Rating Report

Canada Pension Plan Investment Board & CPPIB Capital Inc.

DBRS Morningstar
June 17, 2022

Jason Phan
Assistant Vice President, Credit Ratings
Canadian Structured Finance
+1 416 597-7514
jason.phan@dbrsmorningstar.com

Clara Vargas
Senior Vice President,
Canadian Structured Finance
+1 416 597-7473
clara.vargas@dbrsmorningstar.com

Shubhreen Dosanjh
Vice President, Legal Counsel
Canadian Structured Finance
+1 416 597-7459
shubhreen.dosanjh@dbrsmorningstar.com

Tim O'Neil
Managing Director,
Canadian Structured Finance
+1 416 597-7477
tim.oneil@dbrsmorningstar.com

Ratings

Issuing Entity	Debt	Rating	Rating Action	Trend
Canada Pension Plan Investment Board	Issuer Rating	AAA	Confirmed	Stable
CPPIB Capital Inc.	U.S. Commercial Paper Notes	R-1 (high)	Confirmed	Stable
CPPIB Capital Inc.	Canadian Short-Term Promissory Notes	R-1 (high)	Confirmed	Stable
CPPIB Capital Inc.	Euro Commercial Paper Notes	R-1 (high)	Confirmed	Stable
CPPIB Capital Inc.	Medium-Term Notes	AAA	Confirmed	Stable

Rating Update

DBRS Limited (DBRS Morningstar) confirmed the Issuer Rating of Canada Pension Plan Investment Board (CPP Investments or the Fund) at AAA. CPP Investments is the federal non-agent Crown corporation responsible for managing the assets of the Canada Pension Plan (CPP or the Plan). DBRS Morningstar also confirmed CPPIB Capital Inc.'s Canadian Short-Term Promissory Notes, U.S. Commercial Paper Notes, and Euro Commercial Paper Notes programs at R-1 (high) and CPPIB Capital Inc.'s Medium-Term Notes at AAA. All trends are Stable. DBRS Morningstar notes that the ratings on the short-term note programs and long-term notes are predicated on the unconditional guarantees provided by CPP Investments on issuances. Furthermore, the strong ratings primarily reflect CPP Investments exclusive legislated mandate to manage CPP assets (including the legislative protection entitling CPP Investments to retain at all times assets that have a fair market value not less than its liabilities, including the liabilities under the guarantees in respect of debt issued by CPPIB Capital Inc., its robust liquidity position, its low recourse debt burden, and the strong fundamentals of the Plan.

In December 2016, the Canada Pension Plan Act (the CPP Act), the Canada Pension Plan Investment Board Act (the CPPIB Act), and the Income Tax Act were amended to increase the amount of retirement pensions and benefits that will be paid from contributions made after 2018. Starting in January 2019, CPP Investments received and invested its first transfer of funds for the additional CPP. Although all assets are held by the Fund, contributions, benefits, and assets for the additional CPP are accounted for separately from the base CPP. Investment returns and benefits from the contributions made at the rates established before 2018 are managed through the base CPP account, while investment returns and benefits stemming from the increased contributions are managed through the additional CPP account.

The base CPP account and the additional CPP account delivered strong net returns in F2022 of 6.9% and 2.8%, respectively. On an aggregated basis, the total Fund earned a net return of 6.8%, outperforming the aggregated Reference Portfolio's return of 4.7% by 2.1%. The Fund's return was largely driven by strong performance in private and public equities, amid ultra-low interest rates and strong global equity

Contents

1 Ratings
1 Rating Update
3 Issuer Description
3 Financial Information
3 Rating Considerations
5 Investment Performance
8 Net Asset Position
11 Investment Portfolio Profile
14 About CPP Investments
15 About CPP
16 Structure of Guarantee from CPP Investments to CPPIB Capital Inc.
16 Ranking and Legal Issues
18 ESG Checklist
19 Rating History
19 Related Research
19 CPPIB Capital Inc. Debt Limits
19 Previous Report

markets for most of the fiscal year. The aggregated Reference Portfolio's returns were mainly driven by its higher asset allocation to global equities. The Fund generated net income of $34.4 billion, which, combined with the $7.7 billion in net contributions received, increased the Fund's net assets to $539.3 billion, corresponding to approximately $527.0 billion in net assets for the base CPP and $12.0 billion in net assets for the additional CPP.

Recourse debt, consisting of commercial paper (CP) outstanding and long-term debt, ended F2022 at $44.2 billion, or 7.6% of adjusted net assets, up from 6.8% as at F2021. There was no CP outstanding as at F2022. In June 2022, the Fund increased the authorized limit on unsecured debt to an aggregate principal amount of $60 billion outstanding while maintaining the $15 billion limit on outstanding unsecured debt with a remaining term of less than one year. DBRS Morningstar expects that recourse leverage may continue to increase over the near term; however, overall recourse debt is expected to remain low, providing considerable room for cyclical fluctuations in asset values.

DBRS Morningstar notes that the Fund meets the DBRS Morningstar criteria for CP liquidity support outlined in the Appendix in the *Rating Canadian Public Pension Funds & Related Exclusive Asset Managers* methodology. The Fund's liquidity position remains sound, with sufficient same-day available funds equal to at least five business days of upcoming liabilities and discounted assets equal to the remaining maximum authorized CP program limit. It is also consistent with DBRS Morningstar's policy on backup liquidity support for pension plans, and it provides considerable short-term financial flexibility.

In addition, the board approved Strategy 2025 in F2019, which focuses on adopting a global investment approach, including increasing the Fund's allocation to emerging markets, using more technology and data in its investment decisions, and furthering talent and culture at CPP Investments. Because CPP Investments continues to place more emphasis on risk management, it established a new role of chief financial and risk officer in F2018, formally constituted a Risk Committee of the board in F2019, and continued to refine its integrated risk framework in F2020 and F2021.

In accordance with the CPPIB Act, CPP Investments undergoes a Special Examination of its systems and practices by an independent examiner every six years. Deloitte LLP completed the most recent examination in February 2022 in which it provided a clean opinion, concluding there were no significant deficiencies in the systems and practices examined.

In February 2022, CPP Investments announced its investment approach to reaching net zero of greenhouse gas emissions across all scopes by 2050. CPP Investments believes that directing the portfolio to net zero is in the best interest of contributors and beneficiaries of the CPP and is in line with its mandate of maximizing returns without undue risk of loss. In October 2021, CPP Investments appointed Deborah Orida as the inaugural chief sustainability officer (CSO), who is responsible for its approach to ESG matters. The CSO works closely with the CEO and CIO to ensure that CPP Investments delivers on its commitment to reach net zero by 2050.

Issuer Description

Canada Pension Plan Investment Board

Created in 1997, CPP Investments is a federal non-agent Crown corporation responsible for managing the assets of the CPP. CPP Investments operates independently of the CPP and at arm's length from the federal and provincial governments that are jointly responsible for the CPP.

CPPIB Capital Inc.

CPPIB Capital Inc. is a wholly owned subsidiary of CPP Investments. It was created in 2009 to raise financing for investment activities through short-term and long-term borrowing. CPPIB Capital Inc.'s short-term notes programs and long-term debt are unconditionally guaranteed by CPP Investments.

Financial Information

	For the year ended March 31				
	2022	**2021**	**2020**	**2019**	**2018**
Net assets ($ millions)	539,311	497,187	409,588	391,980	356,134
Recourse debt as % of adjusted net assets (%)[1]	7.6	6.8	8.6	7.3	6.3
Investment return base CPP (%)	6.9	20.5	3.1	8.9	11.6
Reference portfolio return base CPP (%)	n/a	30.5	(3.1)	6.6	9.8
Investment return additional CPP (%) **	2.8	11.6	4.2	5.0	
Reference portfolio return additional CPP (%) **	n/a	17.0	0.7	7.0	

1 Net assets adjusted to add back recourse debt for ratio calculation purposes.

Rating Considerations

Strengths

1. Large investment portfolio and robust liquidity

As at March 31, 2022, the Fund had net assets of $539.3 billion, which provides a considerable cushion against any potential claims arising from the guarantees provided to CPPIB Capital Inc.'s notes issuances. The Fund maintains sufficient same-day available funds equal to at least five business days of upcoming liabilities and discounted assets equal to the remaining maximum authorized CP program limit, consistent with DBRS Morningstar's Self-Liquidity Criteria, which further enhances financial flexibility and supports the short-term ratings.

2. Exclusive mandate to manage pension assets

The CPP is required under its constituting Act, the CPP Act, to transfer all net pension contributions to CPP Investments. CPP Investments acts as exclusive manager of the assets of the CPP, and its mandate is to maximize returns for the Plan without undue risk of loss. This adds stability and certainty to cash flows and assets for CPP Investments. Furthermore, the statutory operating framework entitles the Fund to retain at all times assets that have a fair market value not less than the Fund's liabilities, including the guarantees provided by the Fund over any debt issued by CPPIB Capital Inc.

3. Strong predictable cash flow outlook because of favourable member demographics

The CPP benefits from fairly favourable plan membership demographics relative to other large pension plans. The CPP currently has approximately 2.4 working members for each retirement beneficiary, a ratio that is expected to slowly decline to 2.0 by 2030. Because of the financial consequences of the Coronavirus Disease (COVID-19) pandemic, the base CPP had net contribution outflows in F2021 and a portion of investment earnings was required to pay benefits. Despite the outflow of net assets from the base CPP in F2021, the account is expected to grow as net investment income is expected to exceed the annual net payments to the CPP. According to the most recent report by the Chief Actuary of Canada, it is projected that approximately 22.0% of investment income will be required to cover expenditures between 2030 and 2050. Contributions to the additional CPP are projected to exceed benefit payments until at least 2057. Stability of cash flows is further enhanced by the predictability of payments to CPP beneficiaries; the diversification of CPP membership, which includes all working Canadians except those in Québec; and the contribution-rate default mechanism. According to the most recent report by the Chief Actuary of Canada, the CPP is sustainable throughout the report's 75-year projection period.

4. No direct responsibility for CPP liabilities

Based on the CPP Act and the CPPIB Act, the Fund has no direct responsibility for the liabilities of the CPP in relation to its members, which translates into a much more stable net asset position. However, CPP Investments' mandate is to invest the Plan's assets with a view to maximizing returns for the Plan while maintaining sufficient liquidity to meet both CPP Investments' and the Plan's short-term obligations and cash flow requirements.

5. Superior transparency

CPP Investments releases updates to its financial performance every quarter, comparing very favourably with the annual releases of most of its DBRS Morningstar-rated peers and fostering accountability within the organization.

Challenges

1. Inherent volatility of investment activities

Asset valuations fluctuate over time. The current outlook of heightened geopolitical risk stemming from the war in Ukraine, rising inflation that can affect asset valuations, intensifying competition for private assets, and the transition to a low carbon economy is leading to an uncertain and challenging investment environment, with increased volatility in financial markets. A significant decline in asset valuations could result in a material erosion in the Fund's asset base. However, this challenge is mitigated by CPP Investment's disciplined approach to risk management, focus on high-quality assets, diversified portfolio, and low recourse debt burden that provides considerable cushion for asset base movements.

2. Exposure to legislative changes

The AAA and R-1 (high) ratings largely rely on the stability of CPP Investments' exclusive investment mandate and the high level of liquid assets available to pay for any short-term obligations (including guaranteed liabilities). Although highly unlikely, new legislation could conceivably be introduced that could adversely affect CPP Investments' operating environment by, for example, allowing the CPP to seek alternative asset managers or blocking the contribution-rate default mechanism. However, the risk of political interference is significantly mitigated by the requirement to have any legislative changes approved by at least two-thirds of the provinces and representing at least two-thirds of the population. Furthermore, since the Fund was set up especially to service the CPP, and given the moral obligation to protect the financial integrity of the CPP, DBRS Morningstar considers any adverse wholesale change in CPP Investments' operating framework as a very remote possibility.

3. Establishing framework to meet growth requirements

CPP Investments has experienced rapid growth since it first received funds from CPP in 1999. It has done a commendable job at managing its assets while growing a global workforce of 2,052 employees at fiscal YE2022; however, CPP Investments continues to integrate and fine tune its global resources to meet growth and return expectations, and manage the additional CPP assets. Additionally, its active investment and risk management procedures, particularly of private market assets, are continuing to develop with additional operational and risk management capabilities being introduced. CPP Investments continues to seek and develop investment and risk management expertise with the goal of attracting and retaining high-quality employees to assist in meeting its mandate. Furthermore, processes and procedures and investment risk management systems and controls will require continual refinement as the Fund continues to grow in scale and accommodates the additional CPP.

Investment Performance

			For the year ended March 31				
(%)	**5-year Average**	**10-year Average**	**2022**	**2021**	**2020**	**2019**	**2018**
Total investment return	10.0	10.8	6.8	20.4	3.1	8.9	11.6
Benchmark return	9.2	10.2	4.7	30.4	(3.1)	6.6	9.8

Despite challenges from the ongoing pandemic, global supply chain disruptions, rising inflation, and geopolitical risks, CPP Investments carried its strong performance into F2022 resulting in a net return of 6.8%, outperforming the Reference Portfolio's return of 4.7% by 2.1%. The Reference Portfolio's return is driven by its heavy weight in public equities (see the Investment Portfolio Profile section for a description of the Reference Portfolio). The Fund has outperformed or been comparable with the Reference Portfolio in every year since the comparison began in 2007, except for F2010, F2017, and F2021. The Fund also reports its performance relative to the Reference Portfolio on a dollar-value-added (DVA) basis and believes this to be more representative of its relative performance. For F2022, the higher net returns of the actively managed portfolio resulted in a positive DVA of $10.0 billion, after deducting all costs. CPP Investments emphasizes that the actively managed portfolio benefits from a more diversified portfolio that minimizes short-term volatility in favour of more consistent returns. The actively managed portfolio's growth was well above the range required to maintain the Fund's sustainability for the long term. Over a 10-year period, which is a better indication of performance given the Plan's long-term horizon, the Fund has delivered an annualized net real return of 8.6% for the Base CPP, exceeding the Chief Actuary of Canada's 3.95% assumed real rate of return required to sustain the base CPP at current contribution rate levels. Furthermore, the Fund has delivered a compounded DVA of $41.0 billion, net of all fund costs, since inception of active management in 2006.

Public Equities were affected by losses in emerging-markets holdings that mainly stemmed from the Asia-Pacific region where equity markets were affected by unanticipated regulatory reforms and a resurgence of coronavirus cases. This was offset by the Fund's developed-markets public equities, which posted double-digit returns as a result of rebounding economic activity, higher consumer demand, and a low-interest-rate environment. The Fund's Public and Private Equities portfolios reported net returns of 1.3% and 18.6%, respectively. Monetary policy tightening by leading central banks to offset high inflation resulted in a negative return for Government Bonds of -3.8%. Within the Real Assets Portfolio, Infrastructure and real estate assets recorded gains of 10.8% and 10.2%, respectively, as a result of a rebound in economic activity and higher demand for long-term essential infrastructure services.

Returns by Major Portfolio[1]					
(For the year ended March 31)	**2022**	**2021**	**2020**	**2019**	**2018**
	Return	**Return**	**Return**	**Return**	**Return**
Government Bonds[2]					
Marketable (%)	n/a	-10.9	16.1	5.3	1.6
Nonmarketable (%)	n/a	1.0	4.7	4.8	2.7
Government Bonds (Aggregate)	-3.8	-8.3			
Canadian public equities (%)	n/a	40.8	-12.2	7.9	2.2
Canadian private equities (%)	n/a	22.8	-5.1	5.7	1.8
Foreign (developed) public equities (%)	n/a	29.1	1.6	7.5	11.0
Foreign (developed) private equities (%)	n/a	34.0	18.0	6.0	18.0
Foreign (emerging) public equities (%)	n/a	34.0	-9.1	-1.7	18.6
Foreign (emerging) private equities (%)	n/a	38.5	8.0	11.8	19.5
Public Equities (Aggregate)	1.3	31.6			
Private Equities (Aggregate)	18.6	33.2			
Credit Investments (%)	0.7	2.1	0.5	8.7	6.9
Real Assets					
Real estate (%)	10.2	-4.5	5.1	6.4	9.4
Infrastructure (%)	10.8	12.6	-1.0	14.0	15.2
Energy & Resources	n/a	45.8	-23.4	n/a	n/a
Power & Renewables	n/a	14.1	4.4	n/a	n/a
Other (%)[3]	n/a	21.3	n/a	0.0	-9.8
Total fund (%)[4]	6.8	20.4	3.1	8.9	11.5

n/a = not available
1 Gross returns.
2 Government bonds contains bonds and money market, nonmarketable bonds, foreign sovereign bonds, and other debt from 2013 to 2016.
3 Other includes energy & resources, power and renewables investments, and agriculture for F2019–F2017.
4 The total fund return is net after all costs.
* Certain comparatives for F2021 have been reclassified to conform to the current year's presentation.

Operating expenses declined to $1,903 million from $2,857 million in F2021. The operating expense ratio of $0.27 per $100 of invested assets in F2022 declined slightly from $0.29 in F2021. Generally, CPP Investments' costs have increased in recent years as the Fund has further developed internal capabilities to execute its global investment strategy and manage expected asset growth. External investment management fees totaled $3,680 million in F2022, down from $3,707 million in F2021. Transaction costs increased to $567 million in F2022 from $395 million the prior year.

Outlook

CPP Investments' very long investment horizon, diversified asset base, robust liquidity position to fund contribution outflows for the base CPP, net contribution inflows expected through the end of 2057 for the additional CPP, and substantial scale will enable the Fund to continue to take advantage of investment opportunities as they arise, especially in the private market space, which offers premiums for illiquidity. Furthermore, these factors and the patient nature of the Fund's investment approach will allow CPP Investments to realize the value embedded in these assets and benefit from cash flows over the holding period of these assets.

Net Asset Position

Statement of Change in Net Assets

	As at March 31				
($ millions)	**2022**	**2021**	**2020**	**2019**	**2018**
Net investment income[1]	36,318	86,801[5]	13,351	33,213	37,792
Expenses	(1,903)	(2,857)[5]	(1,254)	(1,203)	(1,053)
Net income from operations	34,415	83,944	12,097	32,010	36,739
Net transfers (withdrawals) from CPP	7,709	3,655	5,511	3,836	2,718
Accounting changes	-	-	-	-	-
Increase in net assets	42,124	87,599	17,608	35,846	39,457
Net assets at fiscal year-end	539,311	497,187	409,588	391,980	356,134
Operating costs (per $100 of invested assets)[2]	0.271	0.293[5]	0.306	0.328	0.315
Recourse debt ($ millions)	44,166	36,449	38,395	30,861	24,056
- as a % of adjusted net assets (%)[3]	7.6	6.8	8.6	7.3	6.3
Derivative exposure (notional value)	508,800	436,688	396,476	336,532	195,878
Commitments and guarantees ($ millions)	62,381	51,934	60,488	52,012	44,786
Net assets/CPP annual expenditures (base CPP) (times)[4]	7.6	7.6	7.6	6.6	6.6

1 Includes realized and unrealized gains and losses on investments, interest income, dividends, securities lending income, and private real estate operating income net of interest expenses.
2 Reported operating costs do not include external management fees and transaction costs.
3 Net assets adjusted to add back recourse debt for ratio calculation purposes.
4 At calendar year end. Based on latest actuarial valuation as at December 31, 2015, for fiscal 2016–19 results, as at December 31, 2018, for fiscal 2020–21 results.
5 Certain comparatives for F2021 have been reclassified to conform to the current year's presentation.

CPP Investments' net asset position increased by 8.5%, or $42.1 billion year over year to $539.3 billion as at March 31, 2022, driven by income net of operating costs totaling $34.4 billion and net contribution inflows of $7.7 billion.

Leverage and Debt

As at the fiscal year ended March 31, 2022, there was no CP outstanding. Term debt outstanding totalled $44.2 billion. Recourse debt ended F2022 at 7.6% of adjusted net assets, up from 6.8% in the prior year. The remainder of the investment-related liabilities carried by the Fund in F2022 ($106.3 billion) consisted mainly of securities short selling and repurchase agreements.

Capital Market Debt Outstanding

As at March 31, 2022

(millions)	**Maturity**	**Currency**	**Interest Rate**	**Issuance Amount**
Commercial Paper Notes	< 1 year	Various		CAD Equivalent $0
Series 3 Fixed Rate Notes	Jun. 2024	EUR	0.375%	EUR 2,000
Series 4 Fixed Rate Notes	Nov. 2027	USD	2.750%	USD 1,000
Series 6 Fixed Rate Notes	Mar. 2033	EUR	1.500%	EUR 1,000
Series 8 Fixed Rate Notes	Jun. 2028	CAD	3.000%	CAD 1,500
Series 9 Fixed Rate Notes	Sep. 2023	USD	3.125%	USD 2,000

Series 12 Fixed Rate Notes	Feb. 2029	EUR	0.875%	EUR 1,000
Series 13 Fixed Rate Notes	Jul. 2049	EUR	0.750%	EUR 1,000
Series 14 Fixed Rate Notes	Sep. 2029	CAD	1.950%	CAD 1,000
Series 15 Fixed Rate Notes	Nov. 2029	USD	2.000%	USD 1,000
Series 17 Fixed Rate Notes	Dec. 2024	GBP	0.876%	GBP 500
Series 18 Fixed Rate Notes	Mar. 2025	USD	1.250%	USD 1,000
Series 19 Fixed Rate Notes (Green Bond)	Apr. 2027	EUR	0.250%	EUR 1,000
Series 21 Fixed Rate Notes	Oct. 2022	USD	0.750%	USD 300
Series 22 Fixed Rate Notes	Sep. 2022	CAD	0.625%	CAD 500
Series 23 Fixed Rate Notes	Dec. 2029	GBP	1.125%	GBP 750
Series 24 Fixed Rate Notes	Jun. 2024	CAD	0.750%	CAD 500
Series 25 Fixed Rate Notes	Jun. 2023	GBP	0.375%	GPB 1,000
Series 26 Floating Rate Notes	Jun. 2025	USD	SONIA + 125 bps	USD 1,000
Series 28 Fixed Rate Notes	Jan. 2041	EUR	0.250%	EUR 1,000
Series 29 Fixed Rate Notes	Jan 2031	USD	1.250%	USD 1,000
Series 30 Fixed Rate Notes	Feb. 2051	AUD	2.580%	AUD 160
Series 31 Fixed Rate Notes	Feb. 2031	EUR	0.050%	EUR 1,000
Series 32 Fixed Rate Notes (Green Bond)	Feb. 2041	AUD	2.414%	AUD 150
Series 33 Fixed Rate Notes (Green Bond)	Mar. 2041	AUD	2.790%	AUD 120
Series 34 Fixed Rate Notes	Sep. 2024	USD	0.500%	USD 1,000
Series 35 Fixed Rate Notes	Apr. 2041	AUD	2.565%	AUD 110
Series 36 Fixed Rate Notes	May 2022	ZAR	4.850%	ZAR 1,500
Series 37 Floating Rate Notes	Jun. 2026	GBP	SONIA + 125 bps	GBP 750
Series 38 Fixed rate Notes (Green Bond)	Jun. 2028	AUD	1.500%	AUD 750
Series 39 Fixed Rate Notes	Apr. 2023	NZD	0.796%	NZD 300
Series 40 Floating Rate Notes	Mar. 2026	USD	SOFR + 125 bps	USD 750
Series 41 Floating Rate Notes	Jul. 2024	USD	SOFR + 125 bps	USD 250
Series 42 Fixed Rate Notes	Sep. 2026	USD	0.875%	USD 2,500
Series 43 Fixed Rate Notes	Oct. 2071	GBP	1.625%	GBP 900
Series 44 Fixed Rate Notes	Dec. 2027	GBP	1.250%	GBP 600
Series 45 Fixed Rate Notes	Dec. 2031	CAD	2.250%	CAD 1,400
Series 46 Fixed Rate Notes	Feb. 2037	EUR	0.750%	EUR 1,000
Total (CAD Equivalent)[1]				CAD 44,166

1 Includes private placements.

The Fund’s liquidity position remains sound, with sufficient same-day available funds equal to at least five business days of upcoming liabilities and discounted assets equal to the remaining maximum authorized CP program limit, consistent with DBRS Morningstar’s policy on back-up liquidity support for pension plans, and it provides considerable short-term flexibility. As additional sources of liquidity, CPPIB Capital Inc. maintains a CAD 1.5 billion uncommitted credit facility guaranteed by CPP Investments for general corporate purposes. The credit facility remained undrawn at the time of this report.

Outlook

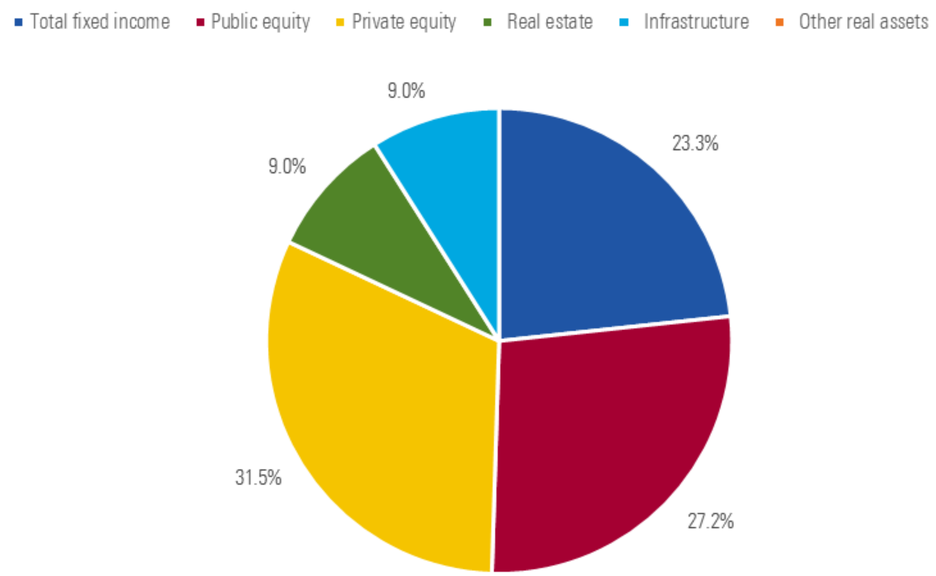
CPP Investments does not set individual limits for each CP program but instead has an aggregate Canadian dollar limit for short-term debt to maintain flexibility to assess the relative pricing in each market over time.

Management has continued to reduce its reliance on the short-term market and has issued more long-term notes instead. DBRS Morningstar expects combined recourse debt to continue to increase marginally over the medium term but to remain low, providing considerable room for cyclical fluctuations in asset values.

The latest actuarial report by the Chief Actuary of Canada, released in December 2019, which assessed the base CPP as at December 31, 2018, found that the CPP is expected to remain financially sustainable throughout the report's 75-year projection period, despite a significant projected increase in benefit expenses as a result of population aging. Furthermore, the Chief Actuary of Canada determined that annual contributions into the base CPP are expected to exceed benefits paid to pensioners before 2022 for the base CPP. CPP Investments has incorporated the earlier outflows into its liquidity forecasting and continues to have a robust liquidity position. The report projects that the base CPP's net assets will grow to $688 billion by 2030 and to $1.7 trillion by 2050. In addition, the actuarial report finds that the additional CPP assets will grow to $191 billion by 2030 and to $1.3 trillion by 2050. It also finds that the annual contributions for the additional CPP are expected to exceed the additional benefits paid to pensioners until 2058.

Investment Portfolio Profile

Exhibit 1 Net Asset Allocation at March 31, 2022



Note: Total fixed income includes government bonds, money market securities, cash and cash equivalents, and other debt, net of debt issuance and absolute return strategies.

CPP Investments manages the CPP Investment Portfolio with a very long-term horizon through six overarching investment departments: Total Fund Management, Capital Markets and Factor Investing, Active Equities, Credit Investments, Private Equity, and Real Assets. Each of the six investment departments oversees a set of specialized portfolios that are managed in accordance with the overall objective of maximizing returns without undue risk of loss while having regard for the factors that may affect the funding and ability of the base CPP and additional CPP to meet their financial obligations.

CPP Investments' investment strategy emphasizes long-term total returns in addition to long-term, value-added returns versus a low-cost, passive benchmark portfolio. The Fund uses the total portfolio approach, which manages risk exposures at the total portfolio level within specified limits and seeks to mitigate any unintended risks that are not adequately compensated. The total portfolio is rebalanced as needed.

The Fund started receiving and investing the net contributions relating to the additional CPP in January 2019. As the additional CPP is fully funded from inception, expected risk targets and portfolio composition differ from that of the base CPP. To account for the two portfolios with different requirements, CPP Investments established a two-account, two-pool investment structure, whereby each of the base CPP account and additional CPP account invests in units of two pools: a core pool, which is a diversified portfolio of equities, fixed income, real assets, and absolute return strategies with an 85% equity/15% debt risk equivalence and a supplementary pool, which is solely composed of fixed income. The base CPP is currently 100% allocated to the core pool, while the additional CPP was allocated to both the core and supplementary pools in proportions that achieved a 55% equity/45% debt risk equivalence, reflecting the larger role that investment income will play in sustaining a fully funded additional CPP. The proportions of each pool are rebalanced by adjusting how much of the weekly cash flow from the additional CPP goes into each pool.

The Fund’s investment framework comprises four key elements:

1. The CPP Investments Reference Portfolio is a passive low-cost benchmark portfolio comprising global public equities and Canadian government bonds that expresses the overall risk appetite of the Fund. This is the level of investment risk that satisfies the Fund’s legislative mandate of maximizing returns without undue risk of loss. At a minimum, the overall risk appetite of the Fund must be at a level that would be expected to generate the long-term net real return assumed by the Chief Actuary of Canada (3.95% for the base CPP and 3.38% for the additional CPP), which would allow the CPP to maintain contribution rates at current levels. Each of the base CPP and additional CPP has its own Reference Portfolio to reflect the different risk profiles of the base CPP and additional CPP.

   From F2013 to F2015, the Reference Portfolio maintained an overall exposure to equities of 65% and a weighting in fixed income of 35%. On the equities side, the allocation to Canadian equities was at 10%, while the foreign developed-markets and emerging-markets asset classes had a combined exposure of 55%. Starting in F2015, CPP Investments gradually shifted the base CPP Reference Portfolio to a composition of 85% global equities (including Canadian equities) and 15% Canadian government bonds by the end of F2018. Correspondingly, CPP Investments’ base CPP portfolio allocation has shifted to a risk equivalence of the base CPP Reference Portfolio. The additional CPP Reference Portfolio had initially a 50% exposure to global equities and 50% to Canadian government bonds and has transitioned to a 55% exposure to global equities and 45% to Canadian government bonds. The Reference Portfolios are reviewed every three years, typically after the publication of each actuarial report. The most recent review was completed in F2021 and the next review will take place in F2024 following the publication of the 31st Actuarial Report.

2. The Strategic Portfolio lays out the expected composition of each Investment Portfolio by asset class and geography, in five years' time. To determine the Strategic Portfolio, weightings are assigned to six public and private asset classes and three geographic regions based on an analysis of key return-risk factors. Each of the base CPP and additional CPP has its own Strategic Portfolio, with different weights assigned to the asset classes and geographies. The Strategic Portfolios are reviewed at least every three years, concurrently with the review of the Reference Portfolios.

3. The Target Exposures define the targeted composition of risk-return factor exposures and leverage of the Investment Portfolio for the current year, moving the Investment Portfolio toward the long-term asset and geographic weightings of the Strategic Portfolio. With the relative weighting of asset classes and risk exposures of the actual Investment Portfolio fluctuating on a day-to-day basis, the Target Exposures are used to guide the rebalancing of the Investment Portfolio so that it remains in line with factor exposure and geographic targets and close to the overall targeted risk.

4. The total portfolio is constructed in two parts: a combination of actively managed strategies (the Active Portfolio) and a set of balancing and financing strategies (the Balancing Portfolio). The Active Portfolio consists of investments by the Active Investment Departments, with the Balancing Portfolio adjusting its investments to ensure the Total Portfolio remains close to its targeted overall exposures and risk. The Annual Target Portfolio sets out the targeted weightings of each active strategy for the current fiscal year.

For the most part, the Fund does not hedge foreign holding exposures to the Canadian dollar.

The Fund's private market assets include private equity, real estate, infrastructure, private debt and private real estate debt. Together, these assets accounted for approximately 49.5% of the Fund in F2022, which is up from just 4.3% in F2005. Private market assets tend to exhibit less volatility than public market securities and provide the added benefit of cash flows during the holding period. However, DBRS Morningstar notes that with a growing number of institutional investors actively competing in this space, prices are being bid higher, and as the Fund grows in size and capital must be deployed, it will have to be vigilant to prevent overpaying for private market assets. Additionally, DBRS Morningstar notes that the valuation of private market assets entails a degree of subjectivity relative to more liquid publicly traded securities; however, CPP Investments has an established internal valuation process for these assets that includes a valuation committee and continues to refine its internal models for biases.

In addition, CPP Investments continues to expand the geographic scope of its investment strategy, particularly in emerging markets. While headquartered in Toronto, it has international offices in Hong Kong, London, New York, São Paulo, Luxembourg, Mumbai, Sydney, and San Francisco. It is expected that CPP Investments' allocation in global transactions will continue to grow as the Fund seeks to capitalize on its global presence, build out their global team, and increase its assets invested in emerging markets, such as Greater China, India, and Latin America, by up to one third (currently 22.0%).

DBRS Morningstar notes that while increasing exposure in emerging markets brings on added risks, DBRS Morningstar is of the opinion that, in light of its relatively robust projected cash inflows and long investment horizon, CPP Investments could conceivably absorb greater short-term risk and market volatility relative to its peers.

Breakdown of Net Investments[1]

			As at March 31		
(%)	**2022**	**2021**	**2020**	**2019**	**2018**
Fixed Income					
Bonds, inflation-linked bonds, money market securities, and other[2]	7.5	9.6	10.9	10.0	11.1
Other debt	15.9	13.5	12.4	9.1	6.3
Total fixed income	23.3	23.1	23.3	19.1	17.4
Public Equities					
Canadian	n/a	1.9	1.7	2.0	2.4
Foreign	n/a	27.3	26.5	31.2	36.4

Total public equity	27.2	29.2	28.2	33.2	38.8
Private Equities					
Canadian	n/a	0.2	0.3	0.2	0.3
Foreign	n/a	26.5	24.4	23.5	20.0
Total private equity	31.5	26.7	24.7	23.7	20.3
Real Assets					
Real estate	9.0	8.7	11.3	12.1	12.9
Infrastructure	9.0	8.3	8.6	8.5	8.0
Other real assets[3]		4.0	3.9	3.4	2.6
Total real assets	18.0	21.0	23.8	24.0	23.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

1 Incorporates market exposure of derivatives, associated money market securities, and other investment receivables and liabilities.
2 Net of debt issuance and absolute return strategies.
3 Other includes energy and resources, and power and renewables.

Cash for Benefits Portfolio: In addition to funds invested in the CPP Investment Portfolio, since 2004, CPP Investments has had the mandate of managing the short-term cash needed for monthly benefit payments made by the CPP. This relatively small pool of assets is managed separately from the CPP Investment Portfolio and held in liquid money market instruments but is included in CPP Investments' total net assets.

About CPP Investments

Established in 1997, CPP Investments is a federal non-agent Crown corporation that manages the net contributions from the CPP. CPP Investments' mandate is threefold: (1) to assist the CPP in meeting its obligations to contributors and beneficiaries, (2) to manage CPP assets in the best interests of contributors and beneficiaries, and (3) to maximize returns without undue risk of loss.

Under section 108.1 of the CPP Act, net employee and employer contributions to the CPP that are not required to meet immediate CPP obligations are transferred weekly to the CPP Investments. As a result, CPP Investments' portfolio growth outlook is strongly influenced by CPP cash flows; however, as an exclusive asset manager, and in contrast to pension plans, CPP Investments has no direct responsibility for the liabilities of the CPP pertaining to the benefits earned by the beneficiaries.

CPP Investments operates independently of the CPP and at arm's length from the federal and provincial governments that are jointly responsible for the CPP. The organization is governed by a board of directors comprising 12 members, each appointed for a three-year term (renewable for up to nine years in total) by the federal minister of finance in consultation with the participating provinces and on the recommendation of an independent nominating committee. The board is responsible for, among other things, succession planning and appointing the president and CEO; establishing investment and operational policies, standards, and procedures; and establishing a code of conduct. Each year, the board reviews and approves the risk framework and risk policy, the annual business plan, investment statements, and the sustainable investing policy.

The Investment Strategy and Risk Committee (ISRC) comprises the senior management team and the president and CEO as the chair. The ISRC and its subcommittees oversee the portfolio design and structure, and risks specified in the Integrated Risk Framework. CPP Investments continues to build out its Integrated Risk Framework and Integrated Risk Policy to enhance risk governance practices and risk limits. CPP Investments employs an enterprise risk management framework, which includes regular examination and quarterly board-level reporting of a broad array of major risks, including operational, strategic, investment, legislative and regulatory, and reputational risks in addition to stress test results and scenario analysis.

CPP Investments is required to report its annual results to Parliament through the federal finance minister and its quarterly and annual results to the federal and provincial ministers of finance and to the public. Overall, CPP Investments' operating framework is highly dependent on the CPP Act, the CPP Investments Act, and related regulations, which potentially exposes the Fund to political interference and adverse legislative changes; however, DBRS Morningstar notes that amendments to legislation or related regulations affecting CPP Investments can be made only if at least two-thirds of the participating provinces representing at least two thirds of the group's population have approved them. This provides considerable stability to the mandate of CPP Investments as the exclusive manager of CPP assets.

About CPP

The CPP is a jointly managed federal-provincial public plan that provides retirement pensions to workers of all provinces, with the exception of Québec, where a similar plan exists. The plan also provides disability, death, survivor, and children's benefits. The most recent actuarial valuation on the base CPP, as at December 31, 2018, found that total assets will amount to 7.6 times (x) the following year's expenditures for 2022 and will likely grow to $688 billion by the end of 2030 and $1.7 trillion by 2050. The ratio of assets to the following year's expenditures is projected to remain relatively stable at a level of 7.6x the annual expenditures over the period 2022 to 2031. Assets are expected to grow to 8.8x in 2050 and continue to increase over the projection period. The report also reaffirmed that the current legislated contribution rate of 9.9%, in place since 2003, is sufficient to keep the base CPP sustainable throughout the 75-year projection period. The CPP pursues two key financing objectives: (1) to have a contribution rate that results in the ratio of the projected assets of the CPP over the projected annual expenditures of the CPP in the following year be the same in the 10th and 60th year following a review period and (2) to fully fund all benefit enhancements.

The CPP is subject to an actuarial valuation conducted by the Chief Actuary of Canada every three years. The report is used by the federal and provincial ministers of finance to determine whether benefits and/or contribution rates should be changed, with any change subject to the approval of at least two-thirds of the provinces representing at least two-thirds of the group's population. As part of a review, if the Chief Actuary of Canada calculates a contribution rate necessary to ensure the long-term sustainability of the plan (the minimum rate) that is higher than the actual contribution rate, and if by October 1 of the year preceding the beginning of the next three-year period the finance ministers have failed to take action to increase or maintain the legislative rate, then an automatic rebalancing mechanism would be triggered. Accordingly, benefit indexation may stop until the next review, and the contribution rate would be raised over a three-year period as per a legislated formula (up to a maximum of 0.1% per year for employees and employers, or 0.2% for self-employed individuals). Likely for intergenerational equity reasons, the adjustment mechanism is fairly slow and only provides for a partial closing of the gap between the actual rate and the minimum rate during the three-year period.

Another deviation from the minimum contribution rate reported at the next actuarial review would, however, trigger another round of rate increases and a possible benefits freeze. DBRS Morningstar also notes that the CPP legislation does not prevent the finance ministers from deciding to not change the contribution rates or to not freeze benefits, thereby blocking the automatic rebalancing mechanism. Nevertheless, DBRS Morningstar currently view this scenario as very unlikely given the consensus required among ministers to achieve such an outcome, the statutory requirement to have such a decision made public, and the government's moral obligation to protect the financial integrity of the Plan.

DBRS Morningstar notes that Bill C-26 was passed in December 2016 to amend the CPP Act, the CPP Investments Act, and the Income Tax Act for enhancing the CPP (the additional CPP). The additional CPP came into effect in January 2019 and will be phased in over a period of seven years. The legislated contribution rate on the maximum amount of pensionable earnings will gradually increase from 2019 to 2023. A contribution rate on earnings below the Year's Maximum Pensionable Earnings (YMPE; the first additional contribution rate) will be phased in over five years and be set at 2% from 2023 onward. Beginning in 2024, a separate contribution rate of 8% will be implemented on earnings between the YMPE and a new upper earnings limit (the second additional contribution rate). The most recent actuarial valuation on the additional CPP, as at December 31, 2018, found that total assets will likely grow to $191 billion by the end of 2030 and $1.3 trillion by 2050. The ratio of assets to the following year's expenditures is projected to increase rapidly until 2025 and then decrease to approximately 26.0x by 2075. The report also confirmed that the legislated first and second additional contributions rates of 2.0% for 2023 and thereafter and 8.0% for 2024 and thereafter, respectively, are sufficient to fully pay the projected expenditures of the additional CPP over the long term. Annual contributions are expected to exceed paid benefits until 2058.

Structure of Guarantee from CPP Investments to CPPIB Capital Inc.

CPP Investments unconditionally guarantees the full payment of principal and interest in respect of short-term and long-term debt issued by CPPIB Capital Inc. Should CPPIB Capital Inc. fail to make required debt servicing payments, investors can seek payment from CPP Investments without first exhausting recourse to the debt issuer. The guarantees from CPP Investments are unconditional, irrevocable, and meet DBRS Morningstar's *North American Structured Finance Flow-Through Ratings* methodology.

Ranking and Legal Issues

In contrast with pension plans and similar to the Public Sector Pension Investment Board (rated AAA with a Stable trend by DBRS Morningstar), CPP Investments has no direct responsibility for the obligations faced by the CPP in relation to the benefits owed to Canadians. This greatly reduces the volatility of CPP Investments' net asset position.

The CPP Act and the CPP Investments Act create a system of debits and credits that legally entitles CPP Investments to retain at all times assets that have a fair market value not less than its liabilities, including the liabilities under the guarantees in respect of debt issued by CPPIB Capital Inc.

ESG Checklist

There were no ESG factors or considerations with a significant or relevant impact on the credit ratings.

ESG Factor		ESG Credit Consideration Applicable to the Credit Analysis:	Y/N	Extent of the Effect on the ESG Factor on the Credit Analysis: Relevant (R) or Significant (S)*
Environmental		**Overall:**	**N**	**N**
	Emissions, Effluents, and Waste	Do we consider the costs or risks result, or could result in changes to an issuer's financial, operational, and/or reputational standing?	N	N
	Carbon and GHG Costs	Does the issuer face increased regulatory pressure relating to the carbon impact of its or its clients' operations resulting in additional costs?	N	N
	Climate and Weather Risks	Will climate change and adverse weather events potentially disrupt issuer or client operations, causing a negative financial impact?	N	N
Social		**Overall:**	**N**	**N**
	Social Impact of Products and Services	Do we consider that the social impact of the issuer's products and services could pose a financial or regulatory risk to the issuer?	N	N
	Human Capital and Human Rights	Is the issuer exposed to staffing risks, such as the scarcity of skilled labour, uncompetitive wages, or frequent labour relations conflicts that could result in a material financial or	N	N
		Do violations of rights create a potential liability that could negatively affect the issuer's financial wellbeing or reputation?	N	N
		Human Capital and Human Rights:	**N**	**N**
	Product Governance	Does failure in delivering quality products and services cause damage to customers and expose the issuer to financial and legal liability?	N	N
	Data Privacy and Security	Has misuse or negligence in maintaining private client or stakeholder data resulted, or could result, in financial penalties or client attrition to the issuer?	N	N
	Community Relations	Does engagement, or lack of engagement, with local communities pose a financial or reputational risk to the issuer?	N	N
	Access to Basic Services	Does a failure to provide or protect with respect to essential products or services have the potential to result in any significant negative financial impact on the issuer?	N	N
Governance		**Overall:**	**N**	**N**
	Bribery, Corruption, and Political Risks	Do alleged or actual illicit payments pose a financial or reputational risk to the issuer?	N	N
		Are there any political risks that could impact the issuer's financial position or its reputation?	N	N
		Bribery, Corruption, and Political Risks:	**N**	**N**
	Business Ethics	Do general professional ethics pose a financial or reputational risk to the issuer?	N	N
	Corporate / Transaction Governance	Does the issuer's corporate structure limit appropriate board and audit independence?	N	N
		Have there been significant governance failures that could negatively affect the issuer's financial wellbeing or reputation?	N	N
		Corporate / Transaction Governance:	**N**	**N**
		Consolidated ESG Criteria Output:	**N**	N

* A **Relevant Effect** means that the impact of the applicable ESG risk factor has not changed the rating or rating trend on the issuer.
A **Significant Effect** means that the impact of the applicable ESG risk factor has changed the rating or trend on the issuer.

Rating History

	Current	2021	2020	2019	2018	2017
Issuer Rating	AAA	AAA	AAA	AAA	AAA	AAA
Canadian Short-Term Promissory Notes	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (high)
U.S. Commercial Paper Notes	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (high)
Euro Commercial Paper Notes	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (high)	R-1 (high)
Medium-Term Notes	AAA	AAA	AAA	AAA	AAA	AAA

Related Research

- *Rating Canadian Public Pension Funds & Related Exclusive Asset Managers*, April 26, 2022.

CPPIB Capital Inc. Debt Limits

- Unsecured debt outstanding:
    - Total: $60 billion
    - Remaining term less than one year: $15 billion

Previous Report

- Canada Pension Plan Investment Board & CPPIB Capital Inc.: Rating Report, June 18, 2021.

Notes:
All figures are in Canadian dollars unless otherwise noted.

About DBRS Morningstar

DBRS Morningstar is a full-service global credit ratings business with approximately 700 employees around the world. We're a market leader in Canada, and in multiple asset classes across the U.S. and Europe.

We rate more than 3,000 issuers and nearly 60,000 securities worldwide, providing independent credit ratings for financial institutions, corporate and sovereign entities, and structured finance products and instruments. Market innovators choose to work with us because of our agility, transparency, and tech-forward approach.

DBRS Morningstar is empowering investor success as the go-to source for independent credit ratings. And we are bringing transparency, responsiveness, and leading-edge technology to the industry.

That's why DBRS Morningstar is the next generation of credit ratings.

Learn more at dbrsmorningstar.com.