province of Nova Scotia (the "Province") and the Nova Scotia Teachers' Union (the "Union"). The Act established the Nova Scotia Teachers' Pension Fund (the "Fund") for the purpose of crediting employer and employee contributions, investment earnings and meeting the Plan's obligations.

The detailed provisions of the Plan, including pension eligibility criteria and benefit formulas, are contained in the Act and in the Regulations made under the Act.

As part of the June 22, 2005 Agreement between the Province and the Union, the Province and the Union agreed to joint and equal participation in the governance of the Plan including the sharing of any actuarial surpluses or deficits between the Province and the beneficiaries of the Plan upon the transfer of the Plan to a newly formed trustee entity. Teachers' Pension Plan Trustee Inc. (the "TPPTI") was incorporated to act as trustee of the Fund and on April 1, 2006, the TPPTI became the trustee of the Fund. The 2005 Agreement was rescinded and replaced with a new agreement on July 2, 2014. However, there were no changes to the governance of the Plan or the sharing of actuarial surpluses or deficits.

The TPPTI is responsible for the administration of the Plan and the investment management of the Fund assets. The investment of the Fund assets is guided by the Fund's Statement of Investment Policies & Goals (the "SIP&G") as written by the TPPTI. The SIP&G sets out the parameters within which the investments are made. These parameters include permissible investments and the policy asset mix. The Investment Beliefs, also found within the SIP&G, state the general principles upon which the investments are made.

Funding:

Plan benefits are funded by contributions and investment earnings. Contributions are made by active members of the Plan and are matched by either the Province or participating employers. The determination of the value of the benefits and required contributions is made on the basis of periodic actuarial valuations (note 7).

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

1. Authority and description of Plan (continued):

In accordance with the Plan regulations, prior to August 1, 2014, employers and employees were required to contribute 8.3% of salary up to the Year's Maximum Pensionable Earnings (the "YMPE") per the Canada Pension Plan (the "CPP") and 9.9% of salary above the YMPE.

Effective August 1, 2014, Plan regulations were amended by the Province and the Union, and employer and employee contribution rates increased by 1% annually over the following three years. The amendments to contribution rates were as follows:

- i) For the period between August 1, 2014 and July 31, 2015, employer and employee contribution rates were 9.3% of salary up to the YMPE per the CPP and 10.9% of salary above the YMPE; and
- ii) For the period between August 1, 2015 and July 31, 2016, employer and employee contribution rates were 10.3% of salary up to the YMPE per the CPP and 11.9% of salary above the YMPE; and
- iii) For the period beginning August 1, 2016, employer and employee contribution rates became 11.3% of salary up to the YMPE per the CPP and 12.9% of salary above the YMPE.

Retirement benefits:

The pension benefit consists of two components. The lifetime pension, for every year of pensionable service, is 1.3% times the 5-year highest average salary at retirement (the "HAS-5") up to the average YMPE, plus 2.0% times the portion of the HAS-5 in excess of the average YMPE (if applicable). The bridge benefit, for every year of pensionable service, is 0.7% times the lesser of (i) the HAS-5, and (ii) the average YMPE. The lifetime pension is payable for life, while the bridge benefit is payable until age 65, at which point it ceases as a result of integration with the CPP.

Plan members are eligible for a pension upon reaching any of the following criteria:

- 35 years of service;
- age 50 with 30 years of service (reduced pension);
- age 55 with an age plus service factor of 85 "Rule of 85";
- age 55 with two years of service (reduced pension);
- age 60 with 10 years of service;
- age 65 with two years of service.

Indexing:

For pensions with an effective date before August 1, 2006, the rate is equal to the increase in the 12-month average Consumer Price Index ("CPI") for Canada, less 1%, to a maximum of 6%.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

1. Authority and description of Plan (continued):

As a result of the agreement between the Province and the Union signed on July 2, 2014, indexing in a given year for pensions with an effective date on or after August 1, 2006, as well as those of existing pensioners who opted for the new indexing arrangement, depends on the funding level of the Plan. If the funding level as at December 31 of the preceding fiscal year is less than 90%, no indexing will be provided. At a funding level of between 90% and 100%, indexing may be granted at 50% of the increase in the 12-month average CPI up to a maximum of 6%, at the discretion of the Board of Trustees.

If the funding level is greater than 100%, indexing will be provided at 100% of the increase in the 12-month average CPI up to a maximum of 6%, to the extent that it does not reduce the funding level to below 100%; however, pensions will be increased by at least 50% of the increase in the 12-month average CPI up to a maximum of 6%. For the purposes of the valuation, it was assumed that indexing would not be paid in years in which it is discretionary.

Disability benefits:

Prior to August 1, 2014, active members who became mentally or physically disabled were entitled to apply for a disability pension from the Plan. Effective August 1, 2014, however, disability coverage was moved to the union long-term disability insurance plan, and the ability to apply for a disability pension from the Plan was discontinued except in very limited circumstances.

Death benefits:

Upon the death of a vested member, the surviving spouse is entitled to receive 60% of the vested member's pension benefit payable for life, or a higher percentage if the member elected an optional form of pension. Eligible children are entitled to receive 10% of the vested member's pension benefit, payable until age 18 (or 25 while still in school).

Termination benefits:

Upon termination of employment, a vested member may choose to defer their pension until they satisfy one of the above eligibility criteria, or they may remove their funds from the Plan in the form of a commuted value (or refund of contributions, for service prior to January 1, 1988).

Refunds:

The benefit payable upon termination or death of a non-vested member, or upon death prior to retirement of a vested member with no eligible survivors, is a lump sum refund of the member's contributions with interest.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

2. Basis of preparation:

(a) Basis of presentation:

These financial statements are prepared in Canadian dollars, which is the Plan's functional currency in accordance with the accounting standards for pension plans in Part IV of the Canadian Institute of the Chartered Professional Accountants (CPA) Canada Handbook (Section 4600). Section 4600 provides specific accounting guidance on investments and pension obligations. For accounting policies that do not relate to either investments or pension obligations, the Plan must consistently comply with either International Financial Reporting Standards ("IFRS") in Part I or accounting standards for private enterprises in Part II of the CPA Canada Handbook. The Plan has elected to comply on a consistent basis with IFRS in Part I of the CPA Canada Handbook. To the extent that IFRS in Part I is inconsistent with Section 4600, Section 4600 takes precedence.

Consistent with Section 4600, investment assets and liabilities are presented on a non-consolidated basis even when the investment is in an entity over which the Plan has effective control. Earnings of such entities are recognized as income as earned and as dividends are declared. The Plan's total investment income includes valuation adjustments required to bring the investments to their fair value.

These financial statements are prepared on a going concern basis and present the aggregate financial position of the Plan as a separate reporting entity.

These financial statements were authorized for issue by the Board of Trustees of the Teachers' Pension Plan Trustee Inc. on April 25, 2017.

(b) Basis of measurement:

The financial statements have been prepared on the historical cost basis except for financial instruments which are measured at fair value through the statement of changes in net assets available for benefits and derivative financial instruments which are measured at fair value. Units of subsidiaries held are measured at the fair value of the underlying assets and liabilities.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

2. Basis of preparation (continued):

(c) Use of estimates and judgments:

The preparation of the financial statements in conformity with Section 4600 and IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities at the date of the statement of financial position, the reported amounts of changes in net assets available for benefits and accrued pension benefits during the year. Actual results may differ from those estimates. Significant estimates included in the financial statements relate to the valuation of real estate, infrastructure, private equity investments and the determination of the accrued pension obligation.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future years affected.

3. Significant accounting policies:

- (a) Investment transactions, income recognition and transaction costs:
 - (i) Investment transactions:

Investment transactions are accounted for on a trade date basis.

(ii) Income recognition:

Income from investments is recorded on an accrual basis and includes interest, dividends and gains and losses that have been realized on disposal of investments and the unrealized appreciation and depreciation in the fair value of investments.

(iii) Transaction costs:

Brokers' commissions and other transaction costs are recorded in the statement of changes in net assets available for benefits when incurred.

(b) Foreign currency translation:

Transactions denominated in foreign currencies are translated into Canadian dollars at the rates of exchange prevailing on the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the reporting date are retranslated into Canadian dollars at the exchange rate at that date.

Foreign currency differences arising on retranslation are recognized in the statement of changes in net assets available for benefits as a change in net unrealized gains (loss).

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Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

3. Significant accounting policies (continued):

- (c) Financial assets and liabilities:
 - (i) Non-derivative financial assets:

Financial assets are recognized initially on the trade date, which is the date that the Plan becomes a party to the contractual provisions of the instrument.

The Plan classifies all of its financial assets at fair value through the statement of changes in net assets available for benefits if it is classified as held for trading or is designated as such upon initial recognition. Financial assets are designated at fair value through the statement of changes in net assets available for benefits if the Plan manages such investment and makes purchase and sale decisions based on their fair value in accordance with the Plan's documented risk management or investment strategy. Upon initial recognition, attributed transaction costs are recognized in the statement of changes in net assets available for benefits as trategy at fair value through the statement of changes in net assets available for benefits are measured at fair value and changes therein are recognized in the statement of changes in net assets available for benefits are measured at fair value and changes therein are recognized in the statement of changes in net assets available for benefits.

(ii) Non-derivative financial liabilities:

All financial liabilities are recognized initially on the trade date at which the Plan becomes a party to the contractual provisions of the instrument.

Financial assets and liabilities are presented in the statement of financial position. The net amount is presented in the statement of financial position, when and only when, the Plan has a legal right to offset the amounts and it intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

The Plan considers its amounts payable to be a non-derivative financial liability.

(iii) Derivative financial instruments:

Derivative financial instruments are recognized initially at fair value and attributable transaction costs are recognized in the statement of changes in net assets available for benefits as incurred. Subsequent to initial recognition, derivatives are measured at fair value, and all changes are recognized immediately in the statement of changes in net assets available for benefits.

Derivative-related assets and liabilities are presented in the statement of financial position. The net amount is presented in the statement of financial position, when and only when, the Plan has a legal right to offset the amounts and it intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

3. Significant accounting policies (continued):

(d) Fair value measurement:

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction on the measurement date.

As allowed under IFRS 13, if an asset or a liability measured at fair value has a bid and an ask price, the price within the bid-ask spread that is the most representative of fair value in the circumstances shall be used to measure fair value. The Plan uses closing market price as a practical expedient for fair value measurement.

When available, the Plan measures the fair value of an instrument using quoted prices in an active market for that instrument. A market is regarded as active if quoted prices are readily and regularly available and represent actual and regularly occurring market transactions on an arm's length basis.

If a market for a financial instrument is not active, then the Plan establishes fair value using a valuation technique. Valuation techniques include using recent arm's length transactions between knowledgeable, willing parties (if available), reference to the current fair value of other instruments that are substantially the same, discounted cash flow analyses and option pricing models.

The best evidence of the fair value of a financial instrument at initial recognition is the transaction price, i.e. the fair value of the consideration given or received, unless the fair value of that instrument is evidenced by comparison with other observable current market transactions in the same instrument or based on a valuation technique whose variables include only data from observable markets. When a transaction price provides the best evidence of fair value at initial recognition, the financial instrument is initially measured at the transaction price and any difference between this price and the value initially obtained from a valuation model is subsequently recognized in profit or loss on an appropriate basis over the life of the instrument but not later than when the valuation is supported wholly by observable market data or the transaction is closed out.

All changes in fair value, other than interest and dividend income and expense, are recognized in the statement of changes in net assets available for benefits as part of the change in market value of investments.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

3. Significant accounting policies (continued):

Fair values of investments are determined as follows:

- (i) Fixed income securities and equities are valued at year-end quoted closing prices, where available. Where quoted prices are not available, estimated fair values are calculated using comparable securities.
- (ii) Short-term notes, treasury bills, repurchase agreements and term deposits maturing within one year are stated at cost, which together with accrued interest income approximates fair value given the short-term nature of these investments.
- (iii) Pooled fund investments include investments in fixed income, equities, real estate and commodities. Pooled funds are valued at the unit values supplied by the pooled fund administrator, which represent the Plan's proportionate share of underlying net assets at fair values determined using closing market prices. These net asset values are reviewed by management.
- (iv) Directly held real estate is valued based on estimated fair values determined by appropriate techniques and best estimates by management, appraisers, or both. Where external appraisers are engaged to perform the valuation, management ensures the appraisers are independent and compares the assumptions used by the appraisers with management's expectations based on current market conditions and industry practice to ensure the valuation captures the business and economic conditions specific to the investment.
- (v) Private fund investments include investments in private equity, real estate and infrastructure assets. The fair value of a private fund investment where the Plan's ability to access information on underlying individual fund investments is restricted, such under the terms of a limited partnership agreement, is equal to the value provided by the fund's general partner unless there is specific and objectively verifiable reason to vary from the value provided by the general partner. These net asset values are reviewed by management.
- (vi) Derivatives, including futures, options, interest rate swaps, credit default swaps, and currency forward contracts, are valued at year-end quoted market prices, interest, spot and forward rates, where available. Where quoted prices are not available, appropriate alternative valuation techniques are used to determine fair value. The gains or losses from derivative contracts are included in the realized and unrealized gains or losses on investments.
- (vii) Absolute return strategy investments, comprised of hedge funds, are recorded at fair value based on net asset values obtained from each of the hedge funds' administrators. These net asset values are reviewed by management.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

3. Significant accounting policies (continued):

(e) Non-investment assets and liabilities:

The fair value of non-investment assets and liabilities are equal to their amortized cost value and are adjusted for foreign exchange where applicable.

(f) Deposit on pending investment purchase:

On December 31, 2015, the Plan wired funds to a hedge fund for subscription on January 1, 2016. Monies were due in advance of the value date.

(g) Receivable/payable for pending trades:

For securities transactions, the fair value of receivable from pending trades and payable for pending trades approximate their carrying amounts due to their short-term nature.

(h) Accrued pension obligation:

The value of the accrued pension obligation of the Plan is based on a going concern method actuarial valuation prepared by an independent firm of actuaries using the projected unit credit method. The accrued pension obligation is measured in accordance with accepted actuarial methods using actuarial assumptions and methods adopted by the TPPTI for the purpose of establishing the long-term funding requirements of the Plan. The actuarial valuation included in the financial statements is consistent with the valuation for funding purposes.

(i) Contributions:

Basic contributions from employers and members are recorded on an accrual basis. Service purchases that include but are not limited to leaves of absence and transfers from other pension plans are recorded and service is credited when the purchase amount is received.

In certain years, an additional contribution to the Plan may be required from the Minister of Finance and Treasury Board. In any indexing period in which there is an actuarial deficit and clause 27B(3)(a) of the Teachers' Pension Plan Regulations applies, the Minister must contribute to the Plan, no later than the beginning of the following indexing period, an amount equal to the actuarial value, as calculated by the Plan's actuary at the beginning of the indexing period, of the difference between:

 the indexing of all pensions to which subsection 27B(3) applies for that indexing period at a rate of one-half of the percentage increase in the 12-month average CPI for that indexing period over the 12-month average CPI for the preceding indexing period to a maximum of 6% and, for all future indexing periods, at a rate of one-half of the assumed percentage increase in the 12-month average CPI determined in accordance with the actuarial assumptions and methods; and

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Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

3. Significant accounting policies (continued):

- ii) no indexing of all pensions to which subsection 27B(3) applies for that indexing period and, for all future indexing periods, indexing at a rate of one-half of the assumed percentage increase in the 12-month average CPI determined in accordance with the actuarial assumptions and methods.
- (i) Benefits:

Benefit payments to retired members, commuted value payments and refunds to former members, and transfers to other pension plans are recorded in the period in which they are paid. Accrued benefits are recorded as part of the accrued pension benefit obligation.

(j) Administrative expenses:

Administrative expenses, incurred for plan administration and direct investment management services, are recorded on an accrual basis. Plan administration expenses represent expenses incurred to provide direct services to the Plan members and employers. Investment management expenses represent expenses incurred to manage the Fund. Base external manager fees for portfolio management are expensed in investment management expenses as incurred.

(k) Income taxes:

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

(I) Future changes to accounting policies:

The following standard is not yet effective for the year ended December 31, 2016, and has not been applied in preparing these consolidated financial statements:

 IFRS 9, Financial Instruments, introduces new requirements for the classification and measurement of financial assets. Financial assets are classified and measured based on the business model in which they are held and the characteristic of their contractual cash flows. The standard introduces additional changes relating to financial liabilities and amends the impairment model. The International Accounting Standards Board ("IASB") has determined the mandatory effective date for IFRS 9 will be for the annual periods beginning on or after January 1, 2018. The Plan will evaluate the impact of the change to the financial statements based on the characteristics of financial instruments outstanding at the time of adoption.

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Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

4. Contributions:

	2016	2015
Employer:		
Matched current service	\$ 91,740	\$ 82,852
Matched past service	24	93
	91,764	82,945
Special contribution from the Province of Nova Scotia	10,124	13,699
Employee:		
Matched current service	91,740	82,852
Matched past service	24	93
Unmatched current service	2	-
Unmatched past service	604	766
	92,370	83,711
	\$ 194,258	\$ 180,355

5. Investments and investment-related liabilities:

(a) The fair value of the Plan's investments and investment-related liabilities along with the related income are summarized in the following tables:

			As at		As at
	D	ecember 3	1, 2016	December 3	1, 2015
Investment assets			%		%
Fixed income					
Money market	\$	184,963	3.8	\$ 137,730	2.9
Canadian bonds & debentures		503,991	10.3	516,732	11.0
Non-Canadian bonds & debentures		661,890	13.5	547,711	11.6
Canadian real return bonds		227,626	4.6	253,825	5.4
Equities					
Canadian		440,598	9.0	664,532	14.1
US		825,366	16.8	657,103	14.0
Global		801,003	16.4	776,385	16.5
Real assets				,	
Real estate		590,578	12.1	530,468	11.3
Infrastructure		136,527	2.8	138,005	2.9
Commodities		136,899	2.8	125,495	2.7
Absolute return strategy		,		,	
Hedge funds		389,524	7.9	361,251	7.7
Derivatives		, -	-	- , -	
Derivative-related receivables		1,922	-	1,023	-
	\$	4,900,887	100.0	\$ 4,710,260	100.0

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

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5. Investments and investment-related liabilities (continued):

	As at December 31, 2016			December 3	As at 31, 2015
Investment-related liabilities Derivative-related payables	\$ (24,402)	% (100.0)	\$	(53,049)	% (100.0)
	\$ (24,402)	(100.0)	\$	(53,049)	(100.0)
Net investments	\$ 4,876,485		\$	4,657,211	

			Changes in market value of investments and derivatives					
As at December 31, 2016	Investme	nt income		Realized		Unrealized		Total
Fixed income Equities Real assets Absolute return strategies Derivatives Other	\$	53,203 44,991 39,282 - 44 685	\$	47,825 117,639 5,241 (1,241) 44,449	\$	(60,880) 38,620 15,575 883 30,365	\$	(13,055) 156,259 20,816 (358) 74,814
Total	\$	138,205	\$	213,913	\$	24,563	\$	238,476

			Changes in market value of investments and derivatives					
As at December 31, 2015	Investme	ent income		Realized		Unrealized		Total
Fixed income Equities Real assets Absolute return strategies Derivatives Other	\$	53,148 54,791 28,392 (418) 770	\$	43,007 200,839 11,383 15,472 (188,451) -	\$	44,319 (66,491) 29,918 50,972 (40,683)	\$	87,326 134,348 41,301 66,444 (229,134)
Total	\$	136,683	\$	82,250	\$	18,035	\$	100,285

(b) Derivatives:

Derivatives are financial contracts, the value of which is "derived" from the value of underlying assets or interest or exchange rates. The Plan utilizes such contracts to provide flexibility in implementing investment strategies and for managing exposure to interest rate and foreign currency volatility.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

5. Investments and investment-related liabilities (continued):

Notional amounts of derivative contracts are the contract amounts used to calculate the cash flows to be exchanged. They represent the contractual amount to which a rate or price is applied for computing the cash to be paid or received. Notional amounts are the basis upon which the returns from, and the fair value of, the contracts are determined. They do not necessarily indicate the amounts of future cash flows involved or the current fair value of the derivative contracts. They are a common measure of volume of outstanding transactions but do not represent credit or market risk exposure. The derivative contracts become favourable (assets) or unfavourable (liabilities) as a result of fluctuations in either market rates or prices relative to their terms. The aggregate notional amounts and fair values of derivative contracts can fluctuate significantly.

Derivative contracts transacted either on a regulated exchange market or in the over-the-counter ("OTC") market, directly between two counterparties include the following:

Futures

Futures are transacted in standardized amounts on regulated exchanges and are subject to daily cash margining. The futures contracts that the Plan enters into are as follows:

- Government futures contractual obligations to either buy or sell at a fixed value (the contracted price) government fixed income financial instruments at a predetermined future date. They are used to adjust interest rate exposure and replicate government bond positions. Long future positions are backed with high grade, liquid debt securities.
- Money market futures contractual obligations to either buy or sell money market financial instruments at a predetermined future date at a specified price. They are used to manage exposures at the front end of the yield curve. Futures are based on short-term interest rates and do not require delivery of an asset at expiration. Therefore they do not require cash backing.

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Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

5. Investments and investment-related liabilities (continued):

Options

Options are contractual agreements under which the seller (writer) grants the purchaser the right, but not the obligation, either to buy (call option) or sell (put option), a security, exchange rate, interest rate, or other financial instrument or commodity at a predetermined price, at or by a specified future date. The seller (writer) of an option can also settle the contract by paying the cash settlement value of the purchaser's right. The seller (writer) receives a premium from the purchaser for this right. Purchased options are used to manage interest rate volatility exposures. Written options generate income in expected interest rate scenarios and may generate capital losses if unexpected interest rate environments are realized. Both written and purchased options will become worthless at expiration if the underlying instrument does not reach the strike price of the option. In-the-money portion of written options are covered by high grade, liquid debt securities.

Swaptions are contractual agreements that convey to the purchaser the right but not the obligation to enter into or cancel a swap agreement at a fixed future date or at any time within a fixed future period. The seller receives a premium from the purchaser for this right.

Credit default swaps

Credit default swaps ("CDS") provide protection against the decline in value of the referenced asset as a result of specified events such as payment default or insolvency. The purchaser pays a premium to the seller of the CDS in return for payment related to the deterioration in the value of the referenced asset. The referenced asset for CDS is a debt instrument. They are used to manage credit exposure without buying or selling securities outright. Written CDS increase credit exposure (selling protection), obligating the Plan to buy bonds from counterparties in the event of a default. Purchased CDS decrease exposure (buying protection), providing the right to "put" bonds to the counterparty in the event of a default. Net long exposures are backed with high grade, liquid debt securities. Underlying credit exposures are continuously monitored.

Interest rate swaps

Interest rate swaps involve contractual agreements between two counterparties to exchange fixed and floating interest payments based on notional amounts. They are used to adjust interest rate yield curve exposures and substitute for physical securities. Long swap positions increase exposure to long-term interest rates and short positions decrease exposure. Long swap positions are backed with high grade, liquid debt securities.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

5. Investments and investment-related liabilities (continued):

Currency forwards

Currency forwards are contractual obligations to exchange one currency for another at a specified price or settlement at a predetermined future date. Forward contracts are used to manage the currency exposure of investments held in foreign currencies. The notional amount of a currency forward represents the contracted amount purchased or sold for settlement at a future date. The fair value is determined by the difference between the market value and the notional value upon settlement.

The following tables set out the notional values of the Plan's derivatives and their related assets and liabilities as at December 31.

	Notional	Fair value	
2016	value	Assets Liabilities No	et
Derivatives			
Futures	\$ 36,068	\$ 95 \$ (241) \$ (146	
Options	14,000	- (82) (82	2)
Credit default swaps	24,050	717 (10) 70)7
Interest rate swaps	11,900	5 (92) (87	7)
Currency forwards	2,090,569	1,105 (23,977) (22,872	2)
	\$ 2,176,587	\$ 1,922 \$ (24,402) \$ (22,480	0)
			_
	Notional	Fair value	_
2015	value	Assets Liabilities No	et
Derivatives			
Futures	\$ 153,786	\$ 145 \$ (366) \$ (22	
Options	14,646	- (38) (38	
Credit default swaps	60,186	242 (8,288) (8,046	
Interest rate swaps	28,776	1 (108) (107	
Currency forwards	2,043,173	635 (44,249) (43,614	4)
	\$ 2,300,567	\$ 1,023 \$ (53,049) \$ (52,026	6)

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

5. Investments and investment-related liabilities (continued):

The following table summarizes the contractual maturities of the Plan's derivatives and their related assets and liabilities as at December 31.

		Under		1 to 5		5 to 10	\cap	ver 10		
December 31, 2016							0			Total
December 31, 2010		1 year		years		years		years		TULAI
Futures	\$	(146)	\$		\$		\$		\$	(146)
	φ	• • •	φ	-	φ	-	φ	-	φ	(146)
Options		(82)		-		-		-		(82)
Credit default swaps		13		693		-		-		706
Credit default swaps		-		(55)		-		(32)		(87)
Currency forwards		(22,871)		-		-		-		(22,871)
	\$	(23,086)	\$	638	\$	-	\$	(32)	\$	(22,480)
		Under		1 to 5		5 to 10	O	ver 10		
December 31, 2015		1 year		years		years		years		Total
Futures	\$	(221)	\$		\$		\$		\$	(221)
	φ	· · ·	φ	-	φ	-	φ	-	φ	• • •
Options		(38)				-		-		(38)
Credit default swaps		12		(7,778)		(280)		-		(8,046)
Credit default swaps		1		(66)		(42)		-		(107)
Currency forwards		(43,614)		-		-		-		(43,614)
	\$	(43,860)	\$	(7,844)	\$	(322)	\$	_	\$	(52,026)

Cash is deposited or pledged with various financial institutions as collateral or margin in the event that the Plan was to default on payment obligations on its derivative contracts. On the statement of financial position collateral is represented as part of the net cash balance of the Plan.

The fair value of cash held or pledged with other financial institutions as collateral and or margin as at December 31, 2016 and December 31, 2015 is as follows.

	Decen	nber 31, 2016	December 31, 2015		
Collateral Margin	\$	1,529 (562)	\$	4,499 694	
	\$	967	\$	5,193	

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments:

(a) Fair values:

The fair values of investments and derivatives are as described in note 3(d). The fair values of other financial assets and liabilities, being cash, contributions receivable, receivable from pending trades, accrued investment income, pension benefits payable, payable from pending trades and administrative expenses payable approximate their carrying values due to the short-term nature of these financial instruments.

Fair value measurements recognized in the statement of financial position are categorized using a fair value hierarchy that reflects the significance of inputs used in determining the fair values.

- Level 1: Fair value is based on inputs that reflect unadjusted quoted prices in active markets for identical assets or liabilities that the Investment Manager has the ability to access at the measurement date. Level 1 primarily includes publicly listed investments.
- Level 2: Fair value is based on valuation methods that make use of inputs other than quoted prices included in Level 1, that are observable for the asset or liability, either directly or indirectly, including inputs in markets that are not considered to be active. Level 2 primarily includes debt securities and derivative contracts not traded on a public exchange and public equities not traded in an active market.
- Level 3: Fair value is based on valuation methods where inputs that are based on non-observable market data have a significant impact on the valuation. Level 3 primarily includes real estate, infrastructure, and private equity investments valued based on discounted future cash flow models which reflect assumptions that a market participant would use when valuing such an asset or liability.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

The following table illustrates the classification of the Plan's financial instruments using the fair value hierarchy as at December 31:

As at December 31, 2016	Level 1		Level 2		Level 3		Total
Investment assets							
Fixed income							
Money market \$	9,570	\$	175,393	\$	-	\$	184,963
Canadian bonds & debentures	127,477		376,514		-		503,991
Non-Canadian bonds & debentures	18,687		643,203		-		661,890
Canadian real return bonds	-		144,431		83,195		227,626
Equities							
Canadian	428,730		11,868		-		440,598
US	436,447		388,919		-		825,366
Global	618,144		182,859		-		801,003
Real assets							
Real estate	-		112,273		478,305		590,578
Infrastructure	-		-		136,527		136,527
Commodities	-		136,899		-		136,899
Absolute return strategies							
Hedge funds	-		389,524		-		389,524
Derivatives							
Derivative-related receivables	95		1,827		-		1,922
\$	1,639,150	\$	2,563,710	\$	698,027	\$	4,900,887
As at December 31, 2016	Level 1		Level 2		Level 3		Total
Investment-related liabilities							
Derivative-related liabilities \$	(323)	\$	(24,079)	\$	-	\$	(24,402)
\$	(202)	¢	(24.070)	¢		\$	(24,402)
~	(323)	\$	(24,079)	\$	-	φ	(24,402)
Net investments \$	1,638,827	\$	2,539,631	\$	698,027	\$	4,876,485

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Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

As at December 31, 2015	Level 1		Level 2		Level 3		Total
Investment assets							
Fixed income							
Money market \$	13,685	\$	124,045	\$	-	\$	137,730
Canadian bonds & debentures	93,138	·	423,594	•	-	•	516,732
Non-Canadian bonds & debentures	68,254		479,457		-		547,711
Canadian real return bonds	-		169,669		84,156		253,825
Equities			,		,		
Canadian	648,471		16,061		-		664,532
US	270,299		386,804		-		657,103
Global	776,385		-		-		776,385
Real assets							
Real estate	-		112,223		418,245		530,468
Infrastructure	-		-		138,005		138,005
Commodities	-		125,495		-		125,495
Absolute return strategies							
Hedge funds	-		361,251		-		361,251
Derivatives							
Derivative-related receivables	145		878		-		1,023
\$	1,870,377	\$	2,199,477	\$	640,406	\$	4,710,260
As at December 31, 2015	Level 1		Level 2		Level 3		Total
As at December 31, 2013	Level I		Level 2		Level 5		TOtal
Investment-related liabilities							
Derivative-related liabilities \$	(366)	\$	(52,683)	\$	-	\$	(53,049)
\$	(366)	\$	(52,683)	\$	-	\$	(53,049)
Net investments \$	1,870,011	\$	2,146,794	\$	640,406	\$	4,657,211

There were no significant transfers between level 1 and level 2 financial instruments during the years ended December 31, 2016 and 2015.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

The following tables present the changes in the fair value measurement in Level 3 of the fair value hierarchy:

Year ended December 31, 2016	Fi	xed income	Real Assets	Ρ	rivate Equity	Total
Balance, beginning of year	\$	84,156	\$ 556,250	\$	-	\$ 640,406
Purchases, contributed capital Sales, capital returned Realized gains Unrealized losses		(860) 249 (350)	83,250 (28,270) 3,903 (301)		-	83,250 (29,130) 4,152 (651)
Balance, end of year	\$	83,195	\$ 614,832	\$	-	\$ 698,027
Year ended December 31, 2015	Fi	xed income	Real assets	Ρ	rivate Equity	Total
Balance, beginning of year	\$	84,891	\$ 500,765	\$	703	\$ 586,359
Purchases, contributed capital Sales, capital returned Realized gains Unrealized gains/(losses)		(886) 199 (48)	24,620 (21,360) 10,770 41,455		(595) 595 (703)	24,620 (22,841) 11,564 40,704
Balance, end of year	\$	84,156	\$ 556,250	\$	-	\$ 640,406

The total income from level 3 financial instruments held as at December 31, 2016 and 2015, respectively, was \$3,501 and \$52,268.

Fair value assumptions and sensitivity:

Level 3 financial instruments are valued using various methods. Listed real return bonds are valued by a third party using broker prices and comparable securities. Certain unlisted private equity, real estate and infrastructure funds are valued using various methods including overall capitalization method and discount rate method. Real estate subsidiaries are valued using the overall capitalization method and discount rate method and the valuations are significantly affected by non-observable inputs, the most significant of which are the capitalization rate and the discount rate.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

Significant unobservable inputs used in measuring fair value:

The table below sets out information about significant unobservable inputs used at December 31, 2016 in measuring financial instruments categorized as level 3 in the fair value hierarchy.

Description	Fair value at December 31, 2016	Valuation technique	Unobservable inputs
Unlisted direct real estate subsidiaries	\$376,504	Income approach technique: overall capitalization rate method and discounted cash flow method	Capitalization rates, discount rates
Unlisted real estate, infrastructure funds	238,328	Net asset value – audited financial statements	Information not available
Listed real return bond	83,195	Vendor supplied price - proprietary price model	Information not available

The following analysis illustrates the sensitivity of the Level 3 valuations to reasonably possible capitalization rate and discount rate assumptions for real estate properties where reasonably possible alternative assumptions would change the fair value significantly.

Valuations determined by the direct capitalization method are most sensitive to changes in the discount rates.

	2016	2015
Real estate subsidiaries		
Minimum capitalization rate	4.00%	4.30%
Maximum capitalization rate	8.00%	7.50%
Increase in 25 basis points in capitalization rate	\$ (11,314)	\$ (17,552)
Decrease of 25 basis points in capitalization rate	16,986	21,548
Note 1: basis point is equal to 0.01%		

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

Valuations determined by the discounted cash flow method are most sensitive to changes in the discount rates.

	2016	2015
Real estate subsidiaries		
Minimum discount rate	5.42%	6.50%
Maximum discount rate	8.10%	8.50%
Increase in 25 basis points in discount rate	\$ (7,433)	\$ (6,973)
Decrease of 25 basis points in discount rate	7,945	7,603
Note 1: basis point is equal to 0.01%		

The Plan does not have access to underlying information that comprises the fair market value of real return bonds, and certain real estate and infrastructure fund investments. The fair market value is provided by the general partner or other external managers. In the absence of information supporting the fair market value, no other reasonably possible alternative assumptions could be applied.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

Significant investments

The Plan's investments, each having a fair value or cost exceeding one per cent of the fair market value or cost of net investment assets and liabilities as follows:

As at	Number of	Fair	2016	Number of	Fair	2015
December 31	investments	value	Cost	investments	value	Cost
Public market investments Private market investments	1	83,195 1,626,707	32,913 1,362,698	1 14	84,151 1,761,129	33,775 1,536,636
	13	1,709,902	1,395,611	15	1,845,280	1,570,411

The Plan's significant private market investments consist of fixed income and equity pooled funds, commodities, real estate, and infrastructure.

(b) Investment risk management:

Risk management relates to the understanding and active management of risks associated with all areas of the business and the associated operating environment. Investments are primarily exposed to interest rate volatility, market price fluctuations, credit risk, foreign currency risk and liquidity risk. The Plan has set formal goals, policies, and operating procedures that establish an asset mix among equity, fixed income, real assets, absolute return strategy investments and derivatives that requires diversification of investments within categories, and set limits on the size of exposure to individual investments and counterparties. Risk and credit committees have been created to regularly monitor the risks and exposures of the Plan. Trustee oversight, procedures and compliance functions are incorporated into Plan processes to achieve consistent controls and to mitigate operational risk.

(i) Interest rate risk

Interest rate risk refers to the fact that the Plan's financial position will change with market interest rate changes, as fixed income securities are sensitive to changes in nominal interest rates. Interest rate risk is inherent in the management of a pension plan due to prolonged timing differences between cash flows related to the Plan's assets and cash flows related to the Plan's liabilities. To properly manage the Plan's interest rate risk, appropriate guidelines on the weighting and duration for the bonds and other fixed income investments are set and monitored.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

The following table summarizes the contractual maturities of all financial assets at December 31, by the earlier of contractual re-pricing or maturity dates:

December 31, 2016	Under 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total	Average yield (%) (1)
Money market Bonds and debentures Real return bonds (2)	\$ 182,861 96,291 -	\$- 189,714 -			\$ 182,861 800,281 83,195	- 3.9 5.3
Total	\$ 279,152	\$ 189,714	\$ 288,604 \$	308,867	\$ 1,066,337	3.3
Excluded pooled funds					512,133	
Total fixed income					\$ 1,578,470	
December 31, 2015	Under 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total	Average yield (%) (1)
Money market Bonds and debentures Real return bonds (2)	\$ 137,730 40,582 -	\$- 280,567 -		- 274,963 84,156	\$ 137,730 842,979 84,156	- 4.5 5.3
Total	\$ 178,312	\$ 280,567	\$ 246,867\$	359,119	\$ 1,064,865	3.9
Excluded pooled funds					391,133	
Total fixed income					\$ 1,455,998	

(1) The average effective yield reflects the estimated annual income of a security as a percentage of its year-end fair value. The total average yield is the weighted average of the average yields shown.

(2) Real return bond yields are based on real interest rates. The ultimate yield will be impacted by inflation as it occurs.

The fair value of the Plan's investments is affected by short-term changes in nominal interest rates. Pension liabilities are exposed to the long-term expectation of rate of return of the Fund as well as expectations of inflation and salary escalation.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

Interest rate sensitivity

The Plan's investments in fixed income and fixed income related derivatives are sensitive to interest rate movements. The following table represents the assets held in the Plan subject to interest rate changes, average duration due to a one percent increase (decrease) in interest rate and the change in fair value of those assets:

	December 31, 2016			ecember 31, 2015
Interest rate sensitive assets	\$	1,066,727	\$	1,056,454
Average duration for 1% increase in interest rates Sensitivity to 1% increase in interest rates	\$	(5.6) (59,801)	\$	(6.1) (64,399)
Fair value after 1% increase in rates	\$	1,006,926	\$	992,055
Average duration for 1% decrease in interest rates Sensitivity to 1% decrease in interest rates	\$	5.6 59,801	\$	6.1 64,399
Fair value after 1% decrease in rates	\$	1,126,528	\$	1,120,853

(ii) Market price risk

Market price risk is the risk of fluctuation in market values of investments from influences specific to a particular investment or from influences on the market as a whole. Market price risk does not include interest rate risk and foreign currency risk which are also discussed in this note. As all of the Plan's financial instruments are carried at fair value with fair value changes recognized in the statement of changes in financial position, all changes in market conditions will directly result in an increase (decrease) in net assets. Market price risk is managed by the Plan through the construction of a diversified portfolio of instruments traded on various markets and across various industries.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

Market sensitivity:

The Plan's investments in equities are sensitive to market fluctuations. The following table represents the change in fair value of the Plan's investment in public and private equities due to a ten percent increase (decrease) in fair market values as at December 31, 2016:

	De	ecember 31, 2016	D	ecember 31, 2015
Total equity	\$	2,066,967	\$	2,098,020
10% increase in market values	\$	206,697	\$	209,802
Fair value after 10% increase	\$	2,273,664	\$	2,307,822
10% decrease in market values	\$	(206,697)	\$	(209,802)
Fair value after 10% decrease	\$	1,860,270	\$	1,888,218

(iii) Credit risk

Credit risk is the risk of loss in the event the counterparty to a transaction fails to discharge an obligation and causes the other party to incur a loss. Credit risk is generally higher when a non-exchange traded financial instrument is involved because the counterparty for traded financial instrument is not backed by an exchange clearing house. Credit risk associated with the Plan is regularly monitored and analyzed through risk and credit committees.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

Fixed income

The Plan's Fixed Income Program includes two main sectors: the Government Sector and the Corporate Sector. One benefit to managing these two pieces separately is to provide the opportunity to access physical government bonds when required. When markets are at their utmost distress these may be the only securities available for liquidation. Managing the Corporate Sector and the Government Sector separately allows for the adjustment of credit risk within the Fixed Income Program by changing the allocation between these two sectors - increasing the Government Sector through periods of market duress and increasing the Corporate Sector through periods of stability. This approach also allows the active management of the Corporate Sector and taking active decisions where returns can be maximized. In order to minimize the exposure to credit risk, a comprehensive investment policy has been developed. There were no significant concentrations of credit risk in the portfolio in 2016.

The fair values of the Plan's fixed income investments exposed to credit risk are categorized in the following table.

	De	ecember 31, 2016	D	ecember 31, 2015
Canadian Governments Corporate	\$	349,523 194,367	\$	357,271 146,199
Non-Canadian Governments Corporate		20,130 502,317		81,939 479,457
	\$	1,066,337	\$	1,064,865
Excluded pooled funds		512,133		391,133
Total fixed income	\$	1,578,470	\$	1,455,998

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

Derivatives:

The Plan is exposed to credit-related losses in the event counterparties fail to meet their payment obligations upon maturity of derivative contracts. The Plan limits derivative contract risk by dealing with counterparties that have a minimum "A" credit rating. In order to mitigate this risk, the Fund:

- Deals only with highly rated counterparties, with whom International Swap and Derivative Association agreements have been executed, normally major financial institutions with a minimum credit standard of "A" rating, as supported by a recognized credit rating agency; and
- ii) Credit risk represents the maximum amount that would be at risk as at the reporting date if the counterparties failed completely to perform under the contracts, and if the right of offset proved to be non-enforceable. Credit risk exposure on derivative contracts is represented by the receivable replacement cost of contracts with counterparties, less any prepayment collateral or margin received, as at the reporting date.

Securities lending:

The Plan engages in securities lending to enhance portfolio returns (see note 11). Through a securities lending program at the Plan's custodian, the Plan lends securities for a fee to approved borrowers. Credit risk associated with securities lending is mitigated by requiring the borrowers to provide high quality collateral. In the event that a borrower defaults completely or in part, the custodian will replace the security at its expense. Regular reporting of the securities lending program ensures that its various components are continuously being monitored.

(iv) Foreign currency risk

Foreign currency risk is the risk that the value of future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Plan primarily invests in financial instruments and enters into transactions denominated in various foreign currencies, other than its measurement currency. Consequently, the Plan is exposed to risk that the exchange rates of the various currencies may change in a manner that has an adverse effect on the value of the portion of the Plan's investment and non-investment assets or liabilities denominated in currencies other than the Canadian dollar. Foreign currency risk is hedged by using foreign exchange forward contracts. A policy of hedging up to 100% of the currency exposure helps to mitigate this risk.

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Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

The Plan's currency policy allows for the management of risk of investment and noninvestments assets and liabilities held in the Fund through hedging strategies that are implemented through the purchase of forward currency contracts. The forward currency contracts offset the Plan's foreign currency exposure, hence reducing the Plan's foreign currency risk.

The Plan's investment and non-investment assets and liabilities that are held in the Fund are represented as unhedged and hedged currency exposures as at December 31 in the following table:

Summary FX Exposure	De	December 31, 2016 Unhedged		ecember 31, 2016 Hedged
Canadian Dollar United States Dollar Euro British Pound Sterling Japanese Yen Other	\$	2,082,366 2,276,679 194,452 118,358 75,234 165,289	\$	3,604,964 1,165,352 19,557 (5,917) 24,425 81,126
	\$	4,912,378	\$	4,889,507
Summary FX Exposure	De	ecember 31, 2015 Unhedged	D	ecember 31, 2015 Hedged
Canadian Dollar United States Dollar Euro British Pound Sterling Japanese Yen Other	\$	2,232,717 1,943,932 203,189 128,620 80,140 172,520	\$	3,491,045 1,053,112 33,524 (19,522) 55,707 103,637
	\$	4,761,118	\$	4,717,503

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

6. Financial instruments (continued):

After the effect of hedging, and without change in all other variables, a ten percent increase (decrease) in the Canadian dollar against all other currencies would (decrease) increase the fair value of the Plan's investment and non-investment assets and liabilities held in the Fund, respectively.

The following table below represents these changes in the Plan's investment and non-investment assets and liabilities held in the Fund as at December 31:

	De	ecember 31,	D	ecember 31.
		2016		2015
Fund assets and liabilities	\$	4,889,507	\$	4,717,503
	Ŧ	.,,.	Ŧ	.,,
10% increase in Canadian Dollar		(116,777)		(111,496)
		(110,777)		(111,430)
Fund assets and liabilities after increase	\$	4,772,730	\$	4,606,007
10% decrease in Canadian Dollar		142,727		136.273
Fund apparts and lighiliting offer degraphs	¢	E 022 224	¢	4 952 776
Fund assets and liabilities after decrease	\$	5,032,234	\$	4,853,776

(v) Liquidity risk:

Liquidity risk is the risk that the Plan's does not have sufficient cash to meet its current payment liabilities and acquire investments in a timely and cost-effective manner. Liquidity risk is inherent in the Plan's operations and can be impacted by a range of situation specific and market-wide events including, but not limited to, credit events and significant movements in the market. Cash obligations are fulfilled from contributions to the Plan, cash income of the Plan and planned dispositions of Plan assets as required. Cash requirements of the Plan are reviewed on an ongoing basis to provide for the orderly availability of resources to meet the financial obligations of the Plan. The Plan's cash management policy ensures that the quality and liquidity of the investment vehicles within the cash portfolios are consistent with the needs of the Plan.

Approximately 50% (2015 - 56%) of the Plan's investments are in liquid securities traded in public markets, consisting of fixed income and equities. Pooled funds consisting of exchange traded equities are approximately 28% (2015 - 11%) of the Plan's investments and are liquid within 30 days or less. Although market events could lead to some investments becoming illiquid, the diversity of the Plan's portfolios should ensure that liquidity is available for benefit payments. The Plan also maintains cash on hand for liquidly purposes and for payment of Plan liabilities. At December 31, 2016, the Plan had cash in the amount of \$47,536 (2015 - \$43,110).

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

7. Accrued pension obligation:

The actuarial present value of the accrued pension obligation is an estimate of the value of pension obligations of the Plan in respect of benefits accrued to date for all active and inactive members including pensioners and survivors. As the experience of the Plan unfolds, and as underlying conditions change over time, the actual value of accrued benefits payable in the future could be materially different than the actuarial present value.

Actuarial valuations of the Plan are required every year by the Act, and provide an estimate of the accrued pension obligation (Plan liabilities) calculated using various economic and demographic assumptions, based on membership data as at the valuation date. The Plan's consulting actuaries, Eckler Limited, performed a valuation as at December 31, 2016 and issued their report in April 2017. The report indicated that the Plan had an unfunded liability of \$1,409,344 (2015 - \$1,438,633).

The actuarial valuation calculates liabilities for each member on the basis of service earned to date and the employee's projected five-year highest average salary at the expected date of retirement, or in the case of pensioners and survivors, on the basis of the amount of pension being paid to them. The projected unit credit method was adopted for the actuarial valuation to determine the current service cost and actuarial liability.

The major economic and demographic assumptions used in the December 31, 2016 valuation were as follows:

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

	December 31, 2016	December 31, 2015
Discount rate	6.15% per annum	6.25% per annum
Inflation	2.00% per annum	2.00% per annum
Salary	2.00% per annum plus promotional ranging from 0.00% to 3.25%	2.00% per annum plus promotional ranging from 0.00% to 3.25%
Retirement age	50% of active members who achieve eligibility for an unreduced pension under the rule of 85 prior to age 62 will retire when they first become eligible; the remainder of active and all inactive members will retire at the earliest of: -age 65 with 2 years of service, -35 years of service; and -age 62 with 10 years of service	50% of active members who achieve eligibility for an unreduced pension under the rule of 85 prior to age 62 will retire when they first become eligible; the remainder of active and all inactive members will retire at the earliest of: -age 65 with 2 years of service, -35 years of service; and -age 62 with 10 years of service
Mortality	2014 Public Sector Mortality Table projected generationally with CPM improvement Scale B	2014 Public Sector Mortality Table projected generationally with CPM improvement Scale B

7. Accrued pension obligation (continued):

The assumed increases in the real rate of pensionable earnings (i.e. increase in excess of the assumed inflation rate) are dependent on the attained age of the members.

Demographic assumptions are used to estimate when future benefits are payable to members and beneficiaries, including assumptions about mortality rates, termination rates, and patterns of early retirement. Each of these assumptions is updated periodically, based on a detailed review of the experience of the Plan and on the expectations for future trends.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

8. Commitments:

The Plan has committed capital to investments in real estate and infrastructure over a definitive period of time. The future commitments are generally payable on demand based on the capital needs of the related investment. The table below indicates the capital amount committed and outstanding as at December 31, 2016.

December 31, 2016	Committed	Outstanding		
Real estate	\$ 25,000 USD	\$ 3,306 USD		
Infrastructure	\$ 50,000 CAD	\$ 49,800 CAD		
Infrastructure	\$135,000 USD	\$ 70,334 USD		

9. Benefits:

	2016	2015
Benefits paid to pensioners Benefits paid to disabled pensioners Benefits paid to surviving members Refunds paid to terminated members	\$ 343,551 23,042 20,432 1,100	\$ 339,322 23,074 19,165 2,159
	\$ 388,125	\$ 383,720

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

10. Administrative expenses:

The Plan is charged by its service providers, including Nova Scotia Pension Services Corporation, a related entity for professional and administrative services. The following is a summary of these administrative expenses.

	2016	2015
Plan administration:		
Office and administration services	\$ 4,648 \$	4,138
Actuarial services	119	84
Legal services	48	42
Other professional services	44	56
Audit services	40	37
Bad debt expense	39	-
	4,938	4,357
Investment expenses:		
Investment management services	12,191	13,108
Transaction costs	1,544	1,264
Custody services	618	514
Advisory & consulting services	316	397
Information services	205	178
	14,874	15,461
HST	1,862	1,696
	\$ 21,674 \$	21,514

Investment management and performance fees included in the unrealized gains / (losses) on investments consisting of pooled funds, limited partnerships and subsidiaries are estimated at \$14,131 (2015 - \$13,807). These fees are not direct expenses of the Plan and therefore are not included in administrative expenses.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

11. Securities lending:

The Plan participates in a securities lending program where it lends securities that it owns to third parties for a fee. For securities lent, the Plan receives a fee and the borrower provides readily marketable securities of higher value as collateral which mitigates the credit risk associated with the program. When the Plan lends securities, the risk of failure by the borrower to return the loaned securities is alleviated by such loans being continually collateralized. The securities lending agent also provides indemnification if there is a shortfall between collateral and the lent security that cannot be recovered. The securities lending contracts are collateralized by securities issued by, or guaranteed without any limitation or qualification by, the government of Canada or the governments of other countries.

The following table represents the estimated fair value of securities that were loaned out and the related collateral:

	De	December 31, 2016		1, December 31, 6 2015	
Securities on loan	\$	385,516	\$	440,226	
Collateral held	\$	413,121	\$	469,571	

12. Related party transactions:

Investments held by the Plan include debentures of the Province of Nova Scotia and promissory notes issued by its subsidiaries. The total fair value of these investments is \$9,162 (0.2% of Fund assets and liabilities) as at December 31, 2016 (\$9,040 (0.2% of Fund assets and liabilities) at December 31, 2015.

The Plan's administrator, Nova Scotia Pension Services Corporation, an entity co-owned by Teachers' Pension Plan Trustee Inc. and Public Service Superannuation Plan Trustee Inc. for the purpose of providing pension plan administration and investment services, charges the Plan at cost, an amount equal to the expenses incurred in order to service the Plan. The administration expense charged to the Plan, including HST, for the year ending December 31, 2016 was \$5,788 (2015 - \$5,188).

As Nova Scotia Pension Services Corporation operates on a cost recovery basis, the Plan advances or loans cash to its administrator, as required to pay upcoming expenses or to purchase capital assets. The amount due to the Plan was \$2,916 (2015 - \$2,907) at December 31, 2016.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

13. Interest in subsidiaries:

The Plan's subsidiaries were created for the purposes of providing investment earnings from real estate, infrastructure and other investment arrangements. The Plan's subsidiaries are presented on a non-consolidated basis. The following table shows the fair values of the Plan's subsidiaries as at December 31, 2016 and 2015:

Subsidiary	Purpose	Ownership %	2016 Fair value	2015 Fair value
NT Combined Investments Inc.	Equities	47	\$ 388,919	\$ 386,804
TPP Investments RE Inc. TPP Investments II Inc.	Real estate Real estate	100 100	304,140 108,013	287,794 111,686
TPP Investments CS Inc.	Infrastructure	100	35,008	49,194
TPP Investments ES Inc. HV Combined Investments Inc.	Real estate Hedge funds	100 37	31,722 16,858	31,976 18,083

The Plan either has 100% controlling interest or significant influence over its subsidiaries' cash flows. Funding is made via capital investment from the Plan. Certain subsidiaries have commitments that must be funded directly through capital investment by the Plan. These amounts are included in the Plan's commitments (note 8). Financing is provided as required via shareholder loan and is payable on demand to the Plan.

14. Capital management:

The main objective of the Fund is to sustain a certain level of net assets in order to meet the Plan's pension obligations. The TPPTI (see note 1) manages the contributions and plan benefits as required by the Teachers' Pension Act and its related Regulations. The TPPTI approves and incurs expenses to administer the commerce of the Fund as required by agreement between the Province and the Union.

Under the direction of the TPPTI, the Fund provides for the short term financial needs of current benefit payments while investing members' contributions for the longer term security of pensioner payments. The TPPTI exercises duly diligent practices and has established written investment policies and procedures, and approval processes. Operating budgets, audited financial statements, yearly actuarial valuations and reports, and as required, the retention of supplementary professional, technical and other advisors, are part of the Fund governance structure.

Notes to Financial Statements (continued) (in thousands of dollars)

Year ended December 31, 2016

14. Capital management (continued):

The Fund fulfils its primary objective by adhering to specific investment policies outlined in its SIP&G, which is reviewed annually by TPPTI. The Fund manages net assets by engaging knowledgeable investment managers who are charged with the responsibility of investing existing funds and new funds (current year's employee and employer contributions) in accordance with the SIP&G. Increases in net assets are a direct result of investment income generated by investments held by the Fund and contributions into the Fund by eligible employees and participating employers. The main use of net assets is for benefit payments to eligible Plan members.

Under the 2014 Agreement, minimum funding targets were established, with objectives of having assets of the Plan reach levels of 80-90% of the actuarial liabilities on or before December 31, 2025, at least 85-95% on or before December 31, 2030, and at least 90-100% on or before December 31, 2035. These funding targets are required to be regularly reviewed, including a comprehensive review in 2020 and further reviews every 5 years thereafter.

15. Comparative information:

Certain 2015 comparative information has been reclassified to conform to the financial statement presentation adopted for the current year.