

Condensed Interim Consolidated Financial Statements of Canada Pension Plan Investment Board

DECEMBER 31, 2019

Condensed Interim Consolidated Balance Sheet

(Unaudited)

		As at	As at
(CAD millions)	Dec	ember 31, 2019	March 31, 2019
Assets			
Investments	\$	525,963	\$ 494,567
Pending trades receivable		2,947	4,692
Premises and equipment		465	387
Other assets		290	244
Total assets		529,665	499,890
Liabilities			
Investment liabilities		105,876	102,864
Pending trades payable		2,737	4,401
Accounts payable and accrued liabilities		621	645
Total liabilities		109,234	107,910
Net assets	\$	420,431	\$ 391,980
Net assets, represented by:			
Share capital	\$	-	\$ -
Accumulated net income from operations		275,546	247,624
Accumulated net transfers from the Canada Pension Plan		144,885	144,356
Net assets	\$	420,431	\$ 391,980

The accompanying notes are an integral part of these Condensed Interim Consolidated Financial Statements.

Condensed Interim Consolidated Statement of Comprehensive Income (Unaudited)

	•	For the thre	e mor	nths ended	For the nine months ended					
(CAD millions)	Decen	nber 31, 2019		December 31, 2018	Decei	mber 31, 2019	December 31, 2018			
Investment income	\$	15,413	\$	4,811	\$	30,447	\$	15,320		
Investment management fees		(398)		(362)		(1,280)		(1,270)		
Transaction costs		(168)		(175)		(365)		(398)		
Net investment income (note 4)	\$	14,847	\$	4,274	\$	28,802	\$	13,652		
Personnel costs		216		196		610		545		
General operating expenses		84		103		270		273		
Operating expenses		300		299		880		818		
Net income from operations and										
comprehensive income	\$	14,547	\$	3,975	\$	27,922	\$	12,834		

The accompanying notes are an integral part of these Condensed Interim Consolidated Financial Statements.

Condensed Interim Consolidated Statement of Changes in Net Assets (Unaudited)

		For	the	e three months	end	led	
(CAD millions)	Number of shares outstanding	Share capital		Accumulated net transfers from the Canada Pension Plan		Accumulated net income from operations	Total net
As at October 1, 2019	10	\$ -	\$	148,489	\$	260,999	\$ 409,488
Total net income for the period		-		-		14,547	14,547
Canada Pension Plan transfers:							
Transfers from the Canada Pension Plan		-		6,656		-	6,656
Transfers to the Canada Pension Plan		-		(10,260)		-	(10,260)
Balance at December 31, 2019	10	\$ -	\$	144,885	\$	275,546	\$ 420,431

		Fo	r th	ne nine months	end	ed		
(CAD millions)	Number of shares outstanding	Share capital		Accumulated net transfers from the Canada Pension Plan		Accumulated net income from operations		Total net
As at April 1, 2018	10	\$ -	\$	140,520	\$	215,614	\$	356,134
Total net income for the period		-	Ċ	-		12,834	•	12,834
Canada Pension Plan transfers:								
Transfers from the Canada Pension Plan		-		26,587		-		26,587
Transfers to the Canada Pension Plan		-		(27,064)		-		(27,064)
Balance at December 31, 2018	10	\$ -	\$	140,043	\$	228,448	\$	368,491
As at April 1, 2019	10	\$ -	\$	144,356	\$	247,624	\$	391,980
Total net income for the period		-		-		27,922		27,922
Canada Pension Plan transfers:								
Transfers from the Canada Pension Plan		-		30,286		-		30,286
Transfers to the Canada Pension Plan		-		(29,757)		-		(29,757)
Balance at December 31, 2019	10	\$ -	\$	144,885	\$	275,546	\$	420,431

The accompanying notes are an integral part of these Condensed Interim Consolidated Financial Statements.

Condensed Interim Consolidated Statement of Cash Flows

(Unaudited)

	For the nine	month	s ended
	December 31,		December 31,
(CAD millions)	2019		2018
Cash flows from operating activities			
Net income from operations	\$ 27,922	\$	12,834
Adjustments for non-cash items:			
Amortization of premises and equipment	31		15
Realized and unrealized (gains) losses on debt financing liabilities	(441)		1,153
Adjustments for net changes in operating assets and liabilities:			
(Increase) in investments	(31,963)		(26,788)
Decrease (Increase) in pending trades receivable	1,745		(1,492)
Decrease (increase) in other assets	51		(29)
Increase in investment-related liabilities	1,655		11,440
(Decrease) Increase in pending trades payable	(1,664)		1,541
(Decrease) in accounts payable and accrued liabilities	(109)		(202)
Net cash flows (used in) operating activities	(2,773)		(1,528)
Cash flows from financing activities			
Transfers from the Canada Pension Plan	30,286		26,587
Transfers to the Canada Pension Plan	(29,757)		(27,064)
Proceeds from debt financing liabilities ¹	19,724		26,206
Repayments of debt financing liabilities ¹	(17,926)		(23,279)
Net cash flows provided by financing activities	2,327		2,450
Cash flows from investing activities			
Acquisitions of premises and equipment	(24)		(34)
Net cash flows (used in) investing activities	(24)		(34)
Net (decrease) increase in cash and cash equivalents	(470)		888
Effect of exchange rate changes on cash and cash equivalents	(79)		305
Cash and cash equivalents at the beginning of the period	8,706		8,296
Cash and cash equivalents at the end of the period	8,157		9,489
Cash and cash equivalents at the end of the period are comprised of:			
Cash held for operating purposes ²	185		149
Cash and cash equivalents held for investment purposes ³	7,972		9,340
Total	\$ 8,157	\$	9,489

¹ The comparative cash flow figures have been revised for the reclassification of net cash flow of \$2,927 million from operating activities related to proceeds from and repayments of debt financing liabilities.

The accompanying notes are an integral part of these Condensed Interim Consolidated Financial Statements.

² Presented as a component of other assets on the Condensed Interim Consolidated Balance Sheet.

³ Presented as a component of investments on the Condensed Interim Consolidated Balance Sheet and money market securities on the Condensed Interim Consolidated Schedule of Investment Portfolio.

Condensed Interim Consolidated Schedule of Investment Portfolio

(Unaudited)

	As at	As at
(CAD millions)	December 31, 2019	March 31, 2019
Equities		
Public equities	\$ 140,786	\$ 141,189
Private equities	109,404	96,659
Total equities	250,190	237,848
Fixed income		
Bonds	100,886	85,604
Other debt	29,860	27,325
Money market securities	10,823	9,829
Total fixed income	141,569	122,758
Absolute return strategies	25,809	25,512
Real assets		
Real estate	42,485	45,846
Infrastructure	35,049	33,131
Energy and resources	9,090	8,002
Power and renewables	5,391	5,075
Total real assets	92,015	92,054
Investment receivables		
Securities purchased under reverse repurchase agreements and cash collateral pledged		
on securities borrowed	10,096	11,174
Derivative assets	3,483	3,192
Other	2,801	2,029
Total investment receivables	16,380	16,395
Total investments	\$ 525,963	\$ 494,567
Investment liabilities		
Securities sold under repurchase agreements and cash collateral received on securities		
lent	(47,372)	(39,491)
Securities sold short	(22,146)	(29,027)
Debt financing liabilities	(32,218)	(30,861)
Derivative liabilities	(2,454)	(2,330)
Other	(1,686)	(1,155)
Total investment liabilities	(105,876)	(102,864)
Pending trades receivable	2,947	4,692
Pending trades payable	(2,737)	(4,401)
Net investments	\$ 420,297	

The accompanying notes are an integral part of these Condensed Interim Consolidated Financial Statements.

(Unaudited)

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(Unaudited)

General information

Canada Pension Plan Investment Board (CPP Investments) was established in December 1997 pursuant to the Canada Pension Plan Investment Board Act (CPPIB Act). CPP Investments is responsible for assisting the Canada Pension Plan (CPP) in meeting its obligations to contributors and beneficiaries under the legislation Canada Pension Plan (CPP Act). In December 2016, Royal Assent was given to Bill C-26 titled An Act to Amend the Canada Pension Plan, the CPPIB Act and the Income Tax Act. With that, the CPP Act defines two separate parts of the CPP. The "base CPP" refers to the existing benefits and contributions. The "additional CPP" refers to the additional benefits and additional contributions that began on January 1, 2019. All references to "CPP" mean base CPP and additional CPP collectively.

The Condensed Interim Consolidated Financial Statements (Interim Financial Statements) provide information on the net assets managed by CPP Investments and do not include the liabilities and other assets of the CPP.

The Interim Financial Statements for the three and nine months ended December 31, 2019 were approved by the Board of Directors and authorized for issue on February 13, 2020.

1. Summary of significant accounting policies

1.1. Basis of presentation

The Interim Financial Statements have been prepared in compliance with International Accounting Standard 34, *Interim Financial Reporting* and do not include all of the information and disclosures required in the Annual Consolidated Financial Statements. The Interim Financial Statements should be read in conjunction with CPP Investments' 2019 Annual Consolidated Financial Statements included on pages 116 to 152 in CPP Investments' 2019 Annual Report. The Interim Financial Statements follow the same accounting policies and methods as the most recent Annual Consolidated Financial Statements. CPP Investments adopted International Financial Reporting Standard (IFRS) 16, *Leases*, effective April 1, 2019, the impact of which is not material.

1.2. Subsidiaries

CPP Investments qualifies as an investment entity as it meets the definition of an investment entity outlined in IFRS 10, Consolidated Financial Statements. As a consequence, the Interim Financial Statements represent the results of operations of CPP Investments and its wholly owned subsidiaries that were created to provide investment-related services to support its operations. Operating subsidiaries of this nature include those that provide investment advisory services or subsidiaries that were created to provide financing to CPP Investments.

Subsidiaries that are managed by CPP Investments to hold investments are referred to herein as investment holding subsidiaries. Such subsidiaries are not consolidated in these Interim Financial Statements but instead are measured and reported at fair value. Fair value for unconsolidated investment holding subsidiaries is based on the fair value of the underlying investments and investment liabilities held by the investment holding subsidiary together with its accumulated net income from operations less dividends paid.

2. Fair value measurement

This note categorizes the fair values of investments and investment liabilities within the three levels of the fair value hierarchy. For investment valuations that require significant judgment, the note further provides the roll-forward of these investments during the period and the range of valuation techniques and inputs used.

2.1. Fair value hierarchy

			As at D	December 31,	2019			
		Level 1		Level 2		Level 3		
				Valuation		Valuation		
		Quoted		echnique –		technique –		
		Market		observable		observable		
(CAD millions)		Price		rket inputs		rket inputs		Total
Investments		11100	1110	rice inputs	1110	ir ket inputs		Total
Equities								
Public equities	Ś	126,377	\$	14,186	\$	223	\$	140,786
Private equities	7	120,377	,	14,100	7	109,404	, , , , , , , , , , , , , , , , , , ,	109,404
Total equities		126,377		14,186		109,627		250,190
Fixed income		120,377		14,100		103,027		230,130
Bonds		58,056		42,830				100,886
Other debt		-		5,945		23,915		29,860
Money market securities				10,823		23,313		10,823
Total fixed income		58,056		59,598		23,915		141,569
Absolute return strategies		-		23,283		2,526		25,809
Real assets				23,203		2,320		23,003
Real estate		_		_		42,485		42,485
Infrastructure				_		35,049		35,049
Energy and resources		_		_		9,090		9,090
Power and renewables		_		_		5,391		5,391
Total real assets		_		_		92,015		92,015
Investment receivables						32,013		32,013
Securities purchased under reverse repurchase								
agreements and cash collateral pledged on								
securities borrowed		_		10,096		_		10,096
Derivative assets		2		3,477		4		3,483
Other				2,801				2,801
Total investment receivables		2		16,374		4		16,380
Total investments	\$	184,435	\$	113,441	\$	228,087	\$	525,963
Investment liabilities						<u> </u>		,
Securities sold under repurchase agreements								
and cash collateral received on securities								
lent		_		(47,372)		_		(47,372)
Securities sold short		(22,146)		-		_		(22,146)
Debt financing liabilities		(26,141)		(6,077)		_		(32,218)
Derivative liabilities		(65)		(2,389)		-		(2,454)
Other		-		(1,686)		-		(1,686)
Total investment liabilities		(48,352)		(57,524)		-		(105,876)
Pending trades receivable ¹		-		2,947		-		2,947
Pending trades payable ¹		-		(2,737)		-		(2,737)
Net investments	\$	136,083	\$	56,127	\$	228,087	\$	420,297

(Unaudited)

	 	As a	nt March 31, 20)19		
	Level 1		Level 2		Level 3	
	Quoted		Valuation		Valuation	
	Market	t	echnique –		technique –	
	Price		observable	non	-observable	
(CAD millions)		ma	rket inputs	m	arket inputs	Total
Investments						
Equities						
Public equities	\$ 129,212	\$	11,769	\$	208	\$ 141,189
Private equities	-		-		96,659	96,659
Total equities	129,212		11,769		96,867	237,848
Fixed income						
Bonds	49,912		35,692		-	85,604
Other debt	-		5,215		22,110	27,325
Money market securities	-		9,829		-	9,829
Total fixed income	49,912		50,736		22,110	122,758
Absolute return strategies	-		23,588		1,924	25,512
Real assets						
Real estate	-		-		45,846	45,846
Infrastructure	-		-		33,131	33,131
Energy and resources	-		-		8,002	8,002
Power and renewables	-		-		5,075	5,075
Total real assets	-		-		92,054	92,054
Investment receivables						
Securities purchased under reverse repurchase						
agreements and cash collateral pledged on						
securities borrowed	-		11,174		-	11,174
Derivative assets	2		3,189		1	3,192
Other	-		1,962		67	2,029
Total investment receivables	2		16,325		68	16,395
Total investments	\$ 179,126	\$	102,418	\$	213,023	\$ 494,567
Investment liabilities						
Securities sold under repurchase agreements						
and cash collateral received on securities						
lent	-		(39,491)		-	(39,491)
Securities sold short	(29,027)		-		-	(29,027)
Debt financing liabilities	(26,538)		(4,323)		-	(30,861)
Derivative liabilities	(48)		(2,282)		-	(2,330)
Other			(1,155)		-	(1,155)
Total investment liabilities	(55,613)		(47,251)		-	(102,864)
Pending trades receivable ¹	-		4,692		-	4,692
Pending trades payable ¹	-		(4,401)		-	(4,401)
Net investments	\$ 123,513	\$	55,458	\$	213,023	\$ 391,994

¹ Pending trades receivable and payable are measured at amortized cost, which is a reasonable approximation of fair value.

2.2. Transfers between Level 1 and Level 2

During the nine months ended December 31, 2019, there were no transfers from Level 1 to Level 2 (for the year ended March 31, 2019 - \$11 million) and \$9 million of transfers from Level 2 to Level 1 (for the year ended March 31, 2019 - \$338 million). Transfers between Level 1 and Level 2 depend on the availability of quoted market prices in active markets and valuations using inputs other than quoted prices that are observable. These transfers have been recognized at the end of period values.

2.3. Level 3 reconciliation

The following presents the reconciliations for investments included in Level 3 of the fair value hierarchy:

Reconciliation of changes in fair value for Level 3 investments

			For the	nine	months	end	ed Decem	ber 3	1, 2019)				
(CAD millions)	Fa	ir value as at April 1, 2019	Gain (loss) included in investment income	Pi	urchases		Sales ¹		nsfers into	Transfers out of Level 3 ²		Fair value as at December 31, 2019	(lo inves	nange in realized gains sses) on stments still held at ecember , 2019 ^{3,4}
Investments			······································		ur erresco		Juico			2070.5		01, 2013		2013
Equities														
Public equities	\$	208	\$ 25	\$	_	\$	(10)	\$	_	\$ -	\$	223	\$	22
Private equities		96,659	8,351		15,638		(10,685)		1	(560)		109,404		8,151
Total equities		96,867	8,376		15,638		(10,695)		1	(560)		109,627		8,173
Fixed income														
Other debt		22,110	(857)		9,047		(5,592)		-	(793)		23,915		(880)
Absolute return														
strategies		1,924	34		-		(52)		620	-		2,526		35
Real assets														
Real estate		45,846	(52)		2,463		(5,772)		-	-		42,485		(721)
Infrastructure		33,131	(492)		3,941		(1,531)		-	-		35,049		(695)
Energy and														
resources		8,002	(84)		1,833		(661)		-	-		9,090		(85)
Power and														
renewables		5,075	63		271		(18)		-	-		5,391		60
Total real assets		92,054	(565)		8,508		(7,982)		-	-		92,015		(1,441)
Investment														
receivables														
Derivative														
assets		1	3		-		(00)			-		4		3
Other		67	32		-		(99)			-		-		-
Total investment		CO	25				(00)							
receivables		68	35	_	-	_	(99)		-	A (4.000)	_	4		3
Total	\$	213,023	\$ 7,023	\$	33,193	\$	(24,420)	\$	621	\$ (1,353)	\$	228,087	\$	5,890

(Unaudited)

		F	or the year e	ended March 3	1, 2019			
			· · · · · · · · · · · · · · · · · · ·					Change in
								unrealized
								gains (losses)
								on
		Gain (loss)						investments
	Fair value as	included in			Transfers	Transfers	Fair value as	still held
	at April 1,	investment			into	out of	at March 31,	,
(CAD millions)	2018	income	Purchases	Sales ¹	Level 3 ²	Level 3 ²	2019	2019 ^{3,4}
Investments								
Equities								
Public equities	\$ 273	\$ 20	\$ -	\$ (85)	\$ -	\$ -	\$ 208	\$ 15
Private equities	74,563	12,712	22,191	(11,816)	1	(992)	96,659	6,488
Total equities	74,836	12,732	22,191	(11,901)	1	(992)	96,867	6,503
Fixed income								
Other debt	16,626	(162)	12,851	(6,911)	246	(540)	22,110	115
Absolute return								
strategies	1,585	68	550	(279)	-	-	1,924	57
Real assets								
Real estate	44,712	1,705	2,868	(3,439)	-	-	45,846	1,524
Infrastructure	27,450	3,257	2,952	(528)	-	-	33,131	3,301
Energy and								
resources	5,729	49	2,829	(605)	-	-	8,002	28
Power and								
renewables	2,949	8	2,387	(269)	-	-	5,075	9
Total real assets	80,840	5,019	11,036	(4,841)	-	-	92,054	4,862
Investment								
receivables								
Derivative								
assets	-	2	-	(1)	-	-	1	1
Other	6	(32)	93		<u>-</u>	-	67	(32)
Total investment								
receivables	6	(30)	93	(1)	-	-	68	(31)
Total	\$ 173,893	\$ 17,627	\$ 46,721	\$ (23,933)	\$ 247	\$ (1,532)	\$ 213,023	\$ 11,506

¹ Includes return of capital.

During the nine months ended December 31, 2019 and the year ended March 31, 2019, transfers into and out of Level 3 were primarily due to changes in the availability of market observable inputs used to determine fair value.

² Transfers into and out of Level 3 are deemed to have occurred at the end of period values.

³ Includes the entire change in fair value for the period for those investments that were transferred into Level 3 during the period, and excludes the entire change in fair value for the period for those investments that were transferred out of Level 3 during the period.

⁴ Included in investment income.

2.4. Level 3 – Significant unobservable inputs

The following presents fair values of the investments held by CPP Investments and its investment holding subsidiaries categorized within Level 3 of the fair value hierarchy, valuation techniques used to determine their fair values, and ranges and weighted averages of unobservable inputs:

	As at December 31, 2019											
			Significant									
		Primary valuation	unobservable	Range of	Weighted							
(CAD millions)	Fair value	techniques used ^{1,2}	inputs	input values ³	average ³							
Public equities												
Fund investments	\$ 223	Net asset value provided	-	-	-							
		by investment manager										
Private equities												
Direct	43,825	Earnings multiples of	EBITDA multiple	4.5X-38.9X	16.2X							
		comparable companies										
		Discounted cash flow	Discount rate	7.0%-13.0%	12.2%							
	12,477	Value provided by	-	-	-							
		investment manager										
Fund investments	53,102	Net asset value provided	-	-	-							
		by investment manager										
Other debt												
Direct private debt	11,665	Discounted cash flow	Discount rate	4.8%-39.4%	10.7%							
	1,917	Value provided by	-	-	-							
		investment manager										
Direct private real	5,275	Discounted cash flow	Discount rate	4.4%-10.0%	6.4%							
estate debt												
Asset-backed securities	2,539	Comparable pricing	Price	85.7%-101.3%	99.7%							
Fund investments	2,519	Net asset value provided	-	-	-							
		by investment manager										
Absolute return												
strategies												
Fund investments	2,526	Net asset value provided	-	-	-							
		by investment manager										
Real estate												
Direct	18,188	Discounted cash flow	Discount rate	5.0%-14.3%	6.7%							
			Terminal	3.3%-10.5%	5.5%							
			capitalization rate									
	21,640	Net asset value provided	-	-	-							
		by investment manager										
Fund investments	2,657	Net asset value provided	-	-	-							
		by investment manager										
Infrastructure												
Direct	35,049	Discounted cash flow	Discount rate	7.0%-13.8%	8.4%							
Energy and Resources												
Direct	9,090	Discounted cash flow	Discount rate	9.0%-15.0%	11.1%							
Power and Renewables												
Direct	5,391	Discounted cash flow	Discount rate	7.9%-14.2%	10.3%							
Investment receivables												
Derivative assets	4	Option model	Market volatility	30.0%	30.0%							
Total	\$ 228,087											

(Unaudited)

		As at M	larch 31, 2019		
			Significant		
		Primary valuation	unobservable	Range of input	Weighted
(CAD millions)	Fair value	techniques used ^{1,2}	inputs	values ³	average ³
Public equities					
Fund investments	\$ 208	Net asset value provided by	-	-	-
		investment manager			
Private equities					
Direct	38,106	Earnings multiples of	EBITDA multiple	6.1X-16.9X	13.0X
		comparable companies			
		Discounted cash flow	Discount rate	11.6%-13.0%	12.6%
	9,340	Value provided by	-	-	-
		investment manager			
Fund investments	49,213	Net asset value provided by	-	-	-
		investment manager			
Other debt					
Direct private debt	10,534	Discounted cash flow	Discount rate	6.9%-29.4%	11.5%
	2,191	Value provided by	-	-	-
		investment manager			
Direct private real estate debt	5,084	Discounted cash flow	Discount rate	4.5%-11.0%	6.7%
Asset-backed securities	2,010	Comparable pricing	Price	97.7%-103.7%	99.5%
Fund investments	2,291	Net asset value provided by	-	-	_
		investment manager			
Absolute return					
strategies					
Fund investments	1,924	Net asset value provided by	-	-	-
		investment manager			
Real estate					
Direct	17,862	Discounted cash flow	Discount rate	5.0%-14.3%	6.7%
			Terminal	3.7%-10.5%	5.5%
			capitalization		
			rate		
	25,353	Net asset value provided by	-	-	-
		investment manager			
Fund investments	2,631	Net asset value provided by	-	-	-
Infrastructure		investment manager			
Direct	33,080	Discounted cash flow	Discount rate	7.0%-11.9%	8.7%
Fund investments	,		Discount rate	7.0%-11.9%	8.7%
runa investinents	51	Net asset value provided by investment manager	-	-	-
Energy and Resources					
Direct	8,002	Discounted cash flow	Discount rate	9.0%-15.0%	11.0%
Power and Renewables					
Direct	5,075	Discounted cash flow	Discount rate	7.9%-14.4%	10.4%
Investment receivables					
Derivative assets	1	Option model	Market volatility	30.0%	30.0%
Other	67	Discounted cash flow	Discount rate	9.2%-10.4%	10.1%
Total	\$ 213,023				

¹ In certain cases, external valuations are prepared by a third party and hence, valuation information is not available.

 $^{^{2}}$ May include certain recently acquired investments held at cost, which approximates fair value.

³ The range of input values represents the highest and lowest inputs used to value the investments in a particular asset class. The weighted average of the input values is calculated based on the relative fair values of the investments within the asset class. The diversity of investments reported within each asset class, such as the geographic location and industry sector of the investments, may result in certain ranges of inputs being wide and unevenly distributed across the range.

2.5. Sensitivity analysis of valuations using unobservable inputs

Significant changes in any of the above unobservable inputs would result in a significantly higher or lower fair value measurement. The interrelationship of significant unobservable inputs and fair value measurement for the most significant key inputs identified in the table above is as follows:

- An increase (decrease) in the EBITDA multiple will result in a higher (lower) fair value.
- An increase (decrease) in the discount rate and terminal capitalization rate will result in a lower (higher) fair value.

The fair value of these direct investments classified within Level 3 of the fair value hierarchy above are based on accepted industry valuation methods that may include the use of estimates made by management, appraisers or both where significant judgment is required. By using valuation methods based on reasonable alternative assumptions, different fair values could result. With all other variables held constant, the use of reasonable alternative assumptions would result in a decrease of \$6,000 million (March 31, 2019 - \$7,900 million) or increase of \$5,300 million (March 31, 2019 - \$5,600 million) in net assets. This sensitivity analysis is subject to the exercise of judgment and excludes investments where fair values are provided by investment managers as the underlying assumptions used are not available to CPP Investments.

3. Derivatives

3.1. Fair value of derivatives

The fair value of derivative contracts is as follows:

	As at Decem	nber 31, 2019	As at March 31, 2019					
	Positive fair	Negative fair	Positive fair	Negative fair				
(CAD millions)	value	value	value	value				
Equity contracts								
Futures	\$ -	\$ -	\$ -	\$ -				
Swaps	2,418	(1,688)	2,164	(1,596)				
Options:								
Over-the-counter – purchased	9	-	1	-				
Over-the-counter – written	-	(37)	-	(41)				
Warrants	4	-	1	=				
Total equity contracts	2,431	(1,725)	2,166	(1,637)				
Foreign exchange contracts								
Forwards	259	(343)	88	(135)				
Options:								
Over-the-counter – purchased	103	-	1	-				
Over-the-counter – written	-	(74)	-	(12)				
Total foreign exchange contracts	362	(417)	89	(147)				
Interest rate contracts								
Futures	-	-	-	-				
Forwards	-	-	-	-				
Swaps	633	(129)	692	(206)				
Options:								
Exchange-traded – purchased	-	-	2	-				
Exchange-traded – written	-	-	-	(1)				
Over-the-counter – purchased	25		1	-				
Over-the-counter – written		(79)	-	(46)				
Total interest rate contracts	658	(208)	695	(253)				
Credit contracts								
Purchased credit default swaps	3	(26)	7	(229)				
Written credit default swaps	27	(3)	235	(8)				
Options:								
Over-the-counter – purchased	-	-	-	-				
Over-the-counter – written	-	(10)	-	(9)				
Total credit contracts	30	(39)	242	(246)				
Commodity contracts								
Futures	-	-	-	-				
Options:								
Exchange-traded – purchased	2	-	-	-				
Exchange-traded – written	-	(65)		(47)				
Total commodity contracts	2	(65)	-	(47)				
Total	\$ 3,483	\$ (2,454)	\$ 3,192	\$ (2,330)				

3.2. Notional amounts of derivatives by terms to maturity

The terms to maturity of the notional amounts of derivatives are as follows:

					Terms	to m	aturity		
									As at
			Δs at	Dece	mber 31, 2	2019			March 31, 2019
	-	Within	1 to 5	Dette	6 to 10	-013	Over 10		 2013
(CAD millions)		1 year	years		years		years	Total	Total
Equity contracts									
Futures	\$	14,968	\$ 128	\$	-	\$	-	\$ 15,096	\$ 6,386
Swaps		127,434	5,844		-		-	133,278	108,367
Options:									
Over-the-counter – purchased		659	10		-		-	669	1
Over-the-counter – written		2,234	-		-			2,234	1,918
Warrants		1	10		22		-	33	26
Total equity contracts		145,296	5,992		22		-	151,310	116,698
Foreign exchange contracts									
Forwards		913	26,807		2,783		-	30,503	16,969
Options:									
Over-the-counter – purchased		3,386	921		-		-	4,307	375
Over-the-counter – written		7,636	53		-		-	7,689	4,282
Total foreign exchange contracts		11,935	27,781		2,783		-	42,499	21,626
Interest rate contracts									
Futures		7,953	-		-		-	7,953	4,110
Forwards		1,221	-		-		-	1,221	2,707
Swaps		78,270	32,958		12,552		15,233	139,013	93,429
Options:									
Exchange-traded – purchased		-	-		-		-	-	26,719
Exchange-traded – written		-	-		-		-	-	26,719
Over-the-counter – purchased		3,138	154		-		-	3,292	675
Over-the-counter – written		9,280	961		-		-	10,241	4,809
Total interest rate contracts		99,862	34,073		12,552		15,233	161,720	159,168
Credit contracts									
Purchased credit default swaps		1,060	8,019		-		-	9,079	13,772
Written credit default swaps		1,133	16,251		902		-	18,286	15,337
Options:									
Over-the-counter – purchased		130	-		-		-	130	-
Over-the-counter – written		6,484	-		-		-	6,484	4,676
Total credit contracts		8,807	24,270		902		-	33,979	33,785
Commodity contracts									
Futures		3,040	-		-		-	3,040	3,408
Options:									
Exchange-traded – purchased		56	-		-		-	56	-
Exchange-traded – written		3,075	-		-		-	3,075	1,847
Total commodity contracts		6,171	-		-		-	6,171	5,255
Total	\$	272,071	\$ 92,116	\$	16,259	\$	15,233	\$ 395,679	\$ 336,532

(Unaudited)

4. Net investment income

4.1. Net investment income by nature

	For the three	ee months ended
(CAD millions)	December 31, 2019	December 31, 2018
Interest, dividends, and other investment income ¹	\$ 1,107	\$ 1,131
Realized gains on private equities and real assets ²	639	33
Unrealized (losses) gains on private equities and real assets ²	(610)	1,384
Unrealized gains on investment holding subsidiaries ² (note 4.2)	6,325	8,581
Realized and unrealized gains (losses) on public and other investments ^{2,3}	7,952	(6,318)
Total investment income	15,413	4,811
Investment management fees ⁴	(398)	(362)
Transaction costs⁵	(168)	(175)
Net investment income	\$ 14,847	\$ 4,274

¹ Net of interest expense on debt financing liabilities of \$158 million (December 31, 2018 - \$141 million).

⁵ Includes transaction costs of \$82 million (December 31, 2018 - \$115 million) incurred by investment holding subsidiaries.

		For the nine	months	ended
(CAD millions)	Decemb	er 31, 2019	Decen	nber 31, 2018
Interest, dividends, and other investment income ¹	\$	3,791	\$	3,937
Realized gains on private equities and real assets ²		456		44
Unrealized (losses) gains on private equities and real assets ²		(997)		2,208
Unrealized gains on investment holding subsidiaries ² (note 4.2)		12,935		15,885
Realized and unrealized gains (losses) on public and other investments ^{2,3}		14,262		(6,754)
Total investment income		30,447		15,320
Investment management fees ⁴		(1,280)		(1,270)
Transaction costs ⁵		(365)		(398)
Net investment income	\$	28,802	\$	13,652

¹ Net of interest expense on debt financing liabilities of \$481 million (December 31, 2018 - \$355 million).

² Includes foreign currency gains or losses.

³ Consists of investment income from public equities, fixed income, absolute return strategies, derivatives and other.

⁴ Includes investment management fees of \$300 million (December 31, 2018 - \$291 million) incurred by investment holding subsidiaries.

² Includes foreign currency gains or losses.

³ Consists of investment income from public equities, fixed income, absolute return strategies, derivatives and other.

⁴ Includes investment management fees of \$883 million (December 31, 2018 - \$875 million) incurred by investment holding subsidiaries.

⁵ Includes transaction costs of \$147 million (December 31, 2018 - \$173 million) incurred by investment holding subsidiaries.

(Unaudited)

4.2. Supplemental information on investment income

The unrealized gains generated from investment holding subsidiaries are a composite of the following income and expenses:

	-	For the thr	ee m	onths ended
(CAD millions)	Decem	nber 31, 2019	Dec	cember 31, 2018
Interest, dividends, and other investment income	\$	1,299	\$	985
Realized gains on private equities and real assets ¹		3,531		1,662
Unrealized gains on private equities and real assets ¹		947		6,208
Realized and unrealized gains (losses) on public and other investments ^{1,2}		548		(274)
Dividends paid to CPP Investments		-		-
Investment income from investment holding subsidiaries	\$	6,325	\$	8,581

		For the ni	ne months ended
(CAD millions)	De	cember 31, 2019	December 31, 2018
Interest, dividends, and other investment income		\$ 3,561	\$ 3,406
Realized gains on private equities and real assets ¹		6,049	4,220
Unrealized gains on private equities and real assets ¹		2,170	7,492
Realized and unrealized gains on public and other investments ^{1,2}		1,156	767
Dividends paid to CPP Investments		(1)	-
Investment income from investment holding subsidiaries		\$ 12,935	\$ 15,885

¹ Includes foreign currency gains or losses.

5. Segment information

5.1. Investment segments

5.1.1. Net income (loss) from operations by investment segment

	For the three months ended December 31, 2019													
		Total Portfolio		Capital Markets d Factor		Active		Credit		Private		Real		
(CAD millions)	Ma	nagement	In	vesting		Equities	Inv	estments		Equity		Assets		Total
Investment income	\$	7,537	\$	625	\$	1,193	\$	340	\$	3,542	\$	2,176	\$	15,413
Expenses ¹		(64)		(240)		(63)		(54)		(230)		(215)		(866)
Net income from														
operations	\$	7,473	\$	385	\$	1,130	\$	286	\$	3,312	\$	1,961	\$	14,547

		For	the t	hree moi	nths	ended De	cem	ber 31, 201	.8				
				Capital									
		Total	1	Markets									
		Portfolio	and	d Factor		Active		Credit		Private			
(CAD millions)	Ma	anagement	Ir	nvesting		Equities	ln۱	estments		Equity	Rea	al Assets	Total
Investment income (loss)	\$	(4,412)	\$	(359)	\$	(1,438)	\$	1,884	\$	4,845	\$	4,291	\$ 4,811
Expenses ¹		(69)		(246)		(54)		(47)		(215)		(205)	(836)
Net income (loss) from													
operations	\$	(4,481)	\$	(605)	\$	(1,492)	\$	1,837	\$	4,630	\$	4,086	\$ 3,975

² Consists of investment income from public equities, fixed income, absolute return strategies, derivatives and other.

(Unaudited)

		For	the	nine mon	ths	ended De	ceml	oer 31, 201	.9			
		Total Portfolio		Capital Markets d Factor		Active		Credit		Private	Real	
(CAD millions)	Ma	nagement	- II	nvesting		Equities	Inv	estments		Equity	Assets	Total
Investment income	\$	13,554	\$	1,017	\$	3,507	\$	1,218	\$	9,404	\$ 1,747	\$ 30,447
Expenses ¹		(209)		(875)		(193)		(137)		(632)	(479)	(2,525)
Net income from												
operations	\$	13,345	\$	142	\$	3,314	\$	1,081	\$	8,772	\$ 1,268	\$ 27,922

	For the nine months ended December 31, 2018														
		Total Portfolio		Capital Markets I Factor		Active		Credit		Private					
(CAD millions)	N 4 -	anagement		vesting		Equities	lm	estments		Equity	Bo.	al Assets		Total	
· · · · · · · · · · · · · · · · · · ·	IVI		. 111			Equities	1111	resuments			ne c	ai Assets		TOLAT	
Investment income (loss)	\$	(3,492)	\$	(16)	\$	262	\$	2,980	\$	9,833	\$	5,753	\$	15,320	
Expenses ¹		(195)		(857)		(188)		(119)		(583)		(544)		(2,486)	
Net income (loss) from															
operations	\$	(3,687)	\$	(873)	\$	74	\$	2,861	\$	9,250	\$	5,209	\$	12,834	

¹ Includes investment management fees, transaction costs and operating expenses.

5.1.2. Net assets (liabilities) by investment segment

			Ne	et as	sets (liabil	ities)			
(CAD millions)	 al Portfolio nagement¹	N and	Capital Markets Factor vesting		Active Equities	Inv	Credit	Private Equity	Real Assets	Total
As at:										
December 31, 2019	\$ 182,310	\$	759	\$	1,182	\$	41,617	\$ 98,644	\$ 95,919	\$ 420,431
March 31, 2019	172,599		(31)		1,047		36,579	87,696	94,090	391,980

Net assets attributable to Total Portfolio Management include debt financing liabilities of \$32,218 million (March 31, 2019 - \$30,861 million) and net corporate assets of \$134 million (March 31, 2019 - net corporate liabilities of \$14 million).

5.2. Geographic information

Net investments are presented in the table below based on the region to which they have primary economic exposure:

	Net investments ¹												
Europe													
(CAD millions)		Canada		U.S.		Asia	(exclu	ding U.K.)		U.K.		Other	Total
As at:													
December 31, 2019	\$	62,067	\$	142,123	\$	103,235	\$	52,300	\$	24,060	\$	36,512	\$ 420,297
March 31, 2019		60,897		131,196		90,060		53,959		22,078		33,804	391,994

¹ Includes debt financing liabilities of \$3,549 million, \$21,036 million and \$7,633 million (March 31, 2019 - \$3,828 million, \$20,803 million, and \$6,230 million), based on the currencies of the issuances, in Canada, the U.S., and Europe (excluding the U.K.), respectively.

(Unaudited)

6. Risk management

6.1. Total portfolio risk

A suite of risk measures is used within CPP Investments to monitor and assess the risk profile of the base CPP Investment Portfolio and the additional CPP Investment Portfolio (collectively the Investment Portfolios). Regular risk reports are provided to senior management and the Board to support the governance of the various dimensions of investment risks to which the Investment Portfolios are exposed. As at April 1, 2019, a series of additional investment risk limits came into effect to align with the new risk appetite statements developed as part of the enhancement to the Integrated Risk Framework, as described on pages 46 to 51 in CPP Investments' 2019 Annual Report. While CPP Investments has changed the articulation of its risk appetite, which sets the upper and lower limits for risk taking, the target level of risk of the Investment Portfolios has not changed materially.

Central to the new investment risk limits is the concept of plan adjustment risk which has been defined as the risk of increases in the minimum contribution rates for the CPP due solely to adverse investment experience. It is an overarching measure that is impacted by market, credit, and liquidity risk. The additional investment risk governance measures include: percentage probability of plan adjustment, acceptable potential investment losses over one and five-year horizons, and liquidity coverage ratio.

- Plan adjustment risk: The percentage probability of a 0.25% increase in the minimum contribution rate, over a 20-year horizon, due solely to adverse investment experience.
- Potential investment losses: The reported loss of the Investment Portfolios over a one and five-year horizon is not expected to exceed the established limit of fund value for that horizon 19 times out of 20. It is based on the value at risk measure at a 95 percent confidence level.

The monitoring of adherence to investment risk limits is conducted independently by the Risk Group using both industry standards and internally developed risk models.

The table below provides a summary of the key investment risk governance measures of the base CPP Investment Portfolio. For the liquidity coverage ratio, refer to the Liquidity risk note (note 9).

				D	Asecember 31, 20	s at 019	A March 31, 2	s at 019
(CAD millions, unless otherwise specifie	Liı	mit		base C	PP ³	base CPF		
Plan adjustment risk		30	%		23	%	23	%
Potential investment loss:								
One-year horizon	\$	80,000		\$	72,788		\$ 66,745	
Five-year horizon ¹		25	%		13	%	15	%
Equity/Debt risk equivalency ratio ²		55 - 100	%		86	%	87	%

¹ Percentage of investment value.

7. Market risk

Market risk is the risk that the fair value or future cash flows of an investment or investment liability will fluctuate because of changes in market prices and rates. Market risk includes equity risk, interest rate risk, spread risk and currency risk. The sensitivity of these risks is summarized in the tables below.

² Conditional value at risk is measured to calculate the Equity/Debt Risk Equivalency Ratio.

The additional risk governance measures of the additional CPP Investment Portfolio are under development and will be presented to the Board for approval within the year.

(Unaudited)

7.1. Equity

The Investment Portfolios are invested in both publicly traded and private equities. Equity risk, which is the risk that the fair value or future cash flows will fluctuate because of changes in equity prices, is a significant source of risk of the Investment Portfolios. The table below presents the effect of a 1% decrease/increase in the S&P 500 index on loss/profit of public equity investments, with all other variables held constant.

(CAD millions)	As a	As at March 31, 2019	
	The state of the s	mpact of 1% decrease in t	he S&P 500 index
Loss on public equity investments	\$	(1,088) \$	(1,021)

7.2. Interest rate

Interest rate risk is the risk that the fair value or future cash flows of an investment or investment-related liability will fluctuate because of changes in market interest rates. The Investment Portfolios are exposed to interest rate risk primarily through holdings of fixed income securities, certain investment liabilities and interest rate derivatives.

7.2.1. Interest rate risk sensitivity¹

With all other variables held constant, a 25 basis points increase/decrease in nominal risk-free rates would result in a decrease/increase in the value of investments directly impacted by interest rate changes as follows:

(CAD millions)	A	s at December 31, 2019		As at March 31, 2019				
Maturity	Impact of increase of							
Within 1 year	\$	1	\$	14				
1 to 5 years		(564)		(557)				
6 to 10 years		(438)		(434)				
Over 10 years		(1,183)		(1,091)				
Total decrease in investment value	\$	(2,184)	\$	(2,068)				

 $^{^{\, 1}}$ This sensitivity only applies to debt instruments and interest rate sensitive derivatives.

The Investment Portfolios' sensitivity to various countries' risk free rates is as follows:

	As at December 31,	As at December 31, 2019					
Region							
Canada	3	7 %	39 %				
United States	4	2	43				
Europe		9	11				
Other	1	2	7				
Total	10) %	100 %				

(Unaudited)

7.3. Spread risk

Spread risk is the difference in yield on certain securities compared to a comparable risk free security (i.e. government issued) with the same maturity date. Spread risk is the risk that the fair value of these securities will fluctuate because of changes in spread. With all other variables held constant, an increase in spread rates would result in a decrease in assets or an increase in liabilities.

	As at	As at
	December 31, 2019	March 31, 2019
Percentage of credit risk in A or better rated debt	61 %	75 %

(CAD millions)	As at Decem	ber 31, 2019	As at March 31, 2019					
	Impact of 1 basis point widening of credit							
Decrease in net assets	\$	33	\$	31				

7.4. Currency

The Investment Portfolios are exposed to currency risk through holdings of investments or investment liabilities in various currencies. Fluctuations in the relative value of foreign currencies against the Canadian dollar can result in a positive or negative effect on the fair value or future cash flows of these investments and investment liabilities.

7.4.1. Currency risk exposures and sensitivity

The net currency exposures after allocating foreign currency derivatives, in Canadian dollars, are as follows:

(CAD millions)	As at December 3	31, 2019			As at March 3	1, 2019	
	Net	% of			Net	% of	
Currency	exposure	total			exposure	total	
United States dollar	\$ 223,351	53	%	\$	204,605	52	%
Euro	36,137	9			33,539	9	
British pound sterling	19,660	5			18,219	5	
Chinese renminbi	14,361	3			12,577	3	
Australian dollar	13,374	3			13,587	3	
Hong Kong dollar	10,369	2			10,376	3	
Japanese yen	9,452	2			8,416	2	
Indian rupee	8,060	2			6,509	2	
Brazilian real	6,034	1			3,620	1	
Mexican peso	2,659	1			1,785	-	
Swiss franc	2,444	1			2,623	1	
Chilean peso	2,361	1			2,722	1	
Other	10,589	2			13,224	3	
Total foreign exposure	358,851	85		•	331,802	85	
Canadian dollar	61,446	15			60,192	15	
Total	\$ 420,297	100	%	\$	391,994	100	%

With all other variables and underlying values held constant, a 10% appreciation/depreciation of the Canadian dollar against all other currencies would result in a decrease/increase in net investments by \$35,885 million (March 31, 2019 - \$33,180 million).

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(Unaudited)

8. Credit risk

Credit risk is the risk of financial loss due to a counterparty failing to meet its contractual obligations, or a reduction in the value of the assets due to a decline in the credit quality of the underlying entity.

8.1. Counterparty exposures

(CAD mil	lions)				As at De	cemb	oer 31, 2019)			As at March 31, 2019		
Credit rating		Bonds ¹	se	Money market curities ¹	Reverse purchase eements ¹	Over- he-counter derivatives		Other debt ^{1,2}		Total	% of total	Total	% of total	
AAA	\$	31,472	\$	722	\$ -	\$ 1	\$	1,010	\$	33,205	24 %	\$ 24,086	20 %	
AA		31,102		4,219	4,004	324		877		40,526	29	37,230	30	
Α		27,129		3,205	3,053	3,067		270		36,724	26	37,101	30	
BBB		6,164		-	751	85		1,904		8,904	6	7,684	6	
ВВ		4,548		1,387	-	-		3,903		9,838	7	5,837	5	
В		909		-	-	-		9,182		10,091	7	9,114	8	
CCC/D		394		-	-	-		1,028		1,422	1	1,647	1	
Total	\$	101,718	\$	9,533	\$ 7,808	\$ 3,477	\$	18,174	\$	140,710	100 %	\$ 122,699	100 %	

¹ Includes accrued interest.

8.2. Credit value at risk

In addition to incorporating credit risk within the potential investment loss measures as described in note 6.1, a standalone measure for losses due to defaults and credit rating migration is also monitored. A Monte Carlo simulation that incorporates likelihood of default, credit rating migration and recovery in the event of default for underlying credit instruments is adopted to quantify this dimension of risk. Credit value at risk, at a 99% confidence level, implies there is a 1% chance that the credit instruments in the Investment Portfolios will lose more than the amounts shown below in any given year due to default and credit migration risk.

(CAD millions)	A	As a	t March 31, 2019		
	base CPP	additional CPP	base CPP		additional CPP
Credit value at risk	\$ 5,931	\$ 14	\$ 5,317	\$	3

9. Liquidity risk

Liquidity risk includes two main components:

- Solvency risk The risk of failing to obtain the funds needed to meet payment obligations as they come due.
- Portfolio rebalancing risk The risk that CPP Investments is unable to fund investment programs and optimize/rebalance the Investment Portfolios.

Liquidity risk increases by the use of various forms of leverage which CPP Investments uses to manage certain other risks and enhance Fund returns. The use of leverage is governed through various liquidity risk limits which require sufficient liquidity to be available to manage both components of liquidity risk.

² Includes direct investments in private debt and asset-backed securities.

(Unaudited)

The table below presents the unsecured credit facilities that CPP Investments maintained at each reporting date. There were no credit facilities drawn as at December 31, 2019 and March 31, 2019.

(CAD millions)	As at Decemb	er 31, 2019	As at March 31, 2019		
Unsecured credit facilities held	\$	6,039	\$ 6,176		

An additional measure, the liquidity coverage ratio, has been introduced as described in note 6.1. The liquidity coverage ratio measures the level of liquidity CPP Investments maintains to meet all CPP and investment obligations over any 10-day period. It measures the amount of liquid securities available to meet CPP Investments' payment obligations as they become due, to fund investment programs and to rebalance the portfolio in periods of market stress, all without realizing unacceptable losses.

	Limit	As at December 31, 2019	As at March 31, 2019
Liquidity coverage ratio	1.0x	1.8x	2.8x

9.1. Terms to maturity

The tables below present the contractual maturities of investments and investment liabilities of CPP Investments and its investment holding subsidiaries:

Non-derivative investments

		Term	s to matur	ity				
								As at
		As	at Decemb	er 31, 2019			March 3	1, 2019
						Average		Average
	Within	1 to 5	6 to 10	Over 10		effective	_	ffective
(CAD millions)	1 year	years	years	years	Total ³	yield	Total ³	yield
Non-marketable bonds								
Canadian provincial government	\$ 1,551 \$	6,162 \$	2,145 \$	12,679 \$	22,537	2.5 %	\$ 23,439	2.7 %
Marketable bonds								
Government of Canada	7,672	8,503	644	551	17,370	1.7	8,553	1.7
Canadian provincial government	276	531	2,073	3,402	6,282	2.5	6,158	2.7
Canadian government								
corporations	-	2,132	761	692	3,585	1.6	3,281	2.2
Foreign government	1,109	15,830	9,850	14,822	41,611	2.4	36,470	2.3
Corporate bonds	46	3,755	3,828	1,872	9,501	3.5	7,703	4.4
Other debt								
Private debt ¹	431	4,474	6,020	640	11,565	8.2	11,350	8.1
Private real estate debt1	416	1,762	3,055	-	5,233	6.4	5,001	6.7
Asset-backed securities	25	131	246	2,137	2,539	3.1	2,010	3.0
Securities purchased under								
reverse repurchase								
agreements	7,808	-	-	-	7,808	2.2	8,205	0.8
Cash collateral pledged on								
securities borrowed ²	2,288	-	-	-	2,288	n/a	2,969	n/a
Total	\$ 21,622 \$	43,280 \$	28,622 \$	36,795 \$	130,319	n/a	\$ 115,139	n/a

¹ Includes direct investments and excludes fund investments.

² Relates to cash collateral, which has no effective yield.

³ Represents fair value.

(Unaudited)

Non-derivative investment liabilities

			Т	erms to ma	turity					
			As at D	ecember 31	l, 20 19			As a	at March	31, 2019
							Weighted			Weighted
							average			average
	Within	1 to 5	6 to 10	Over 10		Fair	interest		Fair	interest
(CAD millions)	1 year	years	years	years	Total ⁴	value	rate	Total ⁴	value	rate
Securities sold under										
repurchase										
agreements	\$ 43,609 \$	- \$	- \$	- \$	43,609 \$	43,570	1.7 %	\$ 38,548 \$	\$ 38,375	2.3 %
Cash collateral received										
on securities lent1	3,802	-	-	-	3,802	3,802	n/a	1,116	1,116	n/a
Securities sold short ^{2,3}	22,146	-	-	-	22,146	22,146	n/a	29,027	29,027	n/a
Debt financing										
liabilities										
Commercial paper										
payable	6,087	-	-	-	6,087	6,077	2.0	4,378	4,323	2.7
Term debt	2,604	13,285	6,549	2,911	25,349	26,141	1.2	26,099	26,538	1.6
Total	\$ 78,248 \$	13,285 \$	6,549 \$	2,911 \$	100,993 \$	101,736	n/a	\$ 99,168	\$ 99,379	n/a

¹ Relates to cash collateral, which has no effective yield.

10. Collateral

The net fair value of collateral held and pledged was as follows:

	As at	As at
(CAD millions)	December 31, 2019	March 31, 2019
Third-party assets held as collateral on ¹ :		
Reverse repurchase agreements	\$ 7,815	\$ 8,207
Over-the-counter derivative transactions	1,777	965
Securities lent ²	3,978	1,627
Other debt	767	772
Own and third-party assets pledged as collateral on:		
Repurchase agreements	(43,590)	(38,383)
Securities sold short ³	(28,857)	(34,549)
Over-the-counter derivative transactions	(1,097)	(407)
Private equities	(8,172)	(7,849)
Other debt	(4,558)	(4,562)
Total	\$ (71,937)	\$ (74,179)

¹ The fair value of the collateral held that may be sold or repledged as at December 31, 2019 was \$8,898 million (March 31, 2019 - \$9,557 million). The fair value of collateral sold or repledged as at December 31, 2019 was \$4,503 million (March 31, 2019 - \$3,504 million).

² Considered repayable within one year based on the earliest period in which the counterparty could request payment under certain conditions.

³ Includes equities sold short for which the average interest rate is not applicable.

⁴ Represents contractual amounts.

² Includes cash collateral of \$3,802 million (March 31, 2019 – \$1,116 million). The fair value of securities lent as at December 31, 2019 was \$3,960 million (March 31, 2019 – \$1,602 million).

³ The fair value of securities borrowed as at December 31, 2019 was \$20,529 million (March 31, 2019 – \$27,110 million) of which \$19,679 million was sold or repledged (March 31, 2019 – \$26,631 million) for securities sold short.

(Unaudited)

11. Commitments

CPP Investments and its investment holding subsidiaries have entered into commitments related to the funding of investments. These commitments are generally payable on demand based on the funding needs of the investment subject to the terms and conditions of each agreement. As at December 31, 2019, the unfunded commitments totalled \$52,704 million (March 31, 2019 - \$47,408 million).

12. Guarantees

As part of certain investment transactions, CPP Investments and its investment holding subsidiaries agreed to guarantee, as at December 31, 2019, up to \$4,654 million (March 31, 2019 - \$4,437 million) to other counterparties in the event certain investee entities default under the terms of loan and other related agreements.

13. Base CPP and additional CPP

The following note discloses the net assets, net investments and net income of the base CPP account and the additional CPP account.

13.1. Changes in net assets

The accumulated transfers from/to the CPP and its two parts, the base CPP and the additional CPP, as well as their accumulated net income since inception, are as follows:

					For t	he t	hree month	s ei	nded			
	Accumula	ited	net transfers	fro	m CPP			Accı	umulated net i	nco	ome	
	base		additional				base		additional			Total net
(CAD millions)	CPP		CPP		Total		CPP		CPP		Total	assets
As at October 1,												
2019	\$ 147,309	\$	1,180	\$	148,489	\$	260,968	\$	31	\$	260,999 \$	409,488
Total net income												
for the period	-		-		-		14,528		19		14,547	14,547
Transfers from												
CPP	6,439		217		6,656		-		-		-	6,656
Transfers to CPP	(10,260)		-		(10,260)		-		-		-	(10,260)
Balance as at												
December 31,												
2019	\$ 143,488	\$	1,397	\$	144,885	\$	275,496	\$	50	\$	275,546 \$	420,431

(Unaudited)

					For t	he ı	nine month	s en	ided		
	Accumula	ited	net transfers	fro	m CPP			Accı	umulated net inco	ome	
	base		additional				base		additional		Total net
(CAD millions)	CPP		CPP		Total		СРР		CPP	Total	assets
As at April 1, 2018	\$ 140,520	\$	-	\$	140,520	\$	215,614	\$	- \$	215,614	\$ 356,134
Total net income											
for the period	-		-		-		12,834		-	12,834	12,834
Transfers from											
CPP	26,587		-		26,587		-		-	-	26,587
Transfers to CPP	(27,064)		-		(27,064)		-		-	-	(27,064)
Balance as at											
December 31,											
2018	\$ 140,043	\$	-	\$	140,043	\$	228,448	\$	- \$	228,448	\$ 368,491
As at April 1, 2019	\$ 143,935	\$	421	\$	144,356	\$	247,622	\$	2 \$	247,624	\$ 391,980
Total net income											
for the period	-		-		-		27,874		48	27,922	27,922
Transfers from											
CPP	29,310		976		30,286		-		-	-	30,286
Transfers to CPP	(29,757)		-		(29,757)		-		-	-	(29,757)
Balance as at											
December 31,											
2019	\$ 143,488	\$	1,397	\$	144,885	\$	275,496	\$	50 \$	275,546	\$ 420,431

13.2. Net assets of base CPP and additional CPP

The net assets of the base CPP and the additional CPP are as follows:

		As at December	31, 2	2019
	base	additional		
(CAD millions)	СРР	СРР		Total
Cash and cash equivalents held for investment purposes	\$ 7,949	\$ 23	\$	7,972
Net investments other than cash and cash equivalents	410,914	1,411		412,325
Net investments	418,863	1,434		420,297
Premises and equipment	451	14		465
Other assets ¹	289	1		290
Accounts payable and accrued liabilities	(619)	(2)		(621)
Net assets	\$ 418,984	\$ 1,447	\$	420,431

		,	As at March 31,	2019	
	base		additional		
(CAD millions)	CPP		CPP		Total
Cash and cash equivalents held for investment purposes	\$ 8,606	\$	12	\$	8,618
Net investments other than cash and cash equivalents	382,979		397		383,376
Net investments	391,585		409		391,994
Premises and equipment	373		14		387
Other assets ¹	243		1		244
Accounts payable and accrued liabilities	(644)		(1)		(645)
Net assets	\$ 391,557	\$	423	\$	391,980

 $^{^{\}scriptsize 1}$ Includes cash held for operating purposes.

13.3. Schedule of investment portfolio for base CPP and additional CPP

The table below provides details of the investments and investment liabilities for the base CPP and the additional CPP:

	A	s at December 31, 201	9
	base	additional	
(CAD millions)	СРР	СРР	Total
Equities			
Public equities	\$ 140,510	\$ 276	\$ 140,786
Private equities	109,190	214	109,404
Total equities	249,700	490	250,190
Fixed income			
Bonds	100,085	801	100,886
Other debt	29,802	58	29,860
Money market securities	10,789	34	10,823
Total fixed income	140,676	893	141,569
Absolute return strategies	25,758	51	25,809
Real assets			
Real estate	42,402	83	42,485
Infrastructure	34,980	69	35,049
Energy and resources	9,072	18	9,090
Power and renewables	5,381	10	5,391
Total real assets	91,835	180	92,015
Investment receivables			
Securities purchased under reverse repurchase			
agreements and cash collateral pledged on securities			
borrowed	10,076	20	10,096
Derivative assets	3,476	7	3,483
Other	2,793	8	2,801
Total investment receivables	16,345	35	16,380
Total investments	\$ 524,314	\$ 1,649	\$ 525,963
Investment liabilities			
Securities sold under repurchase agreements and cash			
collateral received on securities lent	(47,279)	(93)	• • • • • • • • • • • • • • • • • • • •
Securities sold short	(22,102)	(44)	• • • • • • • • • • • • • • • • • • • •
Debt financing liabilities	(32,155)	(63)	• • • • • • • • • • • • • • • • • • • •
Derivative liabilities	(2,449)	(5)	
Other	(1,683)	(3)	(1,686)
Total investment liabilities	(105,668)	(208)	(105,876)
Pending trades receivable	2,941	6	2,947
Pending trades payable	(2,724)	(13)	(2,737)
Net investments	\$ 418,863	\$ 1,434	\$ 420,297

(Unaudited)

		As at I	March 31, 2019	
	base		additional	
(CAD millions)	CPP		CPP	Total
Equities				
Public equities	\$ 141,105	\$	84	\$ 141,189
Private equities	96,601		58	96,659
Total equities	237,706		142	237,848
Fixed income				
Bonds	85,379		225	85,604
Other debt	27,309		16	27,325
Money market securities	9,817		12	9,829
Total fixed income	122,505		253	122,758
Absolute return strategies	25,497		15	25,512
Real assets				
Real estate	45,819		27	45,846
Infrastructure	33,111		20	33,131
Energy and resources	7,997		5	8,002
Power and renewables	5,072		3	5,075
Total real assets	91,999		55	92,054
Investment receivables				
Securities purchased under reverse repurchase				
agreements and cash collateral pledged on securities				
borrowed	11,167		7	11,174
Derivative assets	3,190		2	3,192
Other	2,027		2	2,029
Total investment receivables	16,384		11	16,395
Total investments	\$ 494,091	\$	476	\$ 494,567
Investment liabilities				
Securities sold under repurchase agreements and cash				
collateral received on securities lent	(39,467)		(24)	(39,491)
Securities sold short	(29,010)		(17)	(29,027)
Debt financing liabilities	(30,843)		(18)	(30,861)
Derivative liabilities	(2,329)		(1)	(2,330)
Other	(1,154)		(1)	(1,155)
Total investment liabilities	(102,803)		(61)	(102,864)
Pending trades receivable	 4,689		3	4,692
Pending trades payable	(4,392)		(9)	(4,401)
Net investments	\$ 391,585	\$	409	\$ 391,994

13.4. Net income of base CPP and additional CPP

Details of net income of the base CPP and the additional CPP are as follows:

	For the three months ended December 31, 7								
(CAD millions)		base CPP		additional CPP		Total			
Investment income	\$	15,391	\$	22	\$	15,413			
Investment management fees		(397)		(1)		(398)			
Transaction costs		(167)		(1)		(168)			
Net investment income		14,827		20		14,847			
Operating expenses		(299)		(1)		(300)			
Net income	\$	14,528	\$	19	\$	14,547			

	For the	three	e months ended December	31, 2018 ¹
(CAD millions)	base CPP		additional CPP	Total
Investment income	\$ 4,811	\$	- \$	4,811
Investment management fees	(362)		-	(362)
Transaction costs	(175)		-	(175)
Net investment income	4,274		=	4,274
Operating expenses	(299)		-	(299)
Net income	\$ 3,975	\$	- \$	3,975

	e months ended De	ecen	nber 31, 2019		
(CAD millions)	base CPP		additional CPP		Total
Investment income	\$ 30,393	\$	54	\$	30,447
Investment management fees	(1,278)		(2)		(1,280)
Transaction costs	(364)		(1)		(365)
Net investment income	28,751		51		28,802
Operating expenses	(877)		(3)		(880)
Net income	\$ 27,874	\$	48	\$	27,922

	For the nine months ended December 31, 2018 ¹				
(CAD millions)		base CPP		additional CPP	Total
Investment income	\$	15,320	\$	- \$	15,320
Investment management fees		(1,270)		-	(1,270)
Transaction costs		(398)		=	(398)
Net investment income		13,652		=	13,652
Operating expenses		(818)		-	(818)
Net income	\$	12,834	\$	- \$	12,834

¹ For the three months and nine months ended December 31, 2018, there was no breakdown of the base CPP and the additional CPP as the additional CPP came into effect on January 1, 2019.