Financial Statements of
Public Service Superannuation Plan
Year ended March 31, 2019

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INDEPENDENT AUDITORS' REPORT

To the Public Service Superannuation Plan Trustee Inc.

Opinion

We have audited the financial statements of Public Service Superannuation Plan (the "Entity"), which comprise:

- the statement of financial position as at March 31, 2019;
- the statement of changes net assets available for benefits for the year then ended;
- the statement of changes in pension obligation for the year then ended;
- the statement of changes in surplus for the year then ended;
- and notes, comprising a summary of significant accounting policies and other explanatory information

(Hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Entity as at March 31, 2019, and the changes in net assets available for benefits, changes in pension obligation and changes in surplus for the year then ended in accordance with Canadian accounting standards for pension plans.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the "***Auditors' Responsibilities for the Audit of the Financial Statements***" section of our auditors' report.

We are independent of the Entity in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other responsibilities in accordance with these requirements.

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

Other Information

Management is responsible for the other information. Other information comprises:

- the information, other than the financial statements and the auditors' report thereon, included in a document entitled "Annual Report"

Our opinion on the financial statements does not cover the other information and we do not and will not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit and remain alert for indications that the other information appears to be materially misstated.

We obtained the information, other than the financial statements and the auditors' report thereon, included in the Annual Report as at the date of this auditors' report. If, based on the work we have performed on this other information, we conclude that there is a material misstatement of this other information, we are required to report that fact in the auditors' report.

We have nothing to report in this regard.

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

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

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

Auditors' Responsibilities for the Audit of the Financial Statements
Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

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

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

- The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Entity to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represents the underlying transactions and events in a manner that achieves fair presentation.

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

KPMG LLP

Chartered Professional Accountants, Licensed Public Accountants
Halifax, Canada
June 17, 2019

Financial Statements of

Public Service Superannuation Plan

Year ended March 31, 2019

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Statement of Financial Position

March 31, 2019, with comparative information for 2018	2019	2018
(in thousands of dollars)		
Net assets available for benefits		
Assets		
Cash	$ 40,076	$ 38,967
Contributions receivable:		
Employers'	5,787	5,733
Employees'	5,708	5,639
Due from administrator (note 14)	-	186
Accounts receivable	3,487	4,713
Deposit on pending investment purchase (note 3)	5,344	-
Receivable from repurchase agreements	92,448	-
Receivable from pending trades	13,961	14,906
Accrued investment income	19,838	18,842
Investments (note 5)	6,437,312	6,365,564
Total assets	6,623,961	6,454,550
Liabilities		
Due to administrator (note 14)	1,138	-
Payable for repurchase agreements	1,356	-
Payable for pending trades	71,144	59,481
Accounts payable and accrued liabilities	3,223	3,778
Investment-related liabilities (note 5)	4,889	38,497
Total liabilities	81,750	101,756
Net assets available for benefits	$ 6,542,211	$ 6,352,794
Purchases of service via instalments (note 7)	363	546
Fair value of net assets available for benefits	$ 6,542,574	$ 6,353,340
Accrued pension obligation and surplus		
Accrued pension obligation (note 7)	$ 6,422,252	$ 6,146,368
Surplus:		
Funding surplus (note 9)	120,322	206,972
	120,322	206,972
Commitments (note 10)		
Accrued pension obligation and surplus	$ 6,542,574	$ 6,353,340

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

On behalf of the board:

Ronald Smith, Chair
Public Service Superannuation Plan Trustee Inc.

Geoff Gatien. Vice-Chair
Public Service Superannuation Plan Trustee Inc.

Statement of Changes in Net Assets Available for Benefits

Year ended March 31, 2019, with comparative information for 2018		2019		2018
(in thousands of dollars)				
Increase in assets				
Contributions (note 4)	$	243,396	$	215,864
Transfers from other pension plans:				
Universities, municipalities & other (note 8)		14,700		176,873
Individuals		6,250		2,469
Interest on pension plan transfer deficits (note 8)		148		291
Investment activities (note 5)		200,644		163,773
Change in market value of investments (note 5)		134,099		179,225
Total increase in assets		599,237		738,495
Decrease in assets				
Benefits paid (note 11)		381,789		354,663
Transfers to other pension plans		5,295		4,271
Administrative expenses (note 12)		22,736		22,763
Total decrease in assets		409,820		381,697
Increase in net assets available for benefits		189,417		356,798
Net assets available for benefits, beginning of year		6,352,794		5,995,996
Net assets available for benefits, end of year	$	6,542,211	$	6,352,794

See accompanying notes to financial statements.

Statement of Changes in Pension Obligation

Year ended March 31, 2019, with comparative information for 2018		2019		2018
(in thousands of dollars)				
Accrued pension obligation, beginning of year	$	6,146,368	$	5,757,998
Increase in accrued pension benefits				
Interest on accrued pension obligation		371,855		354,117
Benefits accrued		152,771		139,831
Purchases of service		34,290		23,634
Transfers from other pension plans		20,950		179,342
Changes in actuarial assumptions (note 9)		35,525		67,235
Net experience losses (note 9)		47,577		-
		662,968		764,159
Decrease in accrued pension benefits				
Benefits paid and transfers to other pension plans		387,084		358,934
Net experience gains (note 9)		-		16,855
		387,084		375,789
Net increase in accrued pension benefits		275,884		388,370
Accrued pension obligation, end of period	$	6,422,252	$	6,146,368

Statement of Changes in Surplus

Year ended March 31, 2018, with comparative information for 2018		2019		2018
(in thousands of dollars)				
Surplus, beginning of year	$	206,972	$	238,734
Increase in net assets available for benefits		189,417		356,798
Decrease in purchases of service via instalments		(183)		(190)
Net increase in accrued pension obligation		(275,884)		(388,370)
Surplus, end of year	$	120,322	$	206,972

See accompanying notes to financial statements.

Notes to Financial Statements

Year ended March 31, 2019
(in thousands of dollars)

1. Authority and description of Plan

The following description of the Public Service Superannuation 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 *Public Service Superannuation Act* (the "*Act*") as part of the *Acts of Nova Scotia*. It is a contributory defined benefit pension plan that covers employees of the Province of Nova Scotia (the "Province") and certain other public sector organizations. The *Act* established the Nova Scotia Public Service Superannuation 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 also contained in the *Act* and in the Regulations made under the *Act*.

Effective April 1, 2013, the Plan and the Fund transitioned to a new joint governance structure. The newly created Public Service Superannuation Plan Trustee Inc. ("PSSPTI") assumed fiduciary responsibility for the Plan and the Fund from the Minister of Finance and Treasury Board. As of April 1, 2013, the Minister of Finance and Treasury Board no longer has further legal liability for the Plan and the Fund. These changes are outlined in the *2012 Public Service Superannuation Act*. That *Act* repealed the existing *Public Service Superannuation Act* and replaced it with a new *Public Service Superannuation Act*.

The PSSPTI 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 Plan's Statement of Investment Policies & Goals (the "SIP&G") as written by the PSSPTI. 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

The Plan is funded by investment earnings and employee and matching employer contributions of 8.4% of salary up to the Year's Maximum Pensionable Earnings (the "YMPE") and 10.9% of salary above the YMPE. The YMPE is a figure set annually by the Canada Pension Plan (the "CPP").

Authority and description of Plan (continued)

Retirement benefits

The basic pension formula is 2% multiplied by the number of years of pensionable service multiplied by the highest average pensionable salary of the best five years. Vesting occurs after two years. Pensions are integrated with the CPP benefits at age 65.

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

- age 50 with an age plus service factor of 80 - "Rule of 80" (age 55 with an age plus service factor of 85 for members first hired by a participating employer on or after April 6, 2010);
- age 55 with two years of service (reduced pension);
- age 60 with two years of service.

Death benefits

Upon the death of a vested member, the surviving spouse is entitled to receive 66.67% of the member's pension benefit payable for life (60% for the surviving spouse of a member first hired by a participating employer on or after April 6, 2010). Eligible children are entitled to receive 10% of the 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.

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.

Indexing

From January 1, 2011 to January 1, 2015, indexing of pensions in pay was at a rate of 1.25% annually. Subject to the conditions specified in the *Act*, as at January 1, 2016, and through to January 1, 2020, the annual rate of indexing is 0.85% per year.

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 Chartered Professional Accountants ("CPA") Canada Handbook ("Section 4600 – Pension Plans"). Section 4600 – Pension Plans 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 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 is 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 Public Service Superannuation Plan Trustee Inc. on June 17, 2019.

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.

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 and 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 re-translation are recognized in the statement of changes in net assets available for benefits as a change in net unrealized gains (loss).

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 ands ale 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 incurred. Financial assets 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.

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.

Significant accounting policies (continued)

iii. Derivative financial instruments:

Derivative financial instruments are recognized initially at fair value and their related 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.

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.

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, infrastructure and agriculture & timber 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 as 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, total return 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.

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 March 31, 2019, the Plan wired funds to a hedge fund for subscription on April 1, 2019. 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 benefit 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 as at December 31 and then extrapolated to March 31. The accrued pension benefit obligation and its extrapolation is measured in accordance with accepted actuarial methods using actuarial assumptions and methods adopted by the PSSPTI for the purpose of establishing the long term funding requirements of the Plan. The actuarial valuation and extrapolated accrued pension benefit obligation included in the financial statements is consistent with the valuation for funding purposes.

i. Contributions

Basic contributions from employers and members due to the Plan as at the end of the year 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.

j. Benefits

Benefit payments to retired and surviving 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.

k. 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.

Significant accounting policies (continued)

l. Actuarial value of net assets and actuarial adjustment

The actuarial value of net assets of the Plan is used in assessing the funding position of the Plan, including the determination of contribution rates. The actuarial value of net assets is determined by smoothing investment returns above or below the actuarial long term *rate of return* assumption over a five year period. The fair value of net assets is adjusted by the unrecognized actuarial value adjustment to arrive at the actuarial value of net assets.

m. 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.

n. Future changes to accounting policies

The relevant new guidance issued by the International Accounting Standards Board not yet adopted by the Plan includes:

- IFRS 16 Leases. The new standard will replace IAS 17, Leases for reporting periods beginning on or after January 1, 2019. IFRS 16 introduces a new single lessee accounting model for all leases by eliminating the distinction between operating and financing leases and requires lessees to recognize right-of-use assets and lease liabilities on the statement of net assets. Depreciation expense on the right-of-use asset and interest expense on the lease liability will replace the operating lease expense.

Management has determined that there will not be a significant impact on either the Plan’s financial position or its investment income upon adoption of the new standard.

4. Contributions

(in thousands of dollars)	2019	2018
Employer		
Matched current service	$ 104,323	$ 95,901
Matched past service	470	856
	104,793	96,757
Employee		
Matched current service	104,318	95,891
Unmatched past service	33,350	21,929
Matched past service	470	849
Unmatched current service	465	438
	138,603	119,107
	$ 243,396	$ 215,864

5. Investments and investment-related liabilities

a. The fair value of the Plan's investments and investment-related liabilities along with the related income as at March 31 are summarized in the following tables:

	2019		2018	
(in thousands of dollars)		%		%
Investment assets				
Fixed income				
Money market	$ 176,031	2.7	$ 147,811	2.3
Canadian bonds & debentures	664,798	10.3	640,299	10.1
Non-Canadian bonds & debentures	1,080,472	16.9	1,108,873	17.4
Canadian real return bonds	206,850	3.2	202,646	3.2
Equities				
Canadian	436,993	6.8	423,095	6.6
US	607,433	9.4	558,329	8.8
Global	815,520	12.7	994,194	15.6
Private	60,312	0.9	12,196	0.2
Commodities	190,660	3.0	195,113	3.1
Real assets				
Real estate	832,789	13.0	806,798	12.7
Infrastructure	659,571	10.2	600,878	9.4
Agriculture & timber	11,791	0.2	7,175	0.1
Absolute return strategy				
Hedge funds	678,238	10.5	662,381	10.4
Derivative-related receivables	15,854	0.2	5,776	0.1
	$ 6,437,312	100.0	$ 6,365,564	100.0
Investment-related liabilities				
Derivative-related payables	$ 4,889	100.0	$ 38,497	100.0
	$ 4,889	100.0	$ 38,497	100.0
Net investments	$ 6,432,423		$ 6,327,067	

Investments and investment-related liabilities (continued)

2019

(in thousands of dollars)	Investment income	Changes in market value of investments and derivatives		
		Realized	Unrealized	Total
Fixed income	$ 69,178	$ 11,006	$ 63,445	$ 74,451
Equities	47,013	50,227	(10,466)	39,761
Commodities	-	-	(4,453)	(4,453)
Real assets	83,594	3,936	21,067	25,003
Absolute return strategies	-	17,842	22,664	40,506
Derivatives	(269)	(84,855)	43,686	(41,169)
Other	1,128	-	-	-
	$ 200,644	$ (1,844)	$ 135,943	$ 134,099

2018

(in thousands of dollars)	Investment income	Changes in market value of investments and derivatives		
		Realized	Unrealized	Total
Fixed Income	$ 63,178	$ 15,822	$ (58,278)	$ (42,456)
Equities	46,120	147,290	(9,954)	137,336
Commodities	-	-	3,338	3,338
Real assets	53,575	6,105	77,489	83,594
Absolute return strategies	-	968	6,592	7,560
Derivatives	133	1,580	(11,727)	(10,147)
Other	767	-	-	-
	$ 163,773	$ 171,765	$ 7,460	$ 179,225

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.

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

Investments and investment-related liabilities (continued)

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.

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.

Investments and investment-related liabilities (continued)

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.

Total return swaps

Total return swaps are contractual agreements under which the total return receiver assumes market and credit risk on a bond or loan, where the total return payer forfeits risk associated with market performance, but takes on the credit exposure that the total return receiver may be subject to. The total return receiver receives income and capital gains generated by an underlying loan or bond. In return, the total return receiver must pay a set rate and any capital losses generated by the underlying loan or bond over the life of the swap.

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.

Investments and investment-related liabilities (continued)

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

2019

(in thousands of dollars)	Notional value	Fair Value Assets	Fair Value Liabilities	Fair Value Net
Derivatives				
Futures	$ 47,161	$ 1,268	$ (1,404)	$ (136)
Options	38,850	1,137	(1,241)	(104)
Credit default swaps	12,639	106	(198)	(92)
Interest rate swaps	56,150	468	(295)	173
Total return swaps	16,300	1,217	-	1,217
Currency forwards	2,646,498	11,658	(1,751)	9,907
	$ 2,817,598	$ 15,854	$ (4,889)	$ 10,965

2018

(in thousands of dollars)	Notional value	Fair Value Assets	Fair Value Liabilities	Fair Value Net
Derivatives				
Futures	$ 57,638	$ 763	$ (947)	$ (184)
Options	15,000	-	(60)	(60)
Credit default swaps	43,650	1,241	(11)	1,230
Interest rate swaps	23,100	189	(111)	78
Total return swaps	800	-	(4)	(4)
Currency forwards	2,476,965	3,583	(37,364)	(33,781)
	$ 2,617,153	$ 5,776	$ (38,497)	$ (32,721)

Investments and investment-related liabilities (continued)

The following tables set out the contractual maturities of the Plan's derivatives and their related assets and liabilities as at March 31:

2019 (in thousands of dollars)	Under 1 year	1 to 5 years	Over 5 years	Total
Derivatives				
Futures	$ (136)	$ -	$ -	$ (136)
Options	(104)	-	-	(104)
Credit default swaps	(101)	9	-	(92)
Interest rate swaps	-	59	114	173
Total return swaps	1,217	-	-	1,217
Currency forwards	9,907	-	-	9,907
	$ 10,738	$ 68	$ 114	$ 10,965

2018 (in thousands of dollars)	Under 1 year	1 to 5 years	Over 5 years	Total
Derivatives				
Futures	$ (184)	$ -	$ -	$ (184)
Options	(60)	-	-	(60)
Credit default swaps	-	643	587	1,230
Interest rate swaps	-	189	(111)	78
Total return swaps	(4)	-	-	(4)
Currency forwards	(33,781)	-	-	(33,781)
	$ (34,029)	$ 832	$ 476	$ (32,721)

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 March 31 is as follows:

(in thousands of dollars)	2019	2018
Collateral	$ 969	$ 1,745
Margin	369	(969)
	$ 1,338	$ 776

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 repurchase agreements, receivable from pending trades, accrued investment income, payable for repurchase agreements, and payable from pending trades and 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.

Financial instruments (continued)

2019 (in thousands of dollars)	Level 1	Level 2	Level 3	Total
Investment assets				
Fixed Income				
Money market	$ 339	$ 175,692	$ -	$ 176,031
Canadian bonds & debentures	208,495	456,303	-	664,798
Non-Canadian bonds & debentures	50,069	1,030,403	-	1,080,472
Canadian real return bonds	-	133,899	72,951	206,850
Equities				
Canadian	353,065	83,928	-	436,993
US	173,198	434,235	-	607,433
Global	530,297	285,223	-	815,520
Private	-	-	60,312	60,312
Commodities	-	190,660	-	190,660
Real assets				
Real estate	-	189,908	642,881	832,789
Infrastructure	-	-	659,571	659,571
Agriculture & timber	-	-	11,791	11,791
Absolute return strategies				
Hedge funds	-	678,238	-	678,238
Derivative-related receivables	2,405	13,449	-	15,854
	$ 1,317,868	$ 3,671,938	$ 1,447,506	$ 6,437,312
Investment-related liabilities				
Derivative-related receivables	$ 2,645	$ 2,244	$ -	$ 4,889
	$ 2,645	$ 2,244	$ -	$ 4,889
Net Investments	$ 1,315,223	$ 3,669,694	$ 1,447,506	$ 6,432,423

Financial instruments (continued)

2018 (in thousands of dollars)	Level 1	Level 2	Level 3	Total
Investment assets				
Fixed income				
Money market	$ 1,324	$ 146,487	$ -	$ 147,811
Canadian bonds & debentures	207,496	432,803	-	640,299
Non-Canadian bonds & debentures	47,759	1,061,114	-	1,108,873
Canadian real return bonds	-	129,462	73,184	202,646
Equities				
Canadian	337,065	86,030	-	423,095
US	162,214	396,115	-	558,329
Global	606,314	387,880	-	994,194
Private	-	-	12,196	12,196
Commodities	-	195,113	-	195,113
Real assets				
Real estate	-	186,177	620,621	806,798
Infrastructure	-	-	600,878	600,878
Agriculture & timber	-	-	7,175	7,175
Absolute return strategies				
Hedge funds	-	662,381	-	662,381
Derivative-related receivables	763	5,013	-	5,776
	$ 1,362,935	$ 3,688,575	$ 1,314,054	$ 6,365,564
Investment-related liabilities				
Derivative-related receivables	$ (1,007)	$ (37,490)	$ -	$ (38,497)
	$ (1,007)	$ (37,490)	$ -	$ (38,497)
Net Investments	$ 1,361,928	$ 3,651,085	$ 1,314,054	$ 6,327,067

There were no significant transfers between level 1 and level 2 financial instruments during the years ended March 31, 2019 and 2018.

Financial instruments (continued)

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

2019

(in thousands of dollars)	Fixed income	Private equity	Real assets	Total
Balance, beginning of year	$ 73,184	$ 12,196	$ 1,228,674	$ 1,314,054
Purchases, contributed capital	-	45,142	152,515	197,657
Sales, capital returned	(918)	-	(82,677)	(83,595)
Realized gains	209	-	(1,646)	(1,437)
Unrealized gains (losses)	476	2,975	17,377	20,828
Balance, end of year	$ 72,951	$ 60,313	$ 1,314,243	$ 1,447,507

2018

(in thousands of dollars)	Fixed income	Private equity	Real assets	Total
Balance, beginning of year	$ 74,935	$ -	$ 904,076	$ 979,011
Purchases, contributed capital	-	12,436	276,433	288,869
Sales, capital returned	(872)	-	(29,708)	(30,580)
Realized gains	198	-	728	926
Unrealized gains (losses)	(1,077)	(240)	77,145	75,828
Balance, end of year	$ 73,184	$ 12,196	$ 1,228,674	$ 1,314,054

The total income from level 3 financial instruments held as at March 31, 2019 and 2018, respectively, was $19,391 and $76,754.

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.

Financial instruments (continued)

Significant unobservable inputs used in measuring fair value:

The table below sets out information about significant unobservable inputs used at March 31, 2019 in measuring financial instruments categorized as level 3 in the fair value hierarchy.

(in thousands of dollars)

Description	2019 Fair value	Valuation technique	Unobservable inputs
Unlisted direct real estate subsidiaries	$ 551,519	Income approach technique: overall capitalization rate method and discounted cash flow method	Capitalization rates, discount rates
Unlisted private equity, real estate, infrastructure, agriculture & timber funds	$ 823,036	Net asset value – audited financial statements	Information not available
Listed real return bond	$ 72,951	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 and discounted cash flow method are most sensitive to changes in the capitalization and discount rates.

(in thousands of dollars)	2019	2018
Unlisted direct real estate subsidiaries		
Direct capitalization method		
Minimum capitalization rate	**3.50%**	3.80%
Maximum capitalization rate	**5.05%**	8.00%
Increase of 25 basis points in capitalization rate	**$ (46,892)**	$ (27,029)
Decrease of 25 basis points in capitalization rate	**$ 40.552**	$ 31,527
Discounted cash flow method		
Minimum discount rate	**3.70%**	3.80%
Maximum discount rate	**9.30%**	9.30%
Increase of 25 basis points in discount rate	**$ (13,426)**	$ (12,951)
Decrease of 25 basis points in discount rate	**$ 14,774**	$ 13,586

Note: basis point is equal to 0.01%

Financial instruments (continued)

The Plan does not have access to underlying information that comprises the fair market value of real return bonds, and certain private equity, 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.

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:

March 31, 2019

(in thousands of dollars)

	Number of investments	Fair value	Cost
Public market investments	1	$ 72,951	$ 27,804
Private market investments	17	2,453,791	1,897,745
	18	$ 2,526,742	$ 1,925,549

March 31, 2018

(in thousands of dollars)

	Number of investments	Fair value	Cost
Public market investments	1	$ 73,184	$ 28,514
Private market investments	16	2,310,862	1,808,590
	17	$ 2,384,046	$ 1,837,104

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.

Financial instruments (continued)

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.

March 31, 2019

(in thousands of dollars)	Under 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total	Average yield (%)(1)
Fixed income						
Money market	$ 174,650	$ -	$ -	$ -	$ 174,650	-
Bonds and debentures	22,403	504,842	415,083	466,365	1,408,693	3.8
Real return bonds (2)	-	-	-	72,951	72,951	5.3
	$ 197,053	$ 504,842	$ 415,083	$ 539,316	$ 1,656,294	3.5
Pooled funds					471,857	
Total fixed income					$ 2,128,151	

March 31, 2018

(in thousands of dollars)	Under 1 year	1 to 5 years	5 to 10 years	Over 10 years	Total	Average yield (%)(1)
Fixed income						
Money market	$ 146,031	$ -	$ -	$ -	$ 146,031	-
Bonds and debentures	92,680	501,452	402,402	434,412	1,430,946	3.7
Real return bonds (2)	-	-	-	73,184	73,184	5.3
	$ 238,711	$ 501,452	$ 402,402	$ 507,596	$ 1,650,161	3.4
Pooled funds					449,464	
Total fixed income					$ 2,099,625	

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.

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 as at March 31, 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:

(in thousands of dollars)	2019	2018
Interest rate sensitive assets	**$ 1,657,354**	$ 1,651,222
Average duration for 1% increase in interest rates	**(6.5)**	(6.4)
Sensitivity to 1% increase in interest rates	**(106,895)**	(104,970)
Fair value after 1% increase in rates	**$ 1,550,459**	$ 1,546,252
Average duration for 1% decrease in interest rates	**6.5**	6.4
Sensitivity to 1% decrease in interest rates	**106,895**	104,970
Fair value after 1% decrease in rates	**$ 1,764,249**	$ 1,756,192

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.

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 March 31:

(in thousands of dollars)	2019	2018
Total equity	$ 1,920,258	$ 1,987,814
10% increase in market values	192,026	198,781
Fair value after 10% increase in market values	$ 2,112,284	$ 2,186,595
10% decrease in market values	(192,026)	(198,781)
Fair value after 10% decrease in market values	$ 1,728,232	$ 1,789,033

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.

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 2019.

Financial instruments (continued)

The fair values of the Plan's fixed income investments exposed to credit risk are categorized in the following table as at March 31:

(in thousands of dollars)	2019	2018
Fixed income		
Canadian		
Governments	$ 514,470	$ 477,972
Corporate	194,479	189,216
Non-Canadian		
Governments	50,069	47,759
Corporate	897,276	935,217
	$ 1,656,294	$ 1,650,164
Pooled funds	471,857	449,465
Total fixed income	$ 2,128,151	$ 2,099,629

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:

i. 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.

Financial Instruments (continued)

Securities lending

The Plan engages in securities lending to enhance portfolio returns (see note 13). 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.

The Plan's currency policy allows for the management of risk of investment and non-investments 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 March 31 in the following table:

March 31, 2019		
(in thousands of dollars)	Unhedged	Hedged
Summary FX exposure		
Canadian dollar	$ 2,635,175	$ 5,045,784
United States dollar	3,285,665	1,491,754
Euro	181,460	(150,782)
British pound sterling	159,167	(7,267)
Japanese yen	92,642	67,082
Other	167,390	84,834
	$ 6,521,499	$ 6,531,405

Financial instruments (continued)

March 31, 2018		
(in thousands of dollars)	**Unhedged**	**Hedged**
Summary FX exposure		
Canadian dollar	$ 2,578,674	$ 4,766,867
United States dollar	3,129,438	1,494,050
Euro	265,680	(65,426)
British pound sterling	160,067	(12,007)
Japanese yen	95,641	73,997
Other	144,384	82,622
	$ 6,373,884	$ 6,340,103

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 March 31:

	2019	2018
(in thousands of dollars)		
Fund assets and liabilities	$ **6,531,405**	$ 6,340,104
10% increase in Canadian dollar	**(135,057)**	(143,022)
Fund assets and liabilities after increase	$ **6,396,348**	$ 6,197,082
10% decrease in Canadian dollar	**165,069**	174,804
Fund assets and liabilities after decrease	$ **6,696,474**	$ 6,514,908

Financial instruments (continued)

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 40.3% (2018 – 42.1%) 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 25.4% (2018 – 26.8%) 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 March 31, 2019, the Plan had cash in the amount of $40,076 (2018 - $38,967).

7. Purchases of service via instalments

The purchases of services via instalments of $363 as at March 31, 2019 (2018 - $546) represents the present value of outstanding employee and employer contributions that is due as a result of service purchases that are being paid for through payroll deductions. The liabilities associated with this service are already recognized in the accrued pension benefit obligation.

8. Universities, municipalities & other authorities pension plan transfers

On May 4, 2015, the *University Pension Plan Transfer Act (Bill No. 102)* was proclaimed to facilitate the transfer of university pension plans to the Plan and on November 9, 2016, the *Municipalities and Other Authorities Pension Plan Transfer Act (Bill No. 55)* was also proclaimed to facilitate the transfer of pension plans of municipalities and other authorities to the Plan.

Both the *University Pension Plan Transfer Act* and the *Municipalities and Other Authorities Pension Plan Transfer Act* allow the Trustee to enter into an agreement with a university, municipality or other authority to transfer, in whole or in part, assets and liabilities of a designated plan to the Plan and to allow the members, the survivors of the members, the post-transfer employees of the transferring party and the survivors of the post-transfer employees to participate in the Plan.

The Trustee's guiding principle throughout this transfer process is that it must be beneficial to the long-term sustainability of the Plan and cost-neutral to the Plan and Plan members. A transfer to the Plan resulting in a deficit to the associated liability is recovered with interest owing from the transfer date.

9. Accrued pension obligation

a. Actuarial assumptions

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 conducted annually, 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, Mercer, performed a valuation as at December 31, 2018 and issued their report in June 2019. The report indicated that the Plan had a funding deficit of $112,134 (December 31, 2017 –surplus of $254,878).

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 on the pension in pay, for retired members and survivors. The projected unit credit method was adopted for the actuarial valuation to determine the current service cost and actuarial liability. Under this method, the cost of providing benefits to an individual member will increase as the individual member ages and gets closer to retirement.

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. These rates are based on recent experience of the Plan and current expectations for future years.

Accrued pension obligation (continued)

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.

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

	2019	2018
Discount rate	**6.00% per annum**	6.05% per annum
Inflation	**2.00% per annum**	2.00% per annum
Salary	**2.50% per annum plus merit ranging from 0.00% to 2.50%**	2.50% per annum plus merit ranging from 0.00% to 2.50%
Retirement age	**• 10% at age 59; • 20% at age 60; • 10% at each age 61-64; • 50% at each age 65-69; • 100% at age 70 However, 20% each year after EURD, if it is greater 40% at 35 years of service**	• 10% at age 59; • 20% at age 60; • 10% at each age 61-64; • 50% at each age 65-69; • 100% at age 70 However, 20% each year after EURD, if it is greater 40% at 35 years of service
Mortality	**120% of CPM 2014 Publ with generational mortality using 100% of CPM-B**	120% of CPM 2014 Publ with generational mortality using 100% of CPM-B

The accrued pension obligation as at March 31 is determined by an extrapolation performed by the Plan's actuary of the Plan's liabilities from December 31 of the immediately preceding calendar year, as reflected in the actuarial valuation. The following table reflects the extrapolated funding surplus as at March 31:

	2019	2018
(in thousands of dollars)	**Extrapolated**	**Extrapolated**
Actuarial value of net assets	**$ 6,542,574**	$ 6,352,340
Accrued pension obligation	**(6,422,252)**	(6,146,368)
Funding surplus	**$ 120,322**	$ 206,972

10. Commitments

The Plan has committed capital to investment 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 March 31, 2019.

March 31, 2019				
(in thousands of dollars)		Committed		Outstanding
United States dollar				
Infrastructure	USD	393,495	USD	55,017
Private equity		275,000		230,395
Real estate		25,000		4,769
Agriculture & timber		25,000		16,374
	USD	718,495	USD	306,555
British pound sterling				
Infrastructure	GBP	15,000	GBP	2,186
Euro				
Infrastructure	EUR	20,000	EUR	19,998
Real estate		20,000		829
	EUR	40,000	EUR	20,827

11. Benefits

		2019		2018
(in thousands of dollars)				
Benefits paid to retired members	$	325,782	$	309,978
Benefits paid to survivors		38,775		32,016
Refunds paid to terminated members		17,232		12,669
	$	381,789	$	354,663

12. 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.

	2019	2018
(in thousands of dollars)		
Plan administration		
Office and administration services	$ 6,547	$ 5,355
Actuarial services & consulting services	95	221
Legal services	84	97
Audit services	41	39
Other professional services	65	19
	6,832	5,731
Pension plan transfer-related costs		
Professional services	148	171
Recovery (note 8)	(148)	(171)
	-	-
Investment expenses		
Investment management services	12,123	13,244
Transaction costs	818	764
Custody services	469	540
Advisory & consulting services	320	298
Information services	201	209
	13,931	15,055
HST	1,973	1,977
	$ 22,736	$ 22,763

Investment management and performance fees included in the unrealized gains/(losses) on investment vehicles consisting of pooled funds, limited partnerships and holding companies are estimated at $25,594 (2018 - $26,075). These fees are not direct expenses of the Plan and therefore are not included in administrative expenses.

13. 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 as at March 31:

(in thousands of dollars)	2019	2018
Securities on loan	$ 411,320	$ 433,228
Collateral held	$ 443,907	$ 462,910

14. Related party transactions

Investments held by the Plan include debentures of the Province of Nova Scotia. The total fair value of these investments is $15,632 (0.2% of total investment assets and liabilities) as at March 31, 2019 (2018 - $4,155 (0.1% of total investment assets and liabilities)).

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 before HST for the year ending March 31, 2019 was $6,804 (2018 - $5,672).

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 administrator was $1,138 at March 31, 2019 (2018 - $186 due to the Plan).

15. 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 March 31:

Subsidiary	Purpose	Ownership %	2019 Fair value	2018 Fair value
(in thousands of dollars)				
PSS Investments RE Inc.	Real estate	100	$ 436,251	$ 393,724
NT Combined Investments Inc.	Equities	54	434,235	396,115
PSS Investments CS Inc.	Infrastructure	100	228,491	198,116
PSS Investments II Inc.	Real estate	100	158,681	154,308
PSS Investments IV Inc.	Infrastructure	100	80,777	74,840
PSS Investments AI Inc.	Private equity	100	60,312	12,196
PSS Investments AX Inc.	Infrastructure	100	53,323	49,099
PSS Investments ES Inc.	Real estate	100	47,949	72,589
HV Combined Investments Inc.	Hedge funds	63	33,114	28,694
PSS Investments III Inc.	Infrastructure	100	23,534	20,749
PSS Investments CS II Inc.	Infrastructure	100	4,177	4,742
			$ 1,560,844	$ 1,405,172

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 10). Financing is provided as required via shareholder loan and is payable on demand to the Plan.

16. Capital management

The main objective of the Plan is to sustain a certain level of net assets in order to meet the Plan's pension obligations. The PSSPTI (note 1) manages the contributions and benefits as required by the Public Service Superannuation Act and its related Regulations. The PSSPTI approves and incurs expenses to administer the commerce of the Plan in accordance with the Act.

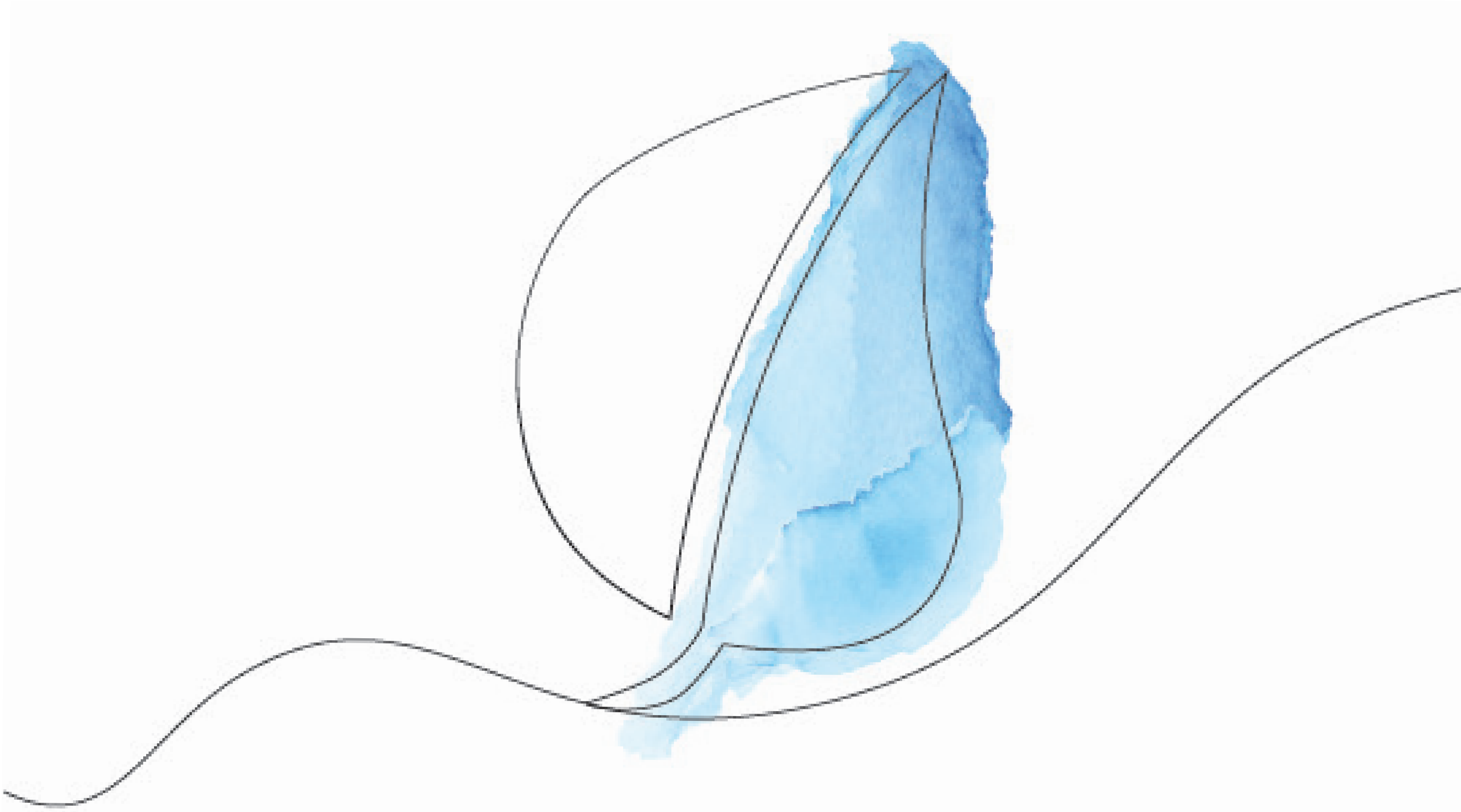
Capital management (continued)

Under the direction of the PSSPTI, the Plan provides for the short term financial needs of current benefit payments while investing members' contributions for the longer term security of pensioner payments. The PSSPTI 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 Plan's governance structure.

The Plan fulfils its primary objective by adhering to specific investment policies outlined in its SIP&G, which is reviewed annually by PSSPTI. The Plan 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 Plan and contributions into the Plan by eligible employees and participating employers. The main use of net assets is for benefit payments to eligible Plan members.

17. Comparative information

Certain 2018 comparative information has been reclassified to conform to the financial statement presentation adopted for the current year.



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All information presented in this document is premised on the Plan rules and criteria which currently exist under the Public Service Superannuation Act (the “PSSA”) and the plan text made thereunder. This document explains in plain language aspects of the rules and criteria of the Plan. Plan members, beneficiaries, and others who wish to determine their legal rights and o ligations under the Plan should refer to the PSSA, the plan text, or other legal documents as appropriate. In the event of a discrepancy between the information provided in this document and the legislation and/or legal documents, the latter takes precedence.