OFFERING MEMORANDUM

CPPIB Capital Inc.

C$40,000,000,000

Debt Issuance Programme

Unconditionally and irrevocably guaranteed by

Canada Pension Plan Investment Board

CPPIB Capital Inc. (the "Issuer"), a corporation incorporated under the Canada Business Corporations Act and a wholly-owned subsidiary of Canada Pension Plan Investment Board (together with its consolidated subsidiaries (except as the context otherwise requires), "we", "us", "CPP Investments" or the "Guarantor"), a Canadian federal Crown corporation created by the Canada Pension Plan Investment Board Act (the "CPPIB Act"), may offer debt securities (the "Notes" and each, a "Note") under its Debt Issuance Programme (the "Program") from time to time. The Notes will be issuable in one or more series and will be unconditionally and irrevocably guaranteed on a senior basis by the Guarantor (such guarantee, the "Guarantee"). The Issuer may include information regarding a type of medium-term note not described herein in an additional supplement to this Offering Memorandum. The specific terms of any Note will be specified in a separate pricing supplement (a "Pricing Supplement").

This document constitutes the base listing particulars (the "Base Listing Particulars") in respect of the admission of the Notes to the Official List and to trading on the Global Exchange Market ("GEM") of the Irish Stock Exchange plc trading as Euronext Dublin ("Euronext Dublin"). Application has been made to Euronext Dublin for the approval of this Offering Memorandum as Base Listing Particulars. Application has been made to Euronext Dublin for the Notes issued under the Program within 12 months of the date of approval of this Offering Memorandum to be admitted to the official list of Euronext Dublin (the "Official List") and trading on the GEM, which is the exchange-regulated market of Euronext Dublin. The GEM is not a regulated market for the purposes of MiFID II (as defined below). In relation to listed Notes, this Offering Memorandum is valid for a period of 12 months from the date hereof. However, unlisted Notes may be issued under the Program. The relevant Pricing Supplement in respect of the issue of any Notes will specify whether or not such Notes will be listed on the Official List and admitted to trading on the GEM.

The following terms may apply to the Notes:

- stated maturity of one year or longer
- fixed or floating interest rate, zero-coupon or issued with original issue discount; a floating interest rate may be based on:
  - Commercial Paper Rate
  - Prime Rate
  - LIBOR
  - SOFR
  - EURIBOR
  - SONIA
  - Treasury Rate
  - CMT Rate
  - Federal Funds Rate
  - ranked as senior indebtedness of the Issuer ranking equally with all other senior indebtedness of the Issuer
- certificate issued in definitive form or in book-entry form
- may be redeemed at the Issuer's option or repaid at the option of the holder
- interest on Notes paid monthly, quarterly, semi-annually or annually
- denominations of U.S.$250,000 (or the equivalent thereof in another currency) and integral multiples of U.S.$1,000 in excess thereof (or, in the case of Notes not denominated in U.S. dollars, 1,000 units of such currency)
- denominated in U.S. dollars, a currency other than U.S. dollars or in a composite currency (the "Specified Currency")
- settlement in immediately available funds
- unconditionally and irrevocably guaranteed by the Guarantor with the Guarantee ranking equally with all other senior indebtedness of the Guarantor
- other or different terms as specified in the applicable Pricing Supplement

Investing in the Notes involves risks that are described in the "Risk Factors" section beginning on page 15 of this Offering Memorandum.

The Notes will be the Issuer's senior unsecured obligations, and will rank equally in right of payment with all of its other senior unsecured indebtedness, will be senior in right of payment to any of its respective future indebtedness that is expressly subordinated to the Notes, will be effectively subordinated to all existing and future indebtedness that is secured, to the extent of the value of the assets securing such indebtedness, and will be structurally subordinated to all indebtedness and other liabilities of all of its subsidiaries, to the extent of the assets of such subsidiaries. The rights of holders of the Notes for payment under the Guarantee will rank *pari passu* with unsecured and unsubordinated obligations to creditors of the Guarantor.

Neither the Notes nor the Guarantee have been registered under the U.S. Securities Act of 1933, as amended (the "Securities Act") or the securities laws of any other jurisdiction, and the Issuer is not registered and does not intend to register as an investment company under the Investment Company Act of 1940, as amended (the "Investment Company Act"). Unless they are registered, the Notes and the Guarantee, respectively, may be offered only in transactions that are exempt from registration under the Securities Act or the securities laws of any other jurisdiction. The Notes and the Guarantee are being initially offered in the United States only to "qualified institutional buyers" (as defined in Rule 144A under the Securities Act) ("Qualified Institutional Buyers") who are also "qualified purchasers" (as defined in Section 2(a)(51)(A) of the Investment Company Act and the rules thereunder) ("Qualified Purchasers") and outside the United States to non-U.S. persons in compliance with Regulation S of the Securities Act. For further details about eligible offerees and resale restrictions, see "Plan of Distribution" and "Transfer Restrictions."

If the relevant Pricing Supplement in respect of any Notes includes a legend entitled "Prohibition of sales to EEA and UK Retail Investors," the Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area (the "EEA") or the United Kingdom (the "UK"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "MiFID II"); (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (the "Prospectus Regulation"). Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended the "PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the EEA or the UK has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the EEA or the UK may be unlawful under the PRIIPs Regulation.

The Notes have not been nor will they be qualified for distribution or distributed to the public under the securities laws of any province or territory of Canada. The Notes are not being offered or sold, directly or indirectly, in Canada or to or for the account of any resident of Canada in contravention of the securities laws of any province or territory thereof. The Notes may not be offered or sold in Canada or to Canadian purchasers except in a transaction exempt from the prospectus requirements of applicable Canadian provincial securities laws and regulations. See "Transfer Restrictions – Additional Representations of Purchasers in Canada."

MiFID II Product Governance/Target Market: The Pricing Supplement in respect of any Notes may include a legend titled "MiFID II Product Governance" that will outline the target market assessment in respect of such Notes and which channels for distribution of such Notes are appropriate. In those cases, any person subsequently offering, selling or recommending such Notes (a "distributor") should take into consideration the target market assessment; however, a distributor subject to MiFID II will remain responsible for undertaking its own target market assessment in respect of such Notes by either adopting or refining the target market assessment and determining appropriate distribution channels.

A determination will be made in relation to each issue about whether, for the purpose of the MiFID II Product Governance rules under EU Delegated Directive 2017/593 (the "MiFID Product Governance Rules"), any Agent (as defined below) subscribing for any Notes is a manufacturer in respect of such Notes, but otherwise none of the Arranger, the Agents or any of their respective affiliates will be a manufacturer for the purpose of the MiFID Product Governance Rules.

Singapore Securities and Futures Act Product Classification: In connection with Section 309B of the Securities and Futures Act (Chapter 289) of Singapore (the "SFA") and the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore (the "CMP Regulations 2018"), the Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Notes to be issued under the Program are 'prescribed capital markets products' (as defined in the CMP Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products). The Pricing Supplement in respect of any Notes may include a legend indicating that such Notes may not be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the SFA or (ii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provisions of the SFA.

References in this Offering Memorandum to the Notes being "listed" (and all related references) shall mean that, unless otherwise specified in the applicable Pricing Supplement, the Notes have been admitted to the Official List and trading on the GEM.

The Issuer and the Guarantor are not member institutions of the Canada Deposit Insurance Corporation or the Federal Deposit Insurance Corporation and are not regulated as financial institutions in Canada or the United States. An investment in the Notes (as hereinafter defined) is not a deposit and the Notes are not insured by the Canada Deposit Insurance Corporation, the Federal Deposit Insurance Corporation or any other government agency.

The Issuer may sell Notes to the Agents (as defined below) as principals for resale at varying or fixed offering prices or through the Agents as agents using their reasonable efforts on the Issuer's behalf. The Issuer may also sell Notes without the assistance of the Agents.

Arranger

Goldman Sachs International

Other Agents

BofA Securities
BMO Capital Markets
CIBC Capital Markets
Deutsche Bank
J.P. Morgan
National Bank of Canada Financial Markets
RBC Capital Markets
TD Securities

Barclays
BNP PARIBAS
Citigroup
HSBC
Morgan Stanley
NatWest Markets
Scotiabank

The date of this Offering Memorandum is June 10, 2020.

No agent, dealer, salesperson or other person nor the Arranger or any other agents named on the cover page of this Offering Memorandum or that may be appointed (collectively, the "Agents") nor any of their affiliates has been authorized to give any information or to make any representations other than those contained in this Offering Memorandum. Neither we, the Issuer, the Arranger, nor any of the other Agents or their affiliates take any responsibility for, or provide assurance as to the reliability of, any information that others may give you. This Offering Memorandum does not constitute an offer to sell, or a solicitation of an offer to buy, any of the securities offered hereby by anyone in any jurisdiction in which such offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so, or to any person to whom it is unlawful to make such offer or solicitation. Neither the delivery of this Offering Memorandum at any time, nor any sale made in connection with this Offering Memorandum, shall, in any circumstances, create an implication that there has been no change in our affairs or the affairs of the Issuer since the date of this Offering Memorandum or that the information contained in this Offering Memorandum is correct as of any time subsequent to the date of this Offering Memorandum.

IN CONNECTION WITH THE ISSUE OF ANY SERIES OF NOTES, THE AGENTS (IF ANY) APPOINTED AS THE STABILIZATION MANAGER(S) (OR PERSONS ACTING ON BEHALF OF ANY STABILIZATION MANAGER(S)) MAY OVER-ALLOT NOTES OR EFFECT TRANSACTIONS WITH A VIEW TO SUPPORTING THE MARKET PRICE OF THE NOTES AT A LEVEL HIGHER THAN THAT WHICH MIGHT OTHERWISE PREVAIL. HOWEVER, STABILIZATION MAY NOT NECESSARILY OCCUR. ANY STABILIZATION ACTION MAY BEGIN ON OR AFTER THE DATE ON WHICH ADEQUATE PUBLIC DISCLOSURE OF THE TERMS OF THE OFFER OF THE RELEVANT TRANCHE OF NOTES IS MADE AND, IF BEGUN, MAY CEASE AT ANY TIME, BUT IT MUST END NO LATER THAN THE EARLIER OF 30 DAYS AFTER THE ISSUE DATE OF THE RELEVANT TRANCHE OF NOTES AND 60 DAYS AFTER THE DATE OF THE ALLOTMENT OF THE RELEVANT TRANCHE OF NOTES. ANY STABILIZATION ACTION OR OVER-ALLOTMENT MUST BE CONDUCTED BY THE RELEVANT STABILIZATION MANAGER(S) (OR PERSONS ACTING ON BEHALF OF THE RELEVANT STABILIZATION MANAGER(S)) IN ACCORDANCE WITH ALL APPLICABLE LAWS AND RULES.

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This Offering Memorandum has been prepared by the Issuer and us solely for use in connection with the proposed offering of Notes described in this Offering Memorandum. This Offering Memorandum is personal to each offeree and does not constitute an offer to any other person or to the public generally to subscribe for or otherwise acquire securities. Distribution of this Offering Memorandum to any person other than the prospective investor and any person retained to advise such prospective investor with respect to its purchase is unauthorized, and any disclosure of any of its contents, without our and the Issuer's prior written consent, is prohibited. Each prospective investor, by accepting delivery of this Offering Memorandum, agrees to the foregoing and to make no photocopies of this Offering Memorandum or any documents referred to in this Offering Memorandum.

We and the Issuer accept responsibility for the information contained in this Offering Memorandum and the applicable Pricing Supplement, as the case may be, for each series of Notes issued under the Program. To the best of our knowledge and the knowledge of the Issuer (having taken all reasonable care to ensure that such is the case), the information contained in this Offering Memorandum is in accordance with the facts and does not omit anything likely to affect the import of such information.

Notwithstanding anything in this Offering Memorandum to the contrary, each prospective investor (and each employee, representative or other agent of the prospective investor) may disclose to any and all persons, without limitation of any kind, the tax treatment and tax structure of any offering and all materials of any kind (including opinions or other tax analyses) that are provided to the prospective investor relating to such tax treatment and tax structure (as such terms are defined in Treasury regulation Section 1.6011-4). This authorization of tax disclosure is retroactively effective to the commencement of discussions between the Issuer, us, the Agents or their respective representatives and each prospective investor regarding the transactions described in this Offering Memorandum.

Application has been made to Euronext Dublin for Notes issued under the Program during the period of 12 months from the date of this Offering Memorandum to be admitted to the Official List and trading on the GEM of accordance with its rules. This Offering Memorandum forms in all material respects the base listing particulars for admission of the Notes to the Official List and trading on the GEM.

We and the Issuer have furnished the information contained in this Offering Memorandum. None of the Agents, nor any of their respective affiliates, make any representation or warranty, express or implied, as to the accuracy or completeness of the information contained in this Offering Memorandum (financial, legal or otherwise) and assume no responsibility for such information. Nothing contained in this Offering Memorandum is, or should be relied upon as, a promise or representation by the Agents as to the past or future.

Neither the U.S. Securities and Exchange Commission (the "SEC"), any state securities commission nor any other regulatory authority has approved or disapproved the Notes nor have any of the foregoing authorities passed upon or endorsed the merits of this offering or the accuracy or adequacy of this Offering Memorandum. Any representation to the contrary is a criminal offense.

The Notes are subject to restrictions on transferability and resale and may not be transferred or resold except as permitted under the Securities Act and the applicable state securities laws pursuant to registration or exemption therefrom and as permitted under any other applicable securities laws. As a prospective purchaser, you should be aware that you may be required to bear the financial risks of this investment for an indefinite period of time. Please refer to the sections in this Offering Memorandum entitled "Transfer Restrictions" and "Plan of Distribution."

If any U.S. person (as defined in Regulation S under the Securities Act) acquiring a beneficial interest in the Notes was not a Qualified Purchaser at the time of acquiring such interest, the Issuer may regard the transaction with such U.S. person as null and void and of no effect. Any such U.S. person may be forced to transfer such interest to a person who meets the requirements set forth in "Plan of Distribution" in accordance with the procedures described under "Description of the Notes and the Guarantee—Forced Transfer."

In making an investment decision, prospective investors must rely on their own examination of us, the Issuer and the terms of the Notes, including the merits and risks involved. Prospective investors should not construe anything in this Offering Memorandum as legal, business or tax advice. Each prospective investor should consult its own advisors as needed to make its investment decision and to determine whether it is legally permitted to purchase the Notes under applicable legal investment or similar laws or regulations.

In this Offering Memorandum, we and the Issuer rely on and refer to information and statistics regarding our industry. We and the Issuer obtained this market data from independent industry publications or other publicly available information. Although we and the Issuer believe that these sources are reliable, we and the Issuer have not independently verified and do not guarantee the accuracy and completeness of this information.

This Offering Memorandum contains summaries of the Fiscal and Paying Agency Agreement (as defined herein), Notes and Guarantee that are believed to be accurate, but reference is made to the actual documents for complete information. All such summaries are qualified in their entirety by such reference.

CERTAIN DEFINED TERMS USED IN THIS OFFERING MEMORANDUM

- "2020 Annual Report" means our Annual Report for the year ended March 31, 2020;

- "2020 Financial Statements" means our audited consolidated financial statements, including the notes thereto and the independent auditor's report thereon, contained in our 2020 Annual Report, which are attached as Annex A-2 to, and incorporated by reference into, this Offering Memorandum;

- "2020 MD&A" means the "Management's Discussion and Analysis" contained in our 2020 Annual Report, which is attached as Annex A-3 to, and incorporated by reference into, this Offering Memorandum;

- "2019 Annual Report" means our Annual Report for the year ended March 31, 2019;

- "2019 Financial Statements" means our audited consolidated financial statements, including the notes thereto and the independent auditor's report thereon, contained in our 2019 Annual Report, which are attached as Annex A-2 to, and incorporated by reference into, this Offering Memorandum;

- "2019 MD&A" means the "Management's Discussion and Analysis" contained in our 2019 Annual Report, which is attached as Annex A-3 to, and incorporated by reference into, this Offering Memorandum;

- references to the "Issuer" are to CPPIB Capital Inc., a Canadian corporation and the issuer of the Notes, except where otherwise indicated or where the context otherwise requires, including in the sections entitled "Summary—General Terms of the Notes" and "Description of the Notes and the Guarantee;"

- references to "The Guarantor", "CPP Investments," "we," "us" and "our" are to Canada Pension Plan Investment Board;

- references to "C$" and "Canadian dollars" are to Canadian dollars;

- references to "U.S.$" and "U.S. dollars" are to United States dollars; and

- references to "€" and "euro" are to the currency introduced at the start of the third stage of the European economic and monetary union pursuant to the Treaty on the Functioning of the European Union, as amended.

In this Offering Memorandum, any reference to Euroclear Bank SA/NV ("Euroclear"), Clearstream Banking S.A. ("Clearstream, Luxembourg") and/or The Depository Trust Company ("DTC") shall, whenever the context so permits, be deemed to include a reference to any additional or alternative clearing system specified in the applicable Pricing Supplement or as may otherwise be approved by the Issuer, the Guarantor and the Fiscal and Paying Agent.

PRESENTATION OF FINANCIAL INFORMATION

Neither we nor the Issuer is a reporting issuer under applicable Canadian securities legislation and therefore neither is required to file continuous disclosure documents, reports and other information with the securities commission or similar regulatory authority in any province or territory of Canada. Similarly, neither we nor the Issuer are required to, and neither we nor the Issuer undertake to, file periodic reports or other information with the SEC.

We prepare our consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB"), which we adopted effective April 1, 2014. IFRS differs in certain respects from accounting principles generally accepted in the United States. Additionally we publish our consolidated financial statements in Canadian dollars. The financial information included and/or incorporated by reference in the Offering Memorandum is not intended to, and does not, comply with the financial reporting requirements of the SEC.

FORWARD-LOOKING STATEMENTS

Certain statements in this Offering Memorandum constitute "forward-looking statements," including statements regarding our expectations and projections for future operating performance and business prospects. The words "believe", "expect", "anticipate", "intend", "estimate", "may impact" and other similar expressions or future or conditional verbs such as "will", "should", "would" and "could" and similar expressions or variations of these expressions identify forward-looking statements. In addition, all statements other than statements of historical facts included in this Offering Memorandum, including, without limitation, those regarding our financial position and results, business strategy, plans and objectives of management for future operations, including development plans and objectives relating to our products and services, are forward-looking statements. Such forward-looking statements and any other projections contained in this Offering Memorandum (whether made by us or any third party) involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by forward-looking statements. Such forward-looking statements are based on current beliefs, assumptions, expectations, estimates and projections regarding our present and future business strategies and the environment in which we will operate in the future. A variety of factors, many of which are beyond our control, may cause actual results to differ materially from the expectations expressed in the forward-looking statements. These factors include, but are not limited to, fluctuations in interest rates, capital markets and investment performance, changes in economic and political conditions, legislative and regulatory developments, legal developments and changes in tax laws. See also "Risk Factors." We caution that this list of factors is not exhaustive. Any forward-looking statements contained in this Offering Memorandum speak only as of the date of this Offering Memorandum. Both we and the Issuer expressly disclaim any obligation or undertaking to release, publicly or otherwise, any updates or revisions to any forward-looking statement contained herein to reflect any change in our and/or the Issuer's expectations with regard thereto or any change in events, conditions, assumptions or circumstances on which any such statement was based.

AVAILABLE INFORMATION

Neither we nor the Issuer is required to file reports, proxy statements or other information with the SEC. We have agreed that, so long as any of the Notes are not freely tradable under the Securities Act and we are not subject to Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), we will make available, upon request, to any holder and any prospective purchaser of the Notes the information required to be delivered pursuant to Rule 144A(d)(4) under the Securities Act to permit compliance with Rule 144A in connection with resales of the Notes. As the Issuer is a wholly-owned finance subsidiary, its financial statements are not audited.

MARKET AND INDUSTRY DATA

All data relating to the size and performance of the CPP Fund (as defined herein) has been obtained from the Actuarial Report (30th) on the Canada Pension Plan, available at www.osfi-bsif.gc.ca/Eng/Docs/CPP30.pdf. Such data has been extracted from such website without material adjustment, but may not appear in the exact same form on such websites or elsewhere. Such website does not, and should not be deemed to, constitute a part of, or be incorporated into, this Offering Memorandum.

Where information contained in this Offering Memorandum has been sourced from a third party, such publications generally state that the information they contain has been obtained from sources believed to be reliable but that the accuracy and completeness of such information is not guaranteed. We and the Issuer confirm that such information has been accurately reproduced and, so far as we and the Issuer are aware and have been able to ascertain from information published by third parties, no facts have been omitted which would render the reproduced information inaccurate or misleading.

In the case of the presented statistical information, similar statistics may be obtainable from other sources, although the underlying assumptions and methodology, and consequently the resulting data, may vary from source to source.

OVERVIEW

The following summary contains basic information about us, the Issuer and the Notes which may be offered pursuant to this Offering Memorandum from time to time under the Issuer's Debt Issuance Programme (the "Program"). It may not contain all the information that is important to you. For a more complete understanding of us, the Issuer and the Program, we encourage you to read this entire document, including the financial statements and related notes, and the documents to which we have referred you, including the Fiscal and Paying Agency Agreement.

Canada Pension Plan Investment Board

We are a professional investment management organization that invests the funds not needed by the Canada Pension Plan ("CPP") to pay current benefits on behalf of CPP contributors and beneficiaries.

We are headquartered in Toronto, Canada, with offices in London, Hong Kong, New York, Luxembourg, Mumbai, San Francisco, Sydney and São Paulo. We invest in public equities, private equities, bonds, private debt, real estate, infrastructure, agriculture and other areas. We had net assets as of March 31, 2020 of C$409.6 billion. Of our Investment Portfolio, 84.4% was invested globally and 15.6% was invested in Canada, for a total of C$409.6 billion. Our investments have become increasingly international as we aim to diversify risk and seek growth opportunities in global markets.

We were established as a federal Crown corporation in Canada by the CPPIB Act and manage amounts credited to the CPP that are not immediately required to pay CPP benefits. Funds transferred to CPP Investments, including all investment income (the "CPP Fund" or "Fund"), subject to provisions of the CPPIB Act, are legally and beneficially owned by CPP Investments and are invested in its own capacity in accordance with the provisions of the CPPIB Act.

Our long-term goal is to contribute to the financial strength of the CPP and help sustain the pensions of CPP contributors and beneficiaries by investing CPP assets transferred to us to maximize returns without undue risk of loss.

With a mandate from the Canadian federal and provincial governments, we are accountable to the Parliament of Canada and to the federal and provincial finance ministers who serve as the stewards of the CPP. Based in Toronto, we are governed and managed independently of the CPP and at arm's length from the Canadian federal government. We are not an agent of the Canadian federal government or of any provincial government.

We are responsible for managing the CPP Fund in accordance with the Canada Pension Plan (the "CPP Act") and the CPPIB Act. As a professional investment management organization, we are not a sovereign wealth fund. Several key attributes distinguish us and the CPP Fund from the large pools of government assets under government direction generally identified as "sovereign." CPP Fund assets are not government assets and the CPPIB Act and the CPP Act do not constitute us as a trustee of the assets for the benefit of those entitled to CPP benefits.

Under the statutory framework, we are at all times legally entitled to retain assets (or acquire assets from the Canada Pension Plan Accounts (the "CPP Accounts") within the Consolidated Revenue Fund (the "CRF") of Canada) that have a fair market value of not less than the properly authorized and incurred liabilities of CPP Investments, including without limitation our liabilities under the Guarantee. As a result, under the statutory framework, only assets having a fair market value in excess of our liabilities are available to the Government of Canada to satisfy its obligations under the CPP.

The CPP legislation was amended in 2016 to, among other things, provide for the creation of the Additional Canada Pension Plan Account ("Additional CPP"). Effective January 1, 2019, CPP Investments is responsible for managing the funds of the Additional CPP in addition to funds of the base CPP. According to the 30th Actuarial Report on the CPP released on November 27, 2019 (based on December 31, 2018 data), with the legislated additional contribution rates, assets of the Additional CPP are projected to grow from C$0 billion at the end of 2018 to C$191 billion by 2030 and C$1.3 trillion by 2050.

The CPP Act established the CPP Accounts within the CRF of the Government of Canada. The CPP Act provides that any amounts standing for the credit of each CPP Account that exceed the immediate obligations of that CPP Account are transferred to us. The Government of Canada can make a request for payment by us into the CRF out of the CPP Fund assets held by CPP Investments, subject to an upper limit calculated by reference to the fair market value of our liabilities.

These provisions establish a system of debits and credits to and from the CPP Accounts under the CRF. This system of debits and credits includes both (i) a "sweep" to us under Section 108.1(1) and 108.3(1) of the CPP Act of monies credited to each CPP Account which "exceed the immediate obligations of that account" and (ii) the ability of the Minister of Employment and Social Development to require us to pay certain amounts (up to the fair market value of the liabilities limit) into the CRF (and in accordance with the agreement entered into pursuant to Section 111.1 of the CPP Act).

The system of debits and credits among the CRF, the CPP Accounts and us contained in the CPP Act and the CPPIB Act is different from the trusteeship structure that is seen in the statutes governing a number of other Canadian public sector pension funds. These two statutes do not constitute us as a trustee of the assets for the benefit of those entitled to CPP benefits. As a result, we have the right at all times to retain assets (or acquire assets from the CPP Accounts) having a fair market value equal to our liabilities.

Such rights are central to our financial strength, particularly having regard to the actuarial funding strength of the CPP. According to the 30th Actuarial Report on the CPP as at December 31, 2018, based on the legislated contribution rate of 9.9%, contributions to the CPP were projected to be more than sufficient to cover the expenditures of the CPP over the long term. Subsequently, a portion of the investment income from the Fund will be required to pay expenditures of the CPP.

Our governance model, including an independent board of qualified professionals with powers to oversee the investment policy, is designed to protect us from political interference. The organization operates with an investment-only, commercial mandate in which investment decisions are made without political direction and at arm's length from governments, and without regard to regional, social or economic development considerations or any other non-investment objectives. We operate with disclosure and transparency, including publishing our investment policy and public equity holdings on our website and reporting to Canadians in a manner generally consistent with regulatory requirements for public companies in Canada.

CPPIB Capital Inc.

The Issuer is a wholly-owned subsidiary of CPP Investments and was incorporated under the laws of Canada on February 2, 2009. The Issuer is primarily engaged in obtaining financing in the capital markets and loaning the proceeds from such financings to CPP Investments and/or entities owned by CPP Investments for general corporate purposes in accordance with CPP Investments' investment policies.

The Issuer is not a reporting issuer under applicable Canadian or U.S. securities legislation and therefore is not required to file continuous disclosure documents, reports or other information with any securities commission or similar regulatory authority in any province or territory of Canada or in the United States. There is limited publicly available information regarding the Issuer.

Strengths

We benefit from a long investment horizon.

By law and its purpose, the CPP must serve Canadians for many generations to come. As a result, the CPP Fund has a much longer investment horizon than most investors. We can assess the prospects of our strategies and opportunities over decades, not just over quarters or years. We can withstand short-term downturns to create enduring value over the long run. We can pursue the opportunities created by shorter-term investors and take advantage of investments they either ignore or cannot access.

We operate independently, yet with a position that offers us a largely predictable asset base.

The CPP Fund's future asset base is largely predictable, and its pattern of cash flows into the future is generally stable. Combined contributions from the combined parts of the Canada Pension Plan are expected to exceed combined benefits paid for many years to come. As a result, we do not foresee a need to sell assets to pay CPP benefits and can build investment programs in reliable anticipation of future investment needs. We believe that this predictability of assets and cash flows underpins our ability to act as a trusted financial partner in major transactions.

We benefit from the scale of the CPP Fund.

As one of the largest retirement funds in the world, we believe that we are able to access opportunities globally for which few others can compete. We are able to make major investments in private markets and to engage in public market strategies that are not readily accessible to many investors. In addition, we believe that our size enables us to maintain highly skilled in-house teams and to access world-class external partners. We can also develop the investment technology and operational capabilities needed to support our teams as they execute our wide range of strategies. By handling many investment and operational activities ourselves, we believe we can achieve a cost-effective global investing platform.

We believe that we have an experienced investment team with significant investment management expertise and capabilities.

We believe that our expertise, local knowledge and reputation allow us to source and develop the best opportunities across the globe, in both private and public markets. We employ a world-class investment team that combines depth, experience and broad expertise, both in managing assets internally and working with external partners. We aim to attract, motivate and retain high-caliber professionals from around the world.

We foster strategic relationships with expert external partners.

We believe that through our scale and other advantages, we are able to engage the specialized resources and expertise of many top-tier external partners around the world. Accordingly, we seek to work as equals with these long-term partners to maximize the benefit to the CPP Fund. Through them, we gain additional access to major investment opportunities. We participate in co-investments and other joint efforts that are beyond the reach of many investors. Our external partners provide rigorous research and on-the-ground knowledge of the local environment, as well as supplying ongoing asset management services.

We take a disciplined approach to managing our portfolio.

We believe that broad asset class labels such as "real estate" or "equities" do not sufficiently capture the more complex variety of factors that influence the risks and returns of investments. Accordingly, we take into account the fundamental and more independent return-risk factors that underlie each asset class, strategy and type of investment. This allows us to better understand and quantify the distinct return-risk characteristics of each asset and investment program. We believe that with this understanding, we can more effectively combine them into a truly diversified total portfolio that more accurately achieves our targeted market risk and preferred mix of global exposures designed to maximize returns at our targeted risk level.

Strategy

Our single investment objective is to invest with a view to achieving a maximum rate of return, without undue risk of loss, having regard to the factors that may affect the funding of the Canada Pension Plan. To this end, we have implemented the following strategies:

Diversification

We seek sustainable returns by maintaining significant investments in almost all primary asset classes, both public and private, and in both developed and emerging markets around the world. These investments are of three broad types: (1) public market investments, (2) private company investments and (3) real assets.

We believe that diversification is the most powerful way to mitigate market downturns and to enhance long-term investment returns at a targeted level of market risk. Our view is that only those investment areas and programs that have fundamentally different sources of value creation can offer true diversification. The risk and expected return of the total portfolio depends primarily on how we combine systematic and non-systematic risk exposures to meet our investment goals. We use a prudent degree of leverage to achieve broad diversification across different types of investments at the chosen level of overall market risk.

Investment Selection

Investment selection means how we select, buy, weight and sell specific securities, investments and sectors. This activity offers the widest set of opportunities to the skilled internal or external manager, in both private and selected public markets. We believe that the potential amount of dollar value-added from investment selection is at least as great as that from diversification. However, it is less reliable and carries higher costs, and the net impact can be negative. Nevertheless, we believe that many of CPP Investments' advantages put the odds of success in our favor. Because of the shorter-term investing pressures and practices found in many markets, individual security prices and current valuations often diverge significantly from long-term intrinsic value and earnings potential that matter most to CPP Investments. This divergence creates opportunities for patient investors. Careful investment selection focused on the long term can succeed in virtually every asset class except the most price efficient, and particularly so in less-developed markets. Also, skilled management using long or short strategies in public markets can add value whether markets are rising or falling. Outperforming competitive markets is a challenging task, and doing so sustainably is even more so. To reduce the risk of undue reliance on a few specific managers and their approaches, we diversify investment selection across multiple active programs and strategies. This allows us to draw upon distinct investment skills.

We regularly review the premises underlying all investment selection programs, as well as the demonstrated skill of their execution. This lets us assess whether the programs remain likely to deliver meaningful and sustained value for the costs and risks involved. If our conclusion changes, we adjust or curtail the strategies.

Strategic Management Activities

We seek sustainable value creation over decades into the future through strategic positioning, a deliberate, temporary shift of asset allocations and factor exposures away from the portfolio's established long-term targets; meaningful investments; and ongoing reassessments of management programs and how they are executed.

We also play an active role as engaged owners in our direct equity, real estate, infrastructure holdings, and our long-term holdings in many public companies.

Finally, we view environmental, climate change and social concerns as major long-term strategic issues. From an investment perspective, they represent both risk and opportunity. We integrate analysis of these factors fully into our investment processes and we engage directly with companies, or through effective organizations, as responsible long-term investors for the benefit of all stakeholders.

Limited Use of Currency Hedging

We believe extensive hedging of foreign investments is not appropriate for the CPP Fund for the following reasons:

- For a Canadian investor, hedging foreign equity returns tends to increase, rather than reduce, overall return volatility. The Canadian dollar tends to strengthen when global equity markets are rising and weaken when they are falling. This is partly due to the Canadian dollar's status as a commodity currency. We believe that the Canadian dollar will continue to behave in this way.

- When the Canadian dollar strengthens against other currencies as a result of higher commodity prices, especially oil, the Canadian economy is also likely to be stronger. That in turn should mean increased earnings for CPP contributors as a result of higher real wages. As earnings rise, so should contributions to the CPP Fund, which will help offset reported losses in the same period due to currency. Accordingly, this represents a natural hedge for the CPP and reduces the need for explicit currency hedging of the CPP Fund's foreign investments.

- The cost of hedging currencies of many developing countries is high and if these countries continue to experience higher productivity and economic growth as their economies mature, their currencies will tend to strengthen. We believe that would make a hedging program a long-term drag on returns.

- We believe we can substantially mitigate the volatility of individual exchange rates by holding a broadly diversified set of currency exposures across the world.

GENERAL TERMS OF THE NOTES AND THE GUARANTEE

The summary below describes the principal terms of the Notes that may be issued under the Program and the Guarantee. Certain of the terms and conditions described below are subject to important limitations and exceptions. The terms "we," "us" and "our" in this subsection of the summary below refer to CPP Investments. The "Description of the Notes and the Guarantee" section of this Offering Memorandum contains a more detailed description of the terms and conditions of the Notes and the Guarantee.

Issuer: .... CPPIB Capital Inc., a wholly-owned subsidiary of Canada Pension Plan Investment Board.

Issuer Legal Entity Identifier (LEI) ... 549300KW9NB55HTDK075

Guarantor: .... Canada Pension Plan Investment Board.

Guarantee: .... The Notes will be unconditionally and irrevocably guaranteed by the Guarantor on a senior basis as to the payment of principal, interest, premium, if any, and certain other fees and expenses.

Securities Offered: .... The Issuer will issue Notes from time to time, subject to a maximum aggregate principal amount of C$40,000,000,000 at the time of issuance or the equivalent in U.S. dollars and/or in one or more foreign currencies at such time. The Issuer may, however, from time to time provide for the issuance of Notes in excess of the foregoing amount.

Maturities: .... One year or more from the date of issue, as agreed upon by the purchaser, the Issuer and us and specified in the applicable Pricing Supplement.

Ranking: .... The Notes will be the Issuer's senior unsecured obligations, and will rank equally in right of payment with all of its other senior unsecured indebtedness, will be senior in right of payment to any of its future indebtedness that is expressly subordinated to the Notes, will be effectively subordinated to all of its existing and future indebtedness that is secured, to the extent of the value of the assets securing such indebtedness, and will be structurally subordinated to all indebtedness and other liabilities of all of its subsidiaries, to the extent of the assets of such subsidiaries. See "Description of the Notes and the Guarantee—Ranking."

The rights of holders of the Notes for payment under the Guarantee will rank *pari passu* with unsecured and unsubordinated obligations to creditors of the Guarantor.

Agents: .... The Issuer has appointed the Agents named on the cover of this Offering Memorandum or named in an amendment or supplement hereto as agents under the Program. The Issuer may appoint additional broker-dealers with respect to specific issuances of Notes, and it reserves the right to place Notes directly on its own behalf.

Interest Rates: .... Interest bearing Notes may be issued either as Fixed Rate Notes or Floating Rate Notes (each, as defined herein). Fixed Rate Notes will bear interest at the rate specified in the applicable Pricing Supplement. Floating Rate Notes will bear interest based on an interest rate formula designated in the applicable Pricing Supplement, which formula may include, without limitation, the Commercial Paper Rate, the Prime Rate, LIBOR, SOFR (based on a weighted average or compounding), EURIBOR, SONIA (based on a weighted average or compounding), the Treasury Rate, the CMT Rate, the Federal Funds Rate, or such other interest rate formula as may be agreed between the Issuer and the purchaser. Unless otherwise specified in the applicable Pricing Supplement, the interest rate on each Floating Rate Note will be calculated by reference to the specified interest rate (a) plus or minus the Spread (as defined herein), if any, and/or (b) multiplied by the Spread Multiplier (as defined herein), if any.

Interest Amount Computations:......... Unless otherwise specified in the applicable Pricing Supplement, interest on (i) Fixed Rate Notes will be computed on the basis of a 360-day year of twelve 30-day months, and (ii) Floating Rate Notes will be computed on the basis of the actual number of days in the interest period divided by 360 (or, in the case of a Floating Rate Note bearing interest at a rate determined by reference to the Treasury Rate or EURIBOR, by the actual number of days in the year or by 365, respectively).

Currency: .... U.S. dollars or such currency or currencies as may be agreed between the Issuer and the relevant purchaser or agent (as indicated in the applicable Pricing Supplement).

Optional Redemption:......................... Unless a supplement hereto, or the applicable Pricing Supplement provides otherwise, if the Notes of a series provide for redemption at the Issuer's election, the Issuer will have the option to redeem those Notes, in whole or *pro rata* in part, upon not less than 30 nor more than 60 days' notice.

Redemption for Taxation Reasons: ... The Issuer may redeem any Notes to which an obligation to pay additional amounts for taxation reasons applies in whole, but not in part, at its option in the event of certain changes in Canadian taxation laws at 100% of their principal amount plus accrued interest. See "Description of the Notes and the Guarantee — Redemption of Notes under certain circumstances — Redemption for taxation reasons."

Forced Transfer:.................................. Any person who holds any interest in the Notes (or beneficial interests therein) who, at the time of acquiring an interest in the Notes is a U.S. person but is not a Qualified Purchaser, may be forced to sell or transfer such interest in the Notes to a purchaser who meets the requirements set forth in "Transfer Restrictions" and "Plan of Distribution." See also "Description of the Notes and the Guarantee—Forced Transfer."

Use of Proceeds:................................... The Issuer intends to use the net proceeds from the sale of any Notes under this Offering Memorandum to make loans to us and/or entities owned by us for general corporate purposes in accordance with our investment policies. The use of proceeds of any individual issuance of Notes, if other than for general corporate purposes, will be described in the applicable Pricing Supplement. See "Use of Proceeds."

Additional Notes:................................. The Issuer may from time to time, without giving notice to or seeking the consent of the holders of the Notes, issue debt securities having the same terms (except for the issue date and, in some cases, the public offering price and the amount and date of the first interest payment date and the date from which interest begins to accrue) as, and ranking equally and ratably with, the Notes of a particular series. Such additional debt securities will be consolidated and form a single series with, have the same CUSIP number,

	Common Code and/or ISIN as and trade interchangeably with such previously issued Notes. However, the Issuer will not issue any such additional debt securities unless such additional debt securities are fungible with the outstanding Notes of the applicable series for Canadian and U.S. federal income tax purposes.
Form and Denomination:....................	Each Note will be issued in fully registered book-entry form, represented by one or more global Notes without coupons (each, a "Global Note") and deposited with either (a) a custodian for, and registered in the name of, a nominee for DTC or (b) a common depositary or, if the Global Notes are to be held under the New Safekeeping Structure ("NSS"), a common safekeeper, as the case may be, for Euroclear and Clearstream, Luxembourg, and registered in the name of a nominee of that common depositary or common safekeeper, as specified in the applicable Pricing Supplement. Where the Global Notes are to be held by a custodian for DTC ("DTC Notes"), interests in the Notes will be represented through book-entry accounts of financial institutions acting on behalf of beneficial owners as direct and indirect participants in DTC. Clearstream, Luxembourg and Euroclear will hold interests on behalf of their participants through their respective U.S. depositaries, which in turn will hold such interests in accounts as participants of DTC. Where the Global Notes deposited with a common depositary or common safekeeper ("Euro Notes") are to be held under the NSS, the applicable Pricing Supplement will also indicate whether such Euro Notes are intended to be held in a manner which would allow Eurosystem eligibility, but such indication does not necessarily mean that the Notes of the relevant series will be recognized as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem either upon issue or at any times during their life as such recognition depends upon satisfaction of the Eurosystem eligibility criteria. The common safekeeper for the Euro Notes to be held under the NSS will either be Euroclear or Clearstream, Luxembourg or another entity approved by Euroclear and Clearstream, Luxembourg. Except in the limited circumstances described in this Offering Memorandum, owners of beneficial interests in the Notes will not be entitled to have Notes registered in their names, will not receive or be entitled to receive Notes in definitive form and will not be considered holders of Notes under the Fiscal and Paying Agency Agreement. Unless otherwise specified in the applicable Pricing Supplement, the Notes will be issued only in denominations of U.S.$250,000 (or the equivalent thereof in another currency) and integral multiples of U.S.$1,000 in excess thereof (or, in the case of Notes denominated in a currency other than U.S. dollars, 1,000 units of such currency). In the case of Notes held through DTC and denominated in a currency other than U.S. dollars, payments will be made in U.S. dollars unless the participant in DTC with an interest in such Notes has elected to receive any part of such payment in such other currency.
Settlement:..	Unless otherwise specified in the applicable Pricing Supplement, settlement for sales of Notes will be made in immediately available funds in New York, generally three Business Days after the sale date. If we, the Issuer and a purchaser agree, however, settlement may occur on a different date.

Other Provisions:	The Notes and/or the Guarantee may from time to time be issued with terms and provisions that differ from those described in this Offering Memorandum. In such event, the terms and provisions of such Notes will be as set forth in the applicable Pricing Supplement, which terms will supersede the description of the Notes and the Guarantee contained herein to the extent inconsistent herewith.
Absence of Public Market for Notes:	Each series of the Notes will be a new issue of securities. No previous market exists for such new Notes and no assurances can be given that any market for such Notes will develop. The Agents are under no obligation to make a market in the Notes and to the extent that such market-making is commenced, it may be discontinued at any time. There is no assurance that a secondary market will develop or, if it does develop, that it will provide holders with liquidity of investment or that it will continue for any period of time. Therefore, a holder of Notes may not be able to liquidate its investment readily, and the Notes may not be readily accepted as collateral for loans. Investors should proceed on the assumption that they may have to hold any Notes until the end of their scheduled term.
Transfer Restrictions:	Neither the Notes nor the Guarantee have been, nor will they be, registered under the Securities Act, and the Notes and the Guarantee are subject to restrictions on transfer, as described under "Transfer Restrictions."
Fiscal and Paying Agency Agreement:	The Notes will be issued under, subject to and entitled to the benefits of a fiscal and paying agency agreement, dated as of September 9, 2016 (as may be amended, modified or supplemented from time to time, the "Fiscal and Paying Agency Agreement"). See "Description of the Notes and the Guarantee."
Risk Factors:	You should carefully read and consider the information set forth in "Risk Factors" beginning on page 15 before investing in the Notes.
Listing and Admission to Trading:	Application has been made to Euronext Dublin for certain Notes issued within 12 months after the date of this Offering Memorandum to be admitted to the Official List and to trading on the GEM; however, no assurance can be given that such application will be accepted. Notes may be listed or admitted to trading, as the case may be, on other or further stock exchanges or markets agreed between the Issuer and the relevant Agent in relation to the relevant series of Notes. Notes which are neither listed nor admitted to trading on any market may also be issued. The applicable Pricing Supplement will state whether or not the relevant Notes are to be listed and/or admitted to trading and, if so, on which stock exchanges and/or markets. So long as any of the Notes are listed on Euronext Dublin, we will maintain a listing agent in Ireland, which is initially Arthur Cox Listing Services Limited. If the listing of the Notes on Euronext Dublin would, in the future, require us to publish financial information either more regularly than we are otherwise required to, or according to accounting principles other than IFRS (or would

require the Issuer to publish financial information), or if maintaining the listing were to become, in our judgment, unduly burdensome, we may seek an alternative admission to listing, trading and/or quotation for the Notes by another listing authority, stock exchange and/or quotation system. If such an alternative admission to listing, trading and/or quotation of the Notes is not available to us or is, in our commercially reasonable judgment, unduly burdensome, an alternative admission to listing, trading and/or quotation of any or all series of Notes may not be obtained and the Notes of such series may be delisted.

Irish Listing Agent: .... Arthur Cox Listing Services Limited is acting solely in its capacity as listing agent for us in connection with the Notes and is not itself seeking admission to trading on the GEM.

Fiscal Agent, Paying Agent and Exchange Agent:........................... The Bank of New York Mellon.

London Paying Agent:......................... The Bank of New York Mellon, London Branch.

Governing Law: .... State of New York.

Credit Ratings:..................................... We expect the Notes will be assigned a rating of "AAA" by S&P Global Ratings ("S&P"), a rating of "Aaa" by Moody's Investors Service, Inc. ("Moody's") and a rating of "AAA" by DBRS Limited ("DBRS").

Credit ratings are intended to provide investors with an independent measure of the credit quality of securities. The credit ratings accorded to the Notes are not recommendations to purchase, hold or sell such securities inasmuch as such ratings are not a comment upon the market price of the securities or their suitability for a particular investor. There is no assurance that any rating will remain in effect for any given period of time or that any rating will not be revised or withdrawn entirely by a rating agency in the future if, in its judgment, circumstances so warrant.

SUMMARY CONSOLIDATED FINANCIAL AND OTHER DATA

The following table sets forth a summary of our consolidated financial and other information for the periods indicated. Unless otherwise indicated below, the information for the years ended and as of March 31, 2020, 2019 and 2018 has been derived from our 2020 Financial Statements and 2019 Financial Statements, attached as Annexes A-2 and A-4, respectively, to, and incorporated by reference into, this Offering Memorandum. These summary consolidated financial and other data should be read in conjunction with the sections entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" attached as Annexes A-3 and A-5, respectively, to, and incorporated by reference into, this Offering Memorandum. We prepare our consolidated financial statements in accordance with IFRS as issued by the IASB.

Income Statement Data

	For the years ended March 31,					
(C$ millions)	**2020**		**2019**[1]		**2018**[2]	
Net Investment Income						
Investment income....................	C$	15,721	C$	35,095	C$	39,931
Investment-related expenses.....		(2,370)		(1,882)		(2,139)
	C$	13,351	C$	33,213	C$	37,792
Operating Expenses						
Operating Expenses	C$	1,254	C$	1,203	C$	1,053
Net Income from Operations .	C$	12,097	C$	32,010	C$	36,739

[1] Certain comparatives have been updated to conform with the current year's presentation.
[2] Investment-related expenses for that year's presentation includes investment-related expenses borne by both CPP Investments and its investment holding subsidiaries, and excludes borrowing costs which is grouped into "Investment Income."

Balance Sheet Data

(C$ millions)	As at March 31, 2020		2019[1]		2018[2]	
Assets						
Investments	C$	535,464	C$	495,449	C$	428,827
Pending trades receivable		6,944		4,467		2,613
Premises and equipment		474		387		348
Other assets		262		244		153
Total Assets	C$	543,144	C$	500,547	C$	431,941
Liabilities						
Investment liabilities	C$	127,062	C$	104,219	C$	72,641
Pending trades payable		5,702		3,703		2,477
Amounts payable and accrued liabilities		792		645		689
Total Liabilities	C$	133,556	C$	108,567	C$	75,807
Net Assets, Represented By						
Share capital	C$	—	C$	—	C$	—
Accumulated net income from operations		259,721		247,624		215,614
Accumulated net transfers from the Canada Pension Plan		149,867		144,356		140,520
Net Assets	C$	409,588	C$	391,980	C$	356,134

[1] Certain comparatives have been reclassified to conform to the current year's presentation.
[2] Investment liabilities, pending trades receivable and pending trades payable of CPP Investments' investment holding subsidiaries are included in each of their respective lines in that year's presentation, as opposed to being grouped into "Investments" in the current year's presentation.

Asset Mix	As at March 31, 2020 C$ billions	C$ billions %	2019 C$ billions	C$ billions %	2018[1] C$ billions	C$ billions %
Asset Class						
Public Equities	**115.7**	**28.2%**	**130.0**	**33.2%**	**138.4**	**38.8%**
Canadian	7.1	1.7%	7.9	2.0%	8.7	2.4%
Foreign	70.5	17.2%	82.7	21.1%	103.3	29.0%
Emerging	38.1	9.3%	39.4	10.1%	26.4	7.4%
Private Equities	**100.9**	**24.7%**	**93.1**	**23.7%**	**72.4**	**20.3%**
Canadian	1.1	0.3%	1.0	0.2%	1.0	0.3%
Foreign	86.4	21.1%	80.0	20.4%	61.8	17.3%
Emerging	13.4	3.3%	12.1	3.1%	9.6	2.7%
Government Bonds	**97.7**	**23.9%**	**86.1**	**22.0%**	**76.8**	**21.6%**
Non-marketable	21.1	5.2%	22.2	5.7%	23.6	6.6%
Marketable	76.6	18.7%	63.9	16.3%	53.2	15.0%
Credit	**50.8**	**12.4%**	**35.8**	**9.1%**	**22.6**	**6.3%**
Real Assets	**97.6**	**23.8%**	**94.1**	**24.0%**	**83.8**	**23.5%**
Real Estate	46.5	11.3%	47.5	12.1%	46.1	12.9%
Infrastructure	35.1	8.6%	33.3	8.5%	28.6	8.0%
Energy and Resources	7.3	1.8%	8.2	2.1%	6.1	1.7%
Power and Renewables	8.7	2.1%	5.1	1.3%	3.0	0.9%
External Debt Issuance	**(38.4)**	**(9.4)%**	**(30.9)**	**(7.9)%**	**(24.1)**	**(6.7)%**
Cash and Absolute Return Strategies[2]	**(14.7)**	**(3.6)%**	**(16.2)**	**(4.1)%**	**(13.6)**	**(3.8)%**
Net Investments	**409.6**	**100.0%**	**392.0**	**100.0%**	**356.3**	**100%**
Non-Investment Assets (Liabilities)[3]	—		—		(0.2)	
Net Assets[4]	**409.6**		**392.0**		**356.1**	

[1] Certain figures and percentages for fiscal 2018 have been updated to be consistent with the current year's presentation.
[2] The negative balance of C$14.7 billion in Cash and Absolute Return Strategies represents the net amount of financing through derivatives and repurchase agreements, and the current net position from Absolute Return Strategies.
[3] Includes assets such as premises and equipment and non-investment liabilities.
[4] Includes C$407.3 billion in the base Canada Pension Plan account and C$2.3 billion in the additional Canada Pension Plan account.

Total Fund Returns[1]

Asset Class	As at March 31, 2020	2019	2018
Public Equities			
Canadian	(12.2)%	7.9%	2.2%
Foreign	1.6%	7.5%	11.0%
Emerging	(9.1)%	(1.7)%	18.6%
Private Equities			
Canadian	(5.1)%	5.7%	1.8%
Foreign	6.0%	18.0%	16.0%
Emerging	8.0%	11.8%	19.5%
Government Bonds			
Marketable	16.1%	5.3%	1.6%
Non-marketable	4.7%	4.8%	2.7%
Credit Investments	0.5%	8.7%	6.9%
Real Assets			
Real Estate	5.1%	6.4%	9.4%
Infrastructure	(1.0)%	14.0%	15.2%
Energy and Resources[2]	(23.4)%	(0.6)%	n/a
Power and Renewables[2]	4.4%	1.2%	n/a
Total Fund[3]	3.1%	8.9%	11.9%

[1] Returns by asset class are inclusive of both the base and additional CPP Investments accounts, before CPP Investments operating expenses. Subtotals are not arithmetically derived, since performance metrics are reported using time-weighted returns.
[2] Energy and Resources and Power and Renewables figures and percentages for fiscal 2018 were grouped into "Other" category for that year's presentation with a (9.8%) return.
[3] The total Fund net return is after all costs, including operating expenses of C$1.3 billion (C$1.2 billion in fiscal 2019). The total Fund return includes the results of certain investment activities that are not attributed to an asset class return reported in this table, such as performance of C$(3.0) billion from currency management activities (C$(1.2) billion in fiscal 2019), C$(0.3) billion from cash and liquidity management activities (C$(0.7) billion in fiscal 2019), C$0.9 billion from absolute return strategies (C$0.6 billion in fiscal 2019).

	As at March 31, 2020		2019		2018	
	Net %	Net C$ billions	Net %	Net C$ billions	Net %	Net C$ billions
Total Fund Returns						
1-year return	3.1%	12.1	8.9%	32.0	11.5%	36.7
5-year return	7.7%	123.4	10.7%	152.0	12.1%	150.1
10-year return	9.9%	235.2	11.1%	239.0	7.9%	183.3

RISK FACTORS

An investment in the Notes is subject to numerous risks, including those listed below. You should carefully consider the following risks as well as the other information contained in this Offering Memorandum before purchasing the Notes. These risks could materially affect our ability to meet our obligations under the Notes. In such case, you may lose all or part of your original investment in, and the expected return on, the Notes.

Risks Relating to Our Business

Our business, results of operations and financial condition are materially affected by the condition of global financial markets and economic conditions generally.

Macroeconomic conditions, including recessions, along with global financial market turmoil and volatility, may affect our performance. In particular, the value of our assets is susceptible to general fluctuations in the capital markets and to volatile increases and decreases in value in response to various factors which are not within our control such as the financial performance of individual issuers, market confidence, inflation, economic expansion or contraction, commodity prices, exchange rates, interest rates, environmental risks, political risks, issues relating to government regulation and other financial market conditions.

Weakness or significant deterioration in the Canadian and global economies or volatility in financial markets may affect us in one or more of the following ways which, should such events occur, could have a material adverse effect on our business, results of operations and financial condition:

- We hold investments representing a variety of asset classes, including public equities, private equities, bonds, private debt, real estate, infrastructure, agriculture and other asset classes, which expose us to risks associated with (but not limited to) fluctuations in interest rates, equity and other securities prices, credit default rates, the value of real estate assets, fluctuations in currency exchange rates and credit spreads. As a result, the value of the investment portfolio has been, and may be, negatively impacted by adverse conditions in the financial markets and global economy.

- We hold certain assets that have low liquidity, such as privately placed fixed income securities, foreign sovereign bonds, private equity investments, infrastructure and real estate. In times of market stress, our assets (including those with low liquidity) may be less liquid, resulting in realized losses if such assets were sold. A downturn in the financial markets may exacerbate the low liquidity of these assets and may also reduce the liquidity of assets that are typically liquid, as occurred during the financial crisis in the case of the markets for asset-backed securities relating to real estate assets and other collateralized debt and loan obligations.

- Our portfolio has significant investments in international markets that are subject to risk of loss from political or diplomatic developments, government policies, civil unrest, currency fluctuations, changes in legislation related to foreign ownership and impacts of the novel coronavirus (“COVID-19”). International markets, particularly emerging markets, which are often smaller, do not have the liquidity of established markets and often experience significantly more volatility than established markets, particularly during periods of significant market volatility. Sovereign credit rating downgrades in these markets could also have a negative impact on valuations of the securities and currencies we hold in these markets.

- Disruptions, uncertainty or volatility in public markets, credit, securities lending, repurchase markets or the other asset classes we invest in may limit or otherwise adversely impact our ability to access the debt capital markets on desirable terms or at all. This may in turn force us to (a) delay raising additional capital, (b) issue debt securities of different types or under less favorable terms than desired, or (c) incur a higher cost of capital than we would otherwise have incurred, each of which may have a material adverse effect on our business, results of operations and financial condition.

The spread of the COVID-19 has and may continue to negatively impact our business, results of operations and financial condition, and the rapid development and fluidity of this situation precludes any prediction as to the ultimate adverse impact to us of COVID-19.

In December 2019, a novel strain of COVID-19 was reported to have surfaced and has since spread to over 200 countries and territories around the world, including every province in Canada and every state in the United States. On March 11, 2020 the World Health Organization declared COVID-19 a pandemic. Several Canadian provinces and territories have declared states of emergency in response to COVID-19 and on March 13, 2020 the United States declared a national emergency with respect to COVID-19. Several other countries around the world have also declared states of emergency. Governmental authorities around the world have implemented measures to reduce the spread of COVID-19, including travel bans and restrictions, quarantines, shelter in place orders, shutdowns and social distancing requirements. These measures have adversely affected workforces, the global supply chain, consumer sentiment, economies, and financial markets, and, along with decreased consumer spending, have led to an economic downturn in many markets and asset classes around the world. These and other measures by governmental and non-governmental institutions and organizations may not effectively combat COIVD-19's spread and severity.

The spread of COVID-19 has had disruptive effects in countries in which we operate and the global economy more widely, and has caused increased volatility and declines in asset values and financial markets that have impacted CPP Investments. The outbreak of COVID-19 has also adversely affected valuations of our investments in public equities, real assets and fixed income. This volatility and the resulting adverse effects on our investments, may continue.

This outbreak has also severely and adversely impacted global economic activity, which, combined with negative pressure in the financial markets, has adversely affected many of the companies we invest in, either through public equities, public fixed income, private credit or private equity. Many of our real assets are similarly affected. The businesses and assets we invest in could generate lower revenue and cash flow as a result of broad economic uncertainty and lower employment, reduced tourism, lower consumer spending, decreased air travel, disruptions to supply chains and border crossings, banned public gatherings and other known and unknown effects from COVID-19. These businesses may also be unable to refinance maturing short- or long-term debt, as applicable, and could request or compel additional capital from us.

The impact of changes to credit spreads, capitalization rates and discount rates on the valuations of our private credit, private equity, real assets and debt could also be affected by the broader market impacts from COVID-19, to an extent not yet known. The full extent to which COVID-19 impacts our results will depend on future developments, which are highly uncertain and cannot be predicted. If the pandemic is prolonged, or further diseases emerge that give rise to similar effects, the adverse impact on the global economy could deepen and result in further and prolonged periods of declines in financial markets and assets classes we invest in which would have a material adverse effect our business, results of operations and financial condition.

A continued global contraction and related financial market and asset class volatility driven by COVID-19 could adversely affect our sources of funds due to lower than anticipated investment returns. In addition, increased unemployment rates or other economic dislocations in Canada caused by COVID-19 could adversely affect our source of funds as such increased unemployment and economic dislocation could result in lower transfers to us from the CPP. As the COVID-19 pandemic continues to evolve these factors could have a material adverse effect our business, results of operations and financial condition.

The rapid development and fluidity of this situation precludes any prediction as to the ultimate adverse impact to us of COVID-19. We are continuing to monitor the spread of COVID-19 and related risks. The magnitude and duration of the pandemic and its impact on our business, results of operations, and financial condition is uncertain as this pandemic continues to evolve globally. However, if the spread continues on its current trajectory, negative impacts could grow and our business, results of operations and financial condition may be materially adversely affected.

The withdrawal of a province from the CPP could have a material adverse effect on our business, results of operations and financial condition and could reduce the trading value of the Notes.

The CPP Act allows a province to withdraw from the CPP by taking certain steps outlined in the CPP Act. The process of withdrawal from the CPP is complex, involves a number of milestones and becomes effective no sooner than two years after a province provides the required notice of withdrawal. The process must be coordinated among the withdrawing province, multiple federal ministries and CPP Investments as described in the section of this offering memorandum titled "Regulation of CPP Investments." If a province were to withdraw from the CPP, the withdrawal would be effected under the current regulatory framework where we are at all times legally entitled to retain assets (or acquire assets from the CPP Accounts within the CRF) that have a fair market value of not less than the properly authorized and incurred liabilities of CPP Investments, including without limitation our liabilities under the Guarantee so that only assets having a fair market value in excess of our liabilities are available to the Government of Canada to satisfy its obligations under the CPP. We cannot predict whether a province will withdraw from the CPP, the ultimate financial magnitude and impact of such withdrawal or other fundamental aspects of the process, manner and timing of such withdrawal, however, any such developments could create a degree of uncertainty which may negatively impact our business, results of operations and financial condition and could reduce the trading value of the Notes. Moreover, if a province withdraws from the CPP, the withdrawal could be effected in a manner that would have a material adverse effect on our business, results of operations and financial condition and could reduce the trading value of the Notes.

Fluctuations in interest rate levels could have a material adverse effect on our business, results of operations and financial condition.

We are exposed to interest rate risk primarily through holdings of fixed income securities, certain investment liabilities and interest rate derivative instruments. If interest rates rise, the value of our fixed income portfolio may decrease. This may result in unrealized losses. Furthermore, rising interest rates could require that we post collateral in relation to our interest rate derivative holdings or repurchase activities. The occurrence of any of the risks set out above could have a material adverse effect on our business, results of operations and financial condition.

Fluctuations in exchange rates could have a material adverse impact on our investment portfolio, which could in turn have a material adverse effect on our business, results of operations and financial condition.

We make investments globally that are denominated in a variety of currencies and may not actively hedge these exposures. If the value of one or more of these currencies declines materially, or if there are fluctuations in the relative value of such foreign currencies against the Canadian dollar, it could have a material adverse impact on our investment portfolio, which could in turn have a material adverse effect on our business, results of operations and financial condition. Among the factors that may affect currency values are trade balances, the level of short-term interest rates, differences in relative values of similar assets in different currencies, long-term opportunities for investment and capital appreciation, and political developments.

Increased competition may cause our investment income to decline.

The investment management industry is highly competitive and has relatively low barriers to entry. In particular, we face increasing competition bidding for large scale assets, such as infrastructure assets and real estate assets, from entities such as large scale pension funds, asset managers and sovereign wealth funds. Competitors such as these are increasingly becoming more sophisticated and seeking opportunities in the same diverse set of asset classes in which we participate. Increased competition for such investments could cause our investment income to decline.

In the ordinary course of business, we make extensive use of assumptions and quantitative models to inform investment decisions, monitor and value our portfolio investments and assess risk. Differences in experience compared with assumptions, as well as updates of the assumptions and quantitative models, may have a material adverse effect on our business, results of operations and financial condition.

In the ordinary course of business, we make extensive use of quantitative models to inform investment decisions, monitor and value our portfolio investments, and assess risk, as well as to estimate expenditures (including operating expenses, investment expenses, commissions payable and tax expenses) which are used for various purposes, including pricing, valuation, liquidity management, and hedging.

A portion of our investment portfolio is valued using methods that rely on inputs for the relevant assets that are not based on observable market data. The fair value of these assets 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. Valuation methods based on reasonable alternative assumptions may produce different fair values from those that we have calculated.

Furthermore, the quantitative models that we use to derive such valuations, as well as with respect to the other aspects of our business mentioned above, may include, among others, statistics, observed historical market data, and our own judgment, expertise and experience, and include assumptions as to, among others, expenses, interest rates, credit spreads, and investment portfolio performance (including equity market and debt market returns). Quantitative and risk models are complex and may not identify all relevant elements, or may not accurately estimate the magnitude of the impact of identified elements. The effectiveness of these models depends on the quality of information used, which may not always be accurate, complete, or up-to-date, or the significance of which may not always be properly evaluated. Quantitative and risk models are inherently uncertain and involve the exercise of significant judgment.

If actual experience differs from assumptions or estimates, we may incur losses. From time to time, we may need to update our assumptions and quantitative and risk models to reflect actual experience and other new information. Changes to assumptions and these models could impact us by, for instance, requiring that we update our investment positions, in which case we may incur losses. Our modeling with respect to COVID-19 outcomes in particular may not accurately predict the sensitivities of our asset portfolio to market, interest rate, credit and liquidity risks under the extreme and unprecedented scenarios created by COVID-19 which may have a negative impact on the outcomes which could have a material adverse effect on our business, results of operations and financial condition.

The impairment or failure of financial institution counterparties may impact our investment return.

Our investment management activities expose the CPP Fund to different industries and counterparties, including brokers and dealers, commercial and investment banks, clearing organizations, mutual and hedge funds, and other institutional clients. Transactions with counterparties expose the CPP Fund to credit risk if the applicable counterparty defaults. Such counterparties may be subject to sudden swings in the financial and credit markets that may impair their ability to perform or they may otherwise fail to meet their obligations. If these events occur, the decline in counterparty credit quality could result in a reduction in the value of the underlying assets which could have a material adverse effect on our business, results of operations and financial condition.

In addition, a default by any financial institution, or by a sovereign, could lead to additional defaults by other market participants. The failure of a sufficiently large and influential financial institution or sovereign has in the past, and could in the future, disrupt securities markets or clearance and settlement systems, and could lead to a chain of defaults because the commercial and financial soundness of many financial institutions may be closely related as a result of credit, trading, clearing or other relationships. Even the perceived lack of creditworthiness of one or more counterparties may lead to market-wide liquidity problems and losses or defaults by us or by other institutions. This risk is sometimes referred to as “systemic risk” and may adversely affect financial intermediaries, such as clearing agencies, clearing houses, banks, securities firms and exchanges with which we interact on a daily basis. Systemic risk could have a material adverse effect on our business, results of operations and financial condition.

We are exposed to the risk of damage to our reputation.

We operate in an industry where integrity, trust and confidence are paramount, particularly given our unique position of accountability to the CPP contributors and beneficiaries. We are exposed to the risk that litigation, employee fraud and other misconduct, operational failures, press speculation and negative publicity, amongst others, whether or not founded, could damage our reputation.

Negative publicity could be based, for instance, on our internal business practices or those of our business partners or the companies in which we are investors. Business partners include third parties hired to perform some of our administrative functions as well as investment organizations with whom we have a contractual arrangement.

Any damage to our reputation or implications of negative publicity could impact our position as a partner, investor and employer of choice and impede our ability to execute our strategy.

Prolonged investment underperformance of our investment portfolio could result in legislative changes that could in turn have a material adverse effect on our business, results of operations and financial condition.

In the event that we do not provide satisfactory or appropriate investment returns now or in the future, make inappropriate investment choices, or are unable to successfully execute selected strategies or adapt to changes in the external business, political or socioeconomic environment, we risk legislative changes which, if enacted, could have a material adverse effect on our business, results of operations and financial condition.

We are subject to federal laws, regulations and rules of Canada governing the operation, management and administration of the CPP Fund and the investment of CPP assets, including the CPP Act, CPP Investments' Code of Conduct and the CPPIB Act. Failure to comply with such requirements could result in financial penalties, regulatory sanctions, portfolio losses and damage to our reputation.

We are subject to federal laws, regulations and rules of Canada governing the operation, management and administration of the CPP Fund and the investment of CPP assets, including the CPP Act, CPP Investments' Code of Conduct and the CPPIB Act. Such laws, regulations and rules may be amended, repealed or enforced, or new laws, regulations or rules may be enacted, in a manner which may adversely affect our operations and investment activities, our financial position or our ability to fulfill our obligations under the Guarantee.

The United Kingdom's withdrawal from the European Union may have a negative effect on global economic conditions, financial markets and our business.

Our business is subject to risks associated with the exit of the United Kingdom from the European Union, commonly referred to as "Brexit," following the outcome of the British referendum held on June 23, 2016. On January 31, 2020, under the terms of the Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community, the United Kingdom withdrew from the European Union, beginning a transition period ending on December 31, 2020, unless extended. During the transition period, the United Kingdom remains in the EU single market and EU customs union, and regulated financial services firms in the United Kingdom and the European Union will be able to continue to operate (including on the basis of passporting rights) as they have been prior to January 31, 2020. It remains unclear whether the transition period will end on December 31, 2020, or be extended. It also remains unclear whether the United Kingdom and the European Union will be able to negotiate a free trade agreement and other arrangements before the transition period ends, and if not, what agreements will be reached. There also remains the possibility that there will be no such agreements reached between the parties at the end of the transition period. If agreements are reached, it is unclear what the nature and the scope of them will be. Among other uncertainties, it is unclear which existing laws, regulations and standards the United Kingdom will choose to retain, modify or abrogate following the end of the transition period. These and other Brexit-related developments affecting either the United Kingdom or the European Union following the transition period may have a material adverse effect on global economic conditions or on the stability of global financial markets. They may significantly reduce global market liquidity and restrict the ability of key market participants to operate in certain financial markets. Any of these factors could depress economic activity in the region, which could have a material adverse effect on our business, results of operations and financial condition and could reduce the trading value of the Notes.

We are subject to operational risks, which can be triggered by both internal and external events that may be beyond our control. Should operational risks occur they may lead to direct financial losses, indirect financial losses appearing as operating inefficiencies, regulatory sanctions or penalties, or damage to our reputation.

We are subject to operational risks, which encompass a broad range of risks, including those associated with:

- Model risk;
- Human capital management;
- Information integrity and cybersecurity;
- Business interruptions;
- Process management and execution; and
- Integrity of financial reporting.

If any of these operational risks were to occur, they can take the form of direct or indirect financial losses appearing as operating inefficiencies, regulatory sanctions or penalties, or damage to our reputation. Such operational risk can also directly impact our ability to manage other key risks.

The loss of key personnel, and the failure to attract and retain key personnel with appropriate qualifications and experience, could have a material adverse effect on our business and impair our ability to implement our business strategy.

Our success depends in large part on our ability to attract and retain key personnel with appropriate knowledge and skills, particularly financial, investment, IT, risk management and other specialist skills and experience. Competition for talent in the marketplace may result in increased costs to attract and retain such personnel or an inability to attract the right skill sets. Any failure on our part to attract or retain qualified personnel could have a material adverse effect on our business, results of operations and financial condition.

Risks Relating to the Notes

Your recourse as a holder of a Note or Notes may be limited.

The Notes are not obligations of, or guaranteed by, the Government of Canada. Your recourse as a holder of Notes of any series in respect of the repayment of such Notes is limited solely to: (i) the assets of the Issuer; and (ii) any obligation of ours that may arise under the Guarantee.

An active secondary market in respect of the Notes might never be established or might be illiquid and this would adversely affect the value at which you could sell the Notes.

The Notes will have no established trading market when issued, and despite application having been made to Euronext Dublin for the Notes to be admitted to the Official List and to be admitted to trading on the GEM, one might never develop. If a market does develop, it might not be very liquid. Therefore, investors might not be able to sell their Notes easily or at prices that will provide them with a yield comparable to similar investments that have a developed secondary market. This is particularly the case for Notes that are especially sensitive to interest rate, currency or market risks, are designed for specific investment objectives or strategies or have been structured to meet the investment requirements of limited categories of investors. These types of Notes generally would have a more limited secondary market and more price volatility than conventional debt securities. If an active trading market for investments in the Notes is not developed or maintained, then the market or trading price and liquidity of investments in the Notes might be adversely affected.

There may be limited publicly available information related to the Notes.

Neither we nor the Issuer is a reporting issuer in any jurisdiction in Canada or the United States and neither of us has a current intention of becoming so. As a result, neither we nor the Issuer is required to file continuous disclosure documents, reports or other information with any securities commission or similar regulatory authority in any province or territory of Canada, such as filing an annual information form. Although we publish certain disclosure as described elsewhere in this Offering Memorandum, this disclosure may not be consistent with the level of disclosure required of reporting issuers in any jurisdiction in Canada or the United States. Furthermore, there is limited publicly available information regarding the Issuer.

Credit ratings are subject to change and may adversely affect the market value of the Notes.

A credit rating is not a recommendation to buy, sell or hold the Notes and may be lowered or withdrawn by the rating agency at any time. Real or anticipated changes in the credit ratings may affect the market price or value of the Notes. A lowering of any credit ratings applied to the Notes may have an adverse effect on the market price or value or the liquidity of the Notes. There is no assurance that any credit rating will remain in effect for any given period of time or that any credit rating will not be revised or withdrawn entirely by a rating agency in the future if, in its judgment, circumstances so warrant. Although neither CPP Investments or the Notes are guaranteed by the Government of Canada, our credit rating may also be impacted by changes in the ratings assigned to Canada whether as a result of COVID-19 or otherwise.

The Issuer may incur additional indebtedness.

There is no limit on Issuer's ability to incur additional senior debt.

An increase or decline in interest rates will inversely affect the value of the Notes.

Prevailing interest rates will affect the market value of the Notes which carry a fixed interest rate. Assuming all other factors remain unchanged, the market value of the Notes, if any market exists, will decline as prevailing interest rates for comparable debt instruments rise, and increase as prevailing rates for comparable debt instruments decline.

The Fiscal and Paying Agency Agreement provides limited covenants and protection.

While the Fiscal and Paying Agency Agreement and the Notes contain terms intended to provide you protection upon the occurrence of certain events involving significant corporate transactions, these terms are limited and may not be sufficient to protect your investment in the Notes. For example, there is no limitation on liens and there are no financial covenants in the Fiscal and Paying Agency Agreement.

Your claims as a holder of a Note or Notes will be subordinate to our secured indebtedness and secured indebtedness of the Issuer.

The Notes are not secured by any of our assets or the assets of the Issuer. Accordingly, any of our or the Issuer's secured indebtedness would rank prior to your claims as a holder of any Notes.

Notes denominated and payable in a currency other than the investor's currency are subject to exchange rate and exchange control risks.

If your financial activities are denominated principally in one currency (the "Investor's Currency") and you invest in a Note denominated and payable in a different currency (such currency, the "Relevant Currency" and such Notes, "Relevant Currency Notes"), you will be subject to significant risks not associated with an investment in a Note denominated and payable in the Investor's Currency, including the possibility of material changes in the exchange rate between the Investor's Currency and the Relevant Currency and the imposition or modification of exchange controls by the applicable governments. Neither we nor the Issuer have any control over the factors that generally affect these risks, including economic, financial and political events and the supply and demand for the applicable currencies. Moreover, if payments on Relevant Currency Notes are determined by reference to a formula containing a multiplier or leverage factor, the effect of any change in the exchange rates between the applicable currencies will be magnified. In recent years, exchange rates between certain currencies have been highly volatile and volatility between these currencies or with other currencies may be expected in the future. Fluctuations between currencies in the past are not necessarily indicative, however, of fluctuations that may occur in the future. Depreciation of the Relevant Currency would result in a decrease in the Investor's Currency equivalent yield of the subject Relevant Currency Notes, in the Investor's Currency equivalent value of the principal and any premium payable at the stated maturity or any earlier redemption of such Notes and, generally, in the Investor's Currency equivalent market value of such Notes.

Governmental exchange controls could affect exchange rates and the availability of the payment currency for your Relevant Currency Notes on a required payment date. Even if there are no exchange controls, it is possible that your payment currency will not be available on a required payment date for circumstances beyond our control. In these cases, we will be allowed to satisfy our obligations in respect of your Relevant Currency Notes in U.S. dollars or delay payment. See "Description of the Notes and the Guarantee — Currency of Notes" herein for further discussion of these risks.

Redemption may adversely affect your return on the Notes.

If Notes are specified to be redeemable at the Issuer's option, the Issuer may choose to redeem your Notes at times when prevailing interest rates are lower than when you invested. In addition, if your Notes are subject to mandatory redemption, the Issuer may be required to redeem your Notes also at times when prevailing interest rates are lower than when you invested. As a result, you generally will not be able to reinvest the redemption proceeds in a comparable security with an effective interest rate equal to or higher than that applicable to your Notes being redeemed.

The Notes are subject to transfer restrictions.

The Notes will be issued in minimum denominations of U.S.$250,000 (or the equivalent thereof in another currency) and integral multiples of U.S.$1,000 (or, in the case of Notes denominated in a currency other than U.S. dollars, 1,000 units of such currency) in excess thereof. Unless they are registered, the Notes and the Guarantee, respectively, may be offered only in transactions that are exempt from registration under the Securities Act or the securities laws of any other jurisdiction. Accordingly, the Notes and the Guarantee are being initially offered in the United States only to "qualified institutional buyers" (as defined in Rule 144A under the Securities Act) ("Qualified Institutional Buyers") who are also "qualified purchasers" (as defined in Section 2(a)(51)(A) of the Investment Company Act and the rules thereunder) ("Qualified Purchasers") and outside the United States to non-U.S. persons in compliance with Regulation S of the Securities Act. In addition, neither the Issuer nor we are registered as an investment company under the Investment Company Act of 1940. Accordingly, Notes that are initially offered in the United States or to U.S. persons will be subject to ongoing restrictions on transfer, which are further described under "Transfer Restrictions" below. Furthermore, in Canada, the Notes are being offered pursuant to statutory exemptions from prospectus requirements available under securities legislation in each province of Canada, which exemptions impose restrictions on the initial offering of, and subsequent resale of, the Notes. As a result of these restrictions in the United States, Canada and elsewhere, the Notes will be subject to restrictions on resale including a restricted period or hold period applicable to the Notes which may never expire, and may only be resold if a further statutory exemption may be relied upon by the investor or if an appropriate discretionary order or consent is obtained pursuant to applicable securities laws. Each purchaser of the Notes, in making its purchase, will be deemed to make the acknowledgements, representations, warranties and agreements set forth in "Transfer Restrictions." Given the high denominations and the restrictions on transfer, investors may have difficulty locating eligible persons willing to purchase Notes from them. As a result of these restrictions, there can be no assurance as to the existence of a secondary market for the Notes or the liquidity of such market if one develops. Consequently, you must be able to bear the economic risk of an investment in your Notes for an indefinite period of time.

In the event that we or the Issuer become insolvent, insolvency proceedings will be governed by Canadian Law.

The Issuer is subject to Canadian insolvency laws, which are principally contained in the Companies' Creditors Arrangement Act (the "CCAA") and the Bankruptcy and Insolvency Act (the "BIA"), and which are different from the insolvency or bankruptcy laws of the United States and other countries. In particular, proceedings under the CCAA, which provides for the potential re-organization of an insolvent legal person, differ significantly from Chapter 11 under the U.S. Bankruptcy Code. If the Issuer becomes insolvent, the treatment and ranking of the holders of the Notes and other creditors under Canadian law may be different than the treatment and ranking under the bankruptcy laws of the United States and other countries. However, section 55 of the CPPIB Act, the legislative act that created CPP Investments and by which CPP Investments is governed provides that no Act relating to insolvency or winding-up of any corporation applies to CPP Investments and in no case shall our affairs be wound up unless the Parliament of Canada so provides. As a result, the Parliament of Canada could wind up our affairs in a manner that could treat the Guarantee and its rank in a manner that may be different than the treatment and ranking under the bankruptcy laws of the United States and other countries.

The Notes may be challenged under applicable insolvency, or other laws, which could impair the enforceability of the Notes. Under insolvency laws in Canada, a Note could be voided. The liability of a holder of the Notes could be reduced to zero, if successfully challenged by a trustee in bankruptcy under the provisions of the BIA. In addition, various other orders could be made by a court in relation to the Notes, such as orders preventing payments being made under the Notes, and orders requiring the repayment of monies paid or providing for the discharge of debts.

You might have difficulty enforcing your rights against us, the Issuer and our respective directors and officers.

We were established as a federal Crown corporation by the CPPIB Act and the Issuer is incorporated under the Canada Business Corporations Act. Substantially all of our respective directors and executive officers and some of the experts named in this Offering Memorandum reside outside the United States, and all or a substantial portion of our assets and the assets of such persons are located outside the United States. As a result, it may be difficult for you to effect service of process within the United States upon such persons, or to realize upon judgments rendered against us, the Issuer or such persons by the courts of the United States predicated upon, among other things, the civil liability provisions of the federal securities laws of the United States. In addition, it may be difficult for you to enforce, in original actions brought in courts in jurisdictions located outside the United States, among other things, civil liabilities predicated upon such securities laws. See “Limitations on Enforcement of U.S. Laws Against Us, the Issuer, our Management and Others.”

The Fiscal and Paying Agency Agreement contains provisions that permit the modification of the terms of the Notes without the consent of all holders of such Notes.

The Fiscal and Paying Agency Agreement contains provisions for calling meetings of holders of the Notes to consider matters affecting their interests generally. These provisions permit defined majorities to bind all holders of the Notes of a series, including holders of the Notes who did not attend and vote at the relevant meeting and holders of the Notes who voted in a manner contrary to the majority. As a result, decisions might be taken by the holders of the Notes of a series that are contrary to the preferences of any particular holder.

Investors in the Notes will be subject to the rules of the applicable clearing system and their ability to exercise rights relating to the Notes directly might be limited.

The Notes will be represented on issue by one or more Global Notes that may be deposited with a common safekeeper or common depositary for Euroclear and/or Clearstream, Luxembourg or may be deposited with a nominee for DTC. Except in the circumstances described in the applicable Global Note, investors in a Note will not be entitled to receive Notes in definitive form. Each of DTC, Euroclear and Clearstream, Luxembourg and their respective direct and indirect participants will maintain records of the beneficial interests in each Global Note held through it. While the Notes are represented by a Global Note, investors will be able to trade their beneficial interests therein only through the relevant clearing systems and their respective participants.

While any Notes are represented by Global Notes, the Issuer will discharge its payment obligations thereunder by making payments through the relevant clearing systems. A holder of a beneficial interest in a Global Note must rely upon the procedures of the relevant clearing system and its participants to receive payments in respect of their interests in the related Notes. Neither the Issuer nor the Guarantor will have any responsibility or liability for the records relating to, or payments made in respect of, beneficial interests in any Global Note. Holders of beneficial interests in a Global Note will not have a direct right to vote in respect of the Notes so represented. Instead, such holders will be permitted to act only to the extent that they are enabled by the relevant clearing system and its participants to appoint appropriate proxies.

Euro-denominated Notes permit us to make payments in U.S. dollars if we are unable to obtain euro.

If the euro is unavailable to us due to the imposition of exchange controls or other circumstances beyond our control or if the euro is no longer being used by the then member states of the European Monetary Union that have adopted the euro as their currency or for the settlement of transactions by public institutions of or within the international banking community, then all payments in respect of the euro-denominated Notes will be made in U.S. dollars until the euro is again available to us or so used. The amount payable on any date in euro will be converted into U.S. dollars on the basis of the market exchange rate for euro most recently available on, or prior to, the second business day before the relevant payment date. Any payment in respect of the euro-denominated Notes so made in U.S. dollars will not constitute an event of default under the euro-denominated Notes or Fiscal and Paying Agency Agreement.

The regulation and reform of "benchmarks" might adversely affect the value of investments in Notes linked to or referencing such "benchmarks"

Interest rates and indices that are deemed to be "benchmarks" (including non-U.S. dollar LIBOR and EURIBOR) are the subject of recent national and international regulatory guidance and proposals for reform. Some of these reforms are already effective whilst others are still to be implemented. These reforms might cause such benchmarks to perform differently than in the past, to disappear entirely or have other consequences that cannot be predicted. Any such consequence might have a material adverse effect on any Notes linked to or referencing such a "benchmark."

The Benchmarks Regulation was published in the Official Journal of the EU on June 29, 2016 and has applied from January 1, 2018. The Benchmarks Regulation applies to the provision of benchmarks, the contribution of input data to a benchmark and the use of a benchmark within the EU. It will, among other things: (a) require benchmark administrators to be authorized or registered (or, if non-EU-based, to be subject to an equivalent regime or otherwise recognized or endorsed) and (b) prevent certain uses by EU-supervised entities of "benchmarks" of administrators that are not authorized or registered (or, if non-EU based, not deemed equivalent or recognized or endorsed).

The Benchmarks Regulation could have a material impact on any Notes linked to or referencing a "benchmark", in particular, if the methodology or other terms of the "benchmark" are changed in order to comply with the requirements of the Benchmarks Regulation. Such changes might, among other things, have the effect of reducing, increasing or otherwise affecting the volatility of the published rate or level of the "benchmark."

More broadly, any of the international or national reforms, or the general increased regulatory scrutiny of "benchmarks," might increase the costs and risks of administering or otherwise participating in the setting of a "benchmark" and complying with any such regulations or requirements. Such factors might have the following effects on certain "benchmarks" (including non-U.S. dollar LIBOR and EURIBOR): (a) discourage market participants from continuing to administer or contribute to the "benchmark," (b) trigger changes in the rules or methodologies used in the "benchmark" and/or (c) lead to the disappearance of the "benchmark." Any of the above changes or any other consequential changes as a result of international or national reforms or other initiatives or investigations might have a material adverse effect on the value of and return on any investment in Notes linked to or referencing a "benchmark."

To the extent interest payments on a Floating Rate Note are linked to a specific "benchmark" that is discontinued or is no longer quoted, the applicable base rate will be determined using the alternative methods described in "Description of The Notes and the Guarantee — Interest rates — Floating Rate Notes." Any of these alternative methods may result in interest payments that are lower than or that do not otherwise correlate over time with the payments that would have been made on those Notes if the relevant "benchmark" was available in its current form. Further, the same costs and risks that may lead to the discontinuation or unavailability of a "benchmark" may make one or more of the alternative methods impossible or impracticable to determine.

Under some of the Base Rates described herein (including Base Rates that are not subject to the Benchmarks Regulation), the final alternative method sets the interest rate for an interest period at the same rate as the immediately preceding interest period. The use of this final alternative method would have the effect of causing a Floating Rate Note to become a Fixed Rate Note for all succeeding interest periods. Any of the foregoing may have an adverse effect on the value of such Notes.

Investors should consult their own independent advisers and make their own assessment about the potential risks imposed by the Benchmarks Regulation reforms in making any investment decision with respect to any Notes linked to or referencing a "benchmark."

If non-U.S. dollar LIBOR or EURIBOR were to be discontinued, the replacement rate may not be favorable for holders of non-U.S. dollar LIBOR Notes or EURIBOR Notes.

The fallback arrangements (the "*benchmark discontinuation provisions*") under "Description of the Notes and the Guarantee — Interest rates — Floating Rate Notes — Benchmark Discontinuation — Reference Rate Replacement — non-U.S. dollar LIBOR and EURIBOR" below that would take effect in the event that non-U.S. dollar LIBOR or EURIBOR is discontinued or no longer published or a Benchmark Event (as defined below) otherwise occurs include the possibility that the rate of interest on the relevant Floating Rate Notes could be set by reference to a successor rate or an alternative reference rate and that such successor rate or alternative reference rate may be adjusted (if required) in order to reduce or eliminate, to the extent reasonably practicable in the circumstances, any economic prejudice or benefit (as applicable) to Holders arising out of the replacement of non-U.S. dollar LIBOR or EURIBOR. However, to the extent that non-U.S. dollar LIBOR or EURIBOR is discontinued or no longer published or a Benchmark Event otherwise occurs, and no alternative, successor or replacement reference rate is identified or selected in accordance with the benchmark discontinuation provisions, then the rate of interest on the applicable Floating Rate Notes will be determined by the fallback provisions provided for under "Description of the Notes and the Guarantee — Interest rates — Floating Rate Notes — LIBOR Notes" and "Description of the Notes and the Guarantee — Interest rates — Floating Rate Notes — EURIBOR Notes" below, although such provisions, being dependent in part upon the provision by reference banks, might not operate as intended depending upon market circumstances and the availability of interest rate information at the relevant time and might in certain circumstances result in the effective application of a fixed rate based upon the rate that applied in the previous period when non-U.S. dollar LIBOR or EURIBOR, as applicable, was available, in effect resulting in such non-U.S. dollar LIBOR Notes or EURIBOR Notes becoming fixed rate notes. Any of these alternative methods might result in interest payments that are lower than or that do not otherwise correlate over time with the payments that would have been made on the applicable Floating Rate Notes if non-U.S. dollar LIBOR or EURIBOR, as applicable, were available in its current form. Additionally, if non-U.S. dollar LIBOR, EURIBOR or any other relevant benchmark rate is discontinued or no longer published, then there can be no assurance that the applicable fallback provisions under any related swap agreements would operate so as to ensure that the benchmark rate used to determine payments under any related swap agreements is the same as that used to determine interest payments under the applicable Floating Rate Notes.

Notwithstanding any other provision of the Fiscal and Paying Agency Agreement or the Notes, the consent or approval of the Holders is not required in the case of amendments to the Notes pursuant to the benchmark discontinuation provisions to vary the method or basis of calculating the rate(s) or amount of interest or the basis for calculating any interest payment in respect of the applicable Notes or for any other variation of the Notes and/or the Fiscal and Paying Agency Agreement required to be made in the circumstances described in the benchmark discontinuation provisions where the Issuer has delivered to the Calculation Agent a certificate in the form and manner required by the benchmark discontinuation provisions. Any such amendment made pursuant to the benchmark discontinuation provisions might have unexpected commercial consequences and there can be no assurance that, due to the particular circumstances of each Holder, any such amendment will be favorable to each Holder.

In addition, due to the uncertainty concerning the availability of successor rates and alternative reference rates and the involvement of the Issuer and/or an Independent Adviser (as defined below) in accordance with the benchmark discontinuation provisions, the relevant benchmark discontinuation provisions might not operate as intended at the relevant time. More generally, any of the above matters or any other significant change to the setting or existence of non-U.S. dollar LIBOR, EURIBOR or any other relevant benchmark might have a material adverse effect on the value or liquidity of, and the amount payable under, the applicable Notes. No assurance may be provided that relevant changes will not be made to non-U.S. dollar LIBOR, EURIBOR or any other relevant benchmark and/or that such benchmarks will continue to exist. Investors should consider these matters when making their investment decision with respect to the Notes.

Future discontinuance of LIBOR might adversely affect the value of investments in Floating Rate Notes that reference LIBOR

On July 27, 2017, the Chief Executive of the United Kingdom Financial Conduct Authority, which regulates LIBOR, announced that it does not intend to continue to persuade, or use its powers to compel, panel banks to submit rates for the calculation of LIBOR to the administrator of LIBOR after 2021. The announcement indicates that the continuation of LIBOR on the current basis is not guaranteed after 2021, and there is a substantial risk that LIBOR will be discontinued or modified after 2021. It is not possible to predict whether, and to what extent, panel banks will continue to provide LIBOR submissions to the administrator of LIBOR going forward. This might cause LIBOR to perform differently than it did in the past and might have other consequences that cannot be predicted.

Investors should be aware that, if LIBOR were discontinued or otherwise unavailable, the rate of interest on Floating Rate Notes that reference LIBOR will be determined for the relevant period by the fall-back provisions applicable to such Notes. If, during the term of any Floating Rate Notes linked to LIBOR, the relevant LIBOR is no longer quoted on the designated LIBOR page described in "Description of The Notes and the Guarantee — Interest rates — Floating Rate Notes — LIBOR Notes" below, the relevant LIBOR will be determined using the alternative methods described in "Description of The Notes and the Guarantee — Interest Rates — Floating Rate Notes — LIBOR Notes" below. Any of these alternative methods may result in interest payments on the Notes that are lower than or do not otherwise correlate over time with the interest payments that would have been made on the Floating Rate Notes if the Designated LIBOR Page had remained available or, if for any period of time, and solely with respect to U.S. dollar LIBOR Notes, the Designated LIBOR Page is available but the third Benchmark Transition Event under "Description of the Notes and the Guarantee – Interest rates – Floating Rate Notes – LIBOR Notes – Effect of Benchmark Transition Event for U.S. dollar LIBOR Notes – Benchmark Transition Event" has occurred. Any of the foregoing may have an adverse effect on the value of and return on the Floating Rate Notes.

Additionally, if during the term of the Floating Rate Notes linked to U.S. dollar LIBOR, the Issuer or its Designee (as such term is defined below) determines on or prior to the relevant Interest Determination Date that a Benchmark Transition Event and its related Benchmark Replacement Date (each as defined below) have occurred with respect to U.S. dollar LIBOR, then the provisions set forth below under the heading "Effect of Benchmark Transition Event for U.S. dollar LIBOR Notes," which we refer to as the benchmark transition provisions, will thereafter apply to all determinations of the rate of interest payable on the Floating Rate Notes linked to U.S. dollar LIBOR. The selection of a Benchmark Replacement, and any decisions, determinations or elections made by the Issuer or its Designee in connection with implementing a Benchmark Replacement with respect to such U.S. dollar LIBOR Notes in accordance with the benchmark transition provisions, could result in adverse consequences to the applicable interest rate on such U.S. dollar LIBOR Notes, which could adversely affect the return on, value of and market for such Notes. Further, there is no assurance that the characteristics of any Benchmark Replacement will be similar to U.S. dollar LIBOR, or that any Benchmark Replacement will produce the economic equivalent of U.S. dollar LIBOR.

If during the term of the Floating Rate Notes linked to LIBOR with an index currency other than U.S. dollars, the Issuer or its Designee determines that the relevant non-U.S. dollar LIBOR has been discontinued or is permanently no longer being published, the Issuer or its Designee will use a substitute or successor base rate that it has determined, in its sole discretion after consulting with any source it deems to be reasonable, to be the industry-accepted substitute or successor base rate, or, if there is no such industry-accepted substitute or successor base rate, a substitute or successor base rate that is most comparable to that LIBOR. The Issuer or its Designee also will determine, in its sole discretion after consulting with any source it deems to be reasonable, any adjustments to the relevant methodology or definitions for calculating such substitute or successor base rate, including any adjustment factor needed to make such substitute or successor base rate comparable to such non-U.S. dollar LIBOR, in a manner that is consistent with any industry-accepted practices for such substitute or successor base rate, provided however that if the Issuer or its Designee determines, and, if its Designee, following consultation with the Issuer, that there is no clear market consensus as to whether any rate has replaced that non-U.S. dollar LIBOR in customary market usage, the Issuer will appoint in its sole discretion an independent financial advisor (the "IFA") to determine an appropriate alternative rate, and the decision of the IFA will be binding on the Issuer, the Calculation Agent and the Holders. The interests of the Issuer or its Designee in making the determinations described above may be adverse to your interests as a holder of the Floating Rate Notes and may have an adverse effect on the value of and return on the Notes.

The Bank of New York Mellon has been initially appointed as the Calculation Agent with respect to the Floating Rate Notes. In the future, we may appoint another firm as the calculation agent for those notes. In addition, we or an affiliate of ours may assume the duties of the Calculation Agent for the Floating Rate Notes.

Potential conflicts of interest in connection with a Base Rate replacement

In the event of a cessation of LIBOR, EURIBOR, SOFR or SONIA, the Issuer, its Designee or a calculation agent may make certain determinations in their own discretion, as described in the relevant replacement provisions in "Description of the Notes and the Guarantee," in connection with choosing and implementing a replacement rate. These determinations do not require the consent of the Holders and, once made, may negatively affect the value of the Notes and will be conclusive and binding on the Holders.

The Alternative Reference Rates Committee has stated that Term SOFR will most likely not be available by the time that LIBOR is expected to cease publication.

On April 25, 2019, the Alternative Reference Rates Committee ("ARRC") announced its final recommendations for fallback provisions for U.S. dollar LIBOR floating rate notes. The ARRC also stated that it does not believe that Term SOFR (as defined below), the first Benchmark Replacement for U.S. dollar LIBOR, will be available by the time LIBOR is expected to cease publication in 2021. This means that any U.S. dollar LIBOR Note to be issued by us that mature past 2021 will, most likely, change to the Compounded SOFR Benchmark Replacement, the second step in the Benchmark Replacement waterfall. See "Description of the Notes and the Guarantee — Interest Rates — Floating Rate Notes — LIBOR Notes."

If Term SOFR were to begin publishing rates after any U.S. dollar LIBOR Note has changed to Compounded SOFR, the LIBOR Note will continue to be a Compounded SOFR note, even if Term SOFR is a more favorable rate for investors.

The composition and characteristics of SOFR are not the same as those of U.S. dollar LIBOR and there is no guarantee that SOFR is a comparable substitute for LIBOR.

The composition and characteristics of the Secured Overnight Financing Rate ("SOFR") are not the same as those of U.S. dollar LIBOR. SOFR is a broad U.S. Treasury repo financing rate that represents overnight secured funding transactions. This means that SOFR is fundamentally different from U.S. dollar LIBOR for two key reasons. First, SOFR is a secured rate, while U.S. dollar LIBOR is an unsecured rate. Second, SOFR is an overnight rate, while U.S. dollar LIBOR represents interbank funding over different maturities. As a result, there can be no assurance that SOFR will perform in the same way as U.S. dollar LIBOR would have at any time, including, without limitation, as a result of changes in interest and yield rates in the market, market volatility or global or regional economic, financial, political, regulatory, judicial or other events. For example, since publication of SOFR began in April 2018, daily changes in SOFR have, on occasion, been more volatile than daily changes in comparable benchmark or other market rates.

Because SOFR is published by the Federal Reserve Bank of New York based on data received from other sources, we have no control over its determination, calculation or publication. There can be no guarantee that SOFR will not be discontinued or fundamentally altered in a manner that is materially adverse to the interests of investors in the SOFR Notes.

Under the benchmark transition provisions of the U.S. dollar LIBOR Notes, if a Benchmark Transition Event and its related Benchmark Replacement Date occur with respect to U.S. dollar LIBOR, then the rate of interest on the U.S. dollar LIBOR Notes will be determined based on SOFR (unless a Benchmark Transition Event and its related Benchmark Replacement Date also occur with respect to the Benchmark Replacements that are linked to SOFR, in which case the rate of interest will be based on the next-available Benchmark Replacement). In the following discussion of SOFR, when we refer to SOFR-linked notes, we mean the Floating Rate Notes at any time when the rate of interest on those notes is or will be determined based on SOFR.

SOFR is published by the Federal Reserve Bank of New York ("FRBNY") and is intended to be a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities. FRBNY reports that SOFR includes all trades in the Broad General Collateral Rate, plus bilateral Treasury repurchase agreement ("repo") transactions cleared through the delivery-versus-payment service offered by the Fixed Income Clearing Corporation (the "FICC"), a subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). SOFR is filtered by FRBNY to remove a portion of the foregoing transactions considered to be "specials." According to FRBNY, "specials" are repos for specific-issue collateral which take place at cash-lending rates below those for general collateral repos because cash providers are willing to accept a lesser return on their cash in order to obtain a particular security.

FRBNY reports that SOFR is calculated as a volume-weighted median of transaction-level tri-party repo data collected from The Bank of New York Mellon, which currently acts as the clearing bank for the tri-party repo market, as well as General Collateral Finance Repo transaction data and data on bilateral Treasury repo transactions cleared through the FICC's delivery-versus-payment service. FRBNY notes that it obtains information from DTCC Solutions LLC, an affiliate of DTCC.

FRBNY currently publishes SOFR daily on its website at https://apps.newyorkfed.org/markets/autorates/sofr. FRBNY states on its publication page for SOFR that use of SOFR is subject to important disclaimers, limitations and indemnification obligations, including that FRBNY may alter the methods of calculation, publication schedule, rate revision practices or availability of SOFR at any time without notice.

Because SOFR is published by FRBNY based on data received from other sources, we have no control over its determination, calculation or publication. There can be no assurance that SOFR will not be discontinued or fundamentally altered in a manner that is materially adverse to the interests of investors in the SOFR-linked notes. If the manner in which SOFR is calculated is changed, that change may result in a reduction of the amount of interest payable on the SOFR-linked notes, which may adversely affect the trading prices of the SOFR-linked notes. If the rate at which interest accrues on the Floating Rate Notes on any day or for any interest period declines to zero or becomes negative, no interest will be payable on the relevant notes with respect to that day or interest period FRBNY started publishing SOFR in April 2018. FRBNY has also started publishing historical indicative SOFRs dating back to 2014, although such historical indicative data inherently involves assumptions, estimates and approximations. Investors should not rely on such historical indicative data or on any historical changes or trends in SOFR as an indicator of the future performance of SOFR. Since the initial publication of SOFR, daily changes in the rate have, on occasion, been more volatile than daily changes in comparable benchmark or market rates, and SOFR over the term of the notes may bear little or no relation to the historical actual or historical indicative data. In addition, the return on and value of the SOFR-linked notes may fluctuate more than floating rate debt securities that are linked to less volatile rates. An established trading market for the SOFR-linked notes may never develop or may not be very liquid. Market terms for debt securities that are linked to SOFR, such as the spread over the base rate reflected in the interest rate provisions, may evolve over time, and as a result, trading prices of SOFR-linked notes may be lower than those of later-issued debt securities that are linked to SOFR. Similarly, if SOFR does not prove to be widely used in debt securities that are similar or comparable to the SOFR-linked notes, the trading price of the SOFR-linked notes may be lower than those of debt securities that are linked to rates that are more widely used. Investors in the SOFR-linked notes may not be able to sell the SOFR-linked notes at all or may not be able to sell the SOFR-linked notes at prices that will provide them with a yield comparable to similar investments that have a developed secondary market, and may consequently suffer from increased pricing volatility and market risk.

Under the benchmark transition provisions of the U.S. dollar LIBOR Notes, if a particular Benchmark Replacement or Benchmark Replacement Adjustment cannot be determined, then the next-available Benchmark Replacement or Benchmark Replacement Adjustment will apply. These replacement rates and adjustments may be selected or formulated by (i) the Relevant Governmental Body (such as the ARRC of the FRBNY), (ii) ISDA or (iii) in certain circumstances, us. In addition, the benchmark transition provisions expressly authorize us to make Benchmark Replacement Conforming Changes with respect to, among other things, the determination of interest periods and the timing and frequency of determining rates and making payments of interest. The application of a Benchmark Replacement and Benchmark Replacement Adjustment, and any implementation of Benchmark Replacement Conforming Changes, could result in adverse consequences to the amount of interest payable on U.S. dollar LIBOR Notes, which could adversely affect the return on, value of and market for the U.S. dollar LIBOR Notes. Further, there is no assurance that the characteristics of any Benchmark Replacement will be similar to the then-current

Benchmark that it is replacing, or that any Benchmark Replacement will produce the economic equivalent of the then-current Benchmark that it is replacing.

Furthermore, interest on SOFR Notes is only capable of being determined at the end of the relevant interest period and immediately or shortly prior to the relevant Interest Payment Date. It might be difficult for investors in SOFR Notes to estimate reliably the amount of interest that will be payable on such Notes, and some investors might be unable or unwilling to trade such Notes without changes to their information technology systems, both of which might adversely impact the liquidity of such Notes. This same lack of advanced notice of the amount of an interest payment would also apply in the event of an early redemption on a date other than an Interest Payment Date or upon an acceleration after an Event of Default.

The market continues to develop in relation to SONIA as a reference rate for Floating Rate Notes

For Floating Rate Notes with SONIA as a Base Rate, interest will be determined on the basis of Compounded Daily SONIA. See "Description of the Notes and the Guarantee — Interest Rates — Floating Rate Notes — SONIA Rate Notes." Compounded Daily SONIA is a backwards-looking, compounded, risk-free overnight rate. Compounded Daily SONIA differs from sterling LIBOR, which is a forward-looking term and includes a credit risk-element based upon inter-bank lending. As such, investors should be aware that sterling LIBOR and SONIA might behave materially differently as Base Rates for Floating Rate Notes. The use of SONIA as a reference rate for debt instruments is nascent, and is subject to change and development, both in terms of the substance of the calculation and in the development and adoption of market infrastructure for the issuance and trading of debt securities referencing SONIA.

Accordingly, prospective investors in any Floating Rate Notes with Compounded Daily SONIA as a Base Rate should be aware that the market continues to develop in relation to SONIA as a reference rate in the capital markets and its adoption as an alternative to sterling LIBOR. For example, in the context of backwards-looking SONIA rates, market participants and relevant working groups are, as at the date of this Offering Memorandum, assessing the differences between compounded rates and weighted average rates, and such groups are also exploring forward-looking 'term' SONIA reference rates (which seek to measure the market's forward expectation of an average SONIA rate over a designated term). The adoption of SONIA might also see component inputs into swap rates or other composite rates transferring from sterling LIBOR or another reference rate to SONIA.

The market or a significant part thereof may adopt an application of SONIA that differs significantly from that set out in "Description of the Notes and the Guarantee — Interest Rates — Floating Rate Notes — SONIA Rate Notes." In addition, the Issuer may in the future issue SONIA Rate Notes that differ materially in terms of interest determination when compared with any previous SONIA Rate Notes issued by it. The nascent development of Compounded Daily SONIA as an interest reference rate for the capital markets, as well as continued development of SONIA-based rates for that market and the market infrastructure for adopting those rates, might result in reduced liquidity or increased volatility or might otherwise affect the market price of any SONIA Rate Notes from time to time.

Furthermore, interest on Floating Rate Notes with Compounded Daily SONIA as a Base Rate is only capable of being determined at the end of the relevant interest period and immediately or shortly prior to the relevant Interest Payment Date. It might be difficult for investors in SONIA Rate Notes to estimate reliably the amount of interest that will be payable on such Notes, and some investors might be unable or unwilling to trade such Notes without changes to their information technology systems, both of which might adversely impact the liquidity of such Notes. This same lack of advanced notice of the amount of an interest payment would also apply in the event of an early redemption on a date other than an Interest Payment Date or upon an acceleration after an Event of Default.

In addition, the manner of adoption or application of SONIA reference rates in the eurobond market might differ materially compared with the application and adoption of SONIA in other markets, such as the derivatives and loan markets. Investors should carefully consider how any mismatch between the adoption of SONIA reference rates across these markets might impact any hedging or other financial arrangements that they might put in place in connection with any acquisition, holding or disposal of investments in Notes referencing Compounded Daily SONIA.

USE OF PROCEEDS

The Issuer intends to use the net proceeds from the sale of any Notes under this Offering Memorandum to make loans to CPP Investments and/or entities owned by CPP Investments for general corporate purposes in accordance with the investment policies of CPP Investments. The use of proceeds of any individual issuance of Notes, if other than for loans to CPP Investments and/or entities owned by CPP Investments for general corporate purposes, will be described in the applicable Pricing Supplement. The amount and timing of any issuance of Notes will depend on, among other things, market conditions.

CAPITALIZATION

The following table presents our cash and cash equivalents and capitalization (the sum of total borrowings and shareholders' equity) as of March 31, 2020. This table should be read in conjunction with the sections entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" attached as Annex A-3 and A-5, respectively, to, and incorporated by reference into, this Offering Memorandum and our 2020 Financial Statements and 2019 Financial Statements, attached as A-2 and A-4, respectively, to, and incorporated by reference into, this Offering Memorandum.

		As of March 31, 2020 (C$ in millions)
Cash and cash equivalents		23,749
Debt Financing Liabilities		
Term ≤ 12 months		11,446
Term over a year		26,949
Total Borrowings		38,395
Contributions		
Accumulated net income from operations		259,721
Canada Pension Plan transfers		149,867
Total Equity		409,588
Total Capitalization	C$	471,732

REGULATION OF CPP INVESTMENTS

We are responsible for managing the CPP Fund in accordance with the CPP Act and the CPPIB Act. Our legislative mandate is to (i) assist the CPP in meeting its obligations to contributors and beneficiaries under the CPP; (ii) manage amounts transferred to us pursuant to the CPP Act in the best interests of CPP contributors and beneficiaries; and (iii) invest our assets with a view to achieving a maximum rate of return, without undue risk of loss, having regard to the factors that may affect the funding of the CPP and its ability to meet its financial obligations on any given business day.

As a professional investment management organization, we are not a sovereign wealth fund. Several key attributes distinguish us and the CPP Fund from the large pools of government assets under government direction generally identified as "sovereign." CPP Fund assets are not government assets and the CPPIB Act and the CPP Act do not constitute us as a trustee of the assets for the benefit of those entitled to CPP benefits.

Under the statutory framework, we are at all times legally entitled to retain assets (or acquire assets from the CPP Account within the CRF of Canada) that have a fair market value of not less than the properly authorized and incurred liabilities of CPP Investments, including without limitation our liabilities under the Guarantee. As a result, under the statutory framework, only assets having a fair market value in excess of our liabilities are available to the Government of Canada to satisfy its obligations under the CPP.

The CPP legislation was amended in 2016 to, among other things, provide for the creation of the Additional Canada Pension Plan Account ("Additional CPP"). Effective January 1, 2019, CPP Investments is responsible for managing the funds of the Additional CPP in addition to funds of the base CPP. According to the 30th Actuarial Report on the CPP released on November 27, 2019 (based on December 31, 2018 data), with the legislated additional contribution rates, assets of the Additional CPP are projected to grow from C$0 billion at the end of 2018 to C$191 billion by 2030 and C$1.3 trillion by 2050. The CPP Act established the CPP Accounts within the CRF of the Government of Canada. The CPP Act provides that any amounts standing for the credit of each CPP Account that exceed the immediate obligations of that CPP Account are transferred to us. The Government of Canada can make a request for payment by CPP Investments into the CRF out of the CPP Fund assets held by us, subject to an upper limit calculated by reference to the fair market value of our liabilities.

These provisions establish a system of debits and credits to and from the CPP Accounts under the CRF. This system of debits and credits includes both (i) a "sweep" to us under Section 108.1(1) and 108.3(1) of the CPP Act of monies credited to each CPP Account which "exceed the immediate obligations of that account" and (ii) the ability of the Minister of Employment and Social Development to require us to pay certain amounts (up to the fair market value of the liabilities limit) into the CRF (and in accordance with the agreement entered into pursuant to Section 111.1 of the CPP Act).

The system of debits and credits among the CRF, the CPP Accounts and the Guarantor contained in the CPP Act and the CPPIB Act is different from the trusteeship structure that is seen in the statutes governing a number of other Canadian public sector pension funds. These two statutes do not constitute us as a trustee of the assets for the benefit of those entitled to CPP benefits. As a result, we have the right at all times to retain assets (or acquire assets from the CPP Accounts) having a fair market value equal to our liabilities.

Such rights are central to our financial strength, particularly having regard to the actuarial funding strength of the CPP. According to the 30th Actuarial Report on the CPP as at December 31, 2018, based on the legislated contribution rate of 9.9%, contributions to the CPP were projected to be more than sufficient to cover the expenditures of the CPP over the long term. Subsequently, a portion of the investment income from the Fund will be required to pay expenditures of the CPP.

Our governance model, including an independent board of qualified professionals with powers to oversee the investment policy, is designed to protect us from political interference. The organization operates with an investment-only, commercial mandate in which investment decisions are made without political direction and at arm's length from governments, and without regard to regional, social or economic development considerations or any other non-investment objectives. We operate with extremely high levels of disclosure and transparency, including publishing our investment policy and public equity holdings on our website and reporting to Canadians in a manner generally consistent with regulatory requirements for public companies in Canada.

Withdrawal from the CPP

The CPP Act allows a province to withdraw from the CPP by taking certain steps outlined in the CPP Act. The withdrawing province must first deliver a formal notice to the federal Minister of Employment and Social Development stating the province's intention: (a) to establish and operate a contributory provincial pension plan that provides benefits comparable to those provided by the CPP ("Comprehensive Pension Plan"), beginning on January 1 of the third year after the year in which Notice is given ("Effective Date"); and (b) that the Comprehensive Pension Plan will assume the liability to pay all CPP benefits arising from employment in the province accrued to the Effective Date.

The province must enact legislation to create a Comprehensive Pension Plan that meets that criteria and that legislation must be enacted not later than 12 months before the Effective Date ("Legislation Date"). If the province enacts the legislation by the Legislation Date, the federal Cabinet shall enact a regulation ("Opt-Out Regulation") designating the province as a "province providing a comprehensive pension plan.".

Assuming the province enacts the legislation required to create the provincial plan by the Legislation Date, on the Effective Date: (a) CPP contributions arising from employment in the province cease; (b) CPP's obligation to pay benefits attributable to CPP contributions made in the province prior to the Effective Date ceases, and becomes an obligation of the provincial plan; and (c) an amount, to be transferred from the federal government to the province ("Transfer Obligation"), is calculated by the federal Minister of Finance based on the formula set out in the CPP Act.

The federal Minister of Finance is responsible for fulfilling the Transfer Obligation. The Minister does this by transferring to the province certain securities and other assets ("Federal Transfer"). The Minister may require CPP Investments to transfer to it those securities and other assets needed to make the Federal Transfer ("CPPIB Transfer"). The federal Minister of Finance fulfills the Transfer Obligation by transferring the following assets, in the following priority: (a) any "designated securities" (as defined in the CPPIB Act) issued by the withdrawing province; (b) any "designated securities" (as defined in the CPPIB Act) issued by the Government of Canada; and (c) payment to the province of any balance then remaining in any manner that may be prescribed by regulation. In order to make the Federal Transfer, the Minister of Finance may require CPP Investments to pay to the Minister any amount and to transfer to the Minister any "designated securities" held by CPP Investments. To carry out the CPPIB Transfer, CPP Investments and the federal Minister may enter into an agreement with respect to the administration of any matter referred to in section 113 of the CPP Act, which sets out the effect of the Opt-Out Regulation.

It is uncertain as to the quantum of the CPPIB Transfer that could occur if a province created a Comprehensive Pension Plan. We do note that under the statutory framework applicable to us, we are at all times legally entitled to retain assets that have a fair market value of not less than the properly authorized and incurred liabilities of CPP Investments, including without limitation our liabilities under the Guarantee. As a result, under the statutory framework, only assets having a fair market value in excess of our liabilities are available to the Government of Canada to satisfy its obligations under the CPP.

DESCRIPTION OF THE NOTES AND THE GUARANTEE

This section summarizes the material provisions of the Fiscal and Paying Agency Agreement, the Notes and the Guarantee. This summary is subject to and qualified in its entirety by reference to all the provisions of the Fiscal and Paying Agency Agreement and the Notes.

This section summarizes the material terms that will apply generally to the Notes. Each particular Note will have financial and other terms specific to it, and the specific terms of each Note will be described in a Pricing Supplement, in the form attached as Annex A-1 to this Offering Memorandum. The terms of any Notes that are not listed on an EEA or UK regulated market for the purposes of MiFID II (or any successor directive or regulation) or any exchange regulated market in Europe (including any "multilateral trading facility" or "MTF" for the purposes of, and as defined in, MiFID II (or any successor directive or regulation)) ("Exempt Notes") may, subject to our approval, vary from the terms described here.

As you read this section, please remember that the specific terms of your Note as described in the applicable Pricing Supplement will complete and, in the case of Exempt Notes, may modify or replace the general terms described in this Offering Memorandum. To the extent the applicable Pricing Supplement is inconsistent with this Offering Memorandum, that Pricing Supplement will prevail with regard to your Note. Thus, the statements we make in this section may not apply to your Note.

Unless otherwise indicated, in this section entitled "Description of the Notes and the Guarantee", references to "Holders" mean:

- those persons who own Notes registered in their own names, on the books that the Issuer or the Fiscal and Paying Agent (as defined below) maintains for this purpose, and not those persons who own beneficial interests in Notes registered in street name or in Notes issued in book-entry form through DTC, Euroclear, Clearstream, Luxembourg or another depositary (the "Depositary"); except that

- with respect to any Notes registered in the name of a nominee for a common depositary or common safekeeper for Euroclear and/or Clearstream, Luxembourg, those persons who own beneficial interests in a nominal amount of such Notes which are credited in book-entry form to their accounts in Euroclear, or Clearstream, Luxembourg ("Accountholders") shall be deemed to be the "Holder" or "Holders" for all purposes other than with respect to the payment of principal or interest on such nominal amount of such Notes (for which purposes the person or persons in whose names the Notes are registered shall, as aforesaid, be treated as the Holder or Holders, as the case may be).

Owners of beneficial interests in the Notes should read the section below entitled "Book-Entry Clearance Systems." When we refer to the "applicable Pricing Supplement" or the "relevant Pricing Supplement", we mean the Pricing Supplement describing the specific terms of the Note you purchase and "your Note" means the Note in which you are investing. The terms we use in any applicable Pricing Supplement that we also use in this Offering Memorandum will have the meanings we give them herein, unless we say otherwise in such Pricing Supplement.

This section is only a summary

The Fiscal and Paying Agency Agreement and its associated documents, including your Note and the relevant Pricing Supplement, contain the full legal text of the matters described in this section. The Fiscal and Paying Agency Agreement and the Notes are governed by New York law. See "General Information — Documents Available" for information on how to obtain a copy of the Fiscal and Paying Agency Agreement.

This section and the relevant Pricing Supplement summarize all the material terms of the Fiscal and Paying Agency Agreement and your Note. They do not, however, describe every aspect of the Fiscal and Paying Agency Agreement and your Note.

The Notes will be issued under the Fiscal and Paying Agency Agreement

The Notes are issued subject to, and the Holders benefit from and are deemed to be bound by, the provisions of a Fiscal and Paying Agency Agreement applicable to them. The Fiscal and Paying Agency Agreement is a contract among the Issuer, the Guarantor and The Bank of New York Mellon, which will initially act as fiscal agent and paying agent (the "Fiscal and Paying Agent"). The Fiscal and Paying Agent performs administrative duties for the Issuer such as sending interest payments and notices to the relevant persons, as described below under "—Payment mechanics for Notes" and "—Notices."

References in this Offering Memorandum to the "Fiscal and Paying Agent" includes any successor fiscal and paying agent.

Forced Transfer

Each initial purchaser of an interest in any Note that is offered for sale within the United States or to U.S. persons as defined in Regulation S under the Securities Act ("U.S. Persons") (a "Covered Note"), and each transferee of an interest in a Covered Note, will be deemed to represent at the time of purchase that, among other things, it is a Qualified Institutional Buyer and also a Qualified Purchaser (for purposes of this "Forced Transfer" section, a "QIB/QP").

The Notes will provide that if, notwithstanding the restrictions on transfer contained therein (if applicable), the Issuer determines that any holder of an interest in a Covered Note is a U.S. Person and is not a QIB/QP at the time it acquires an interest in a Covered Note (any such person, for purposes of this "Forced Transfer" section, a "Non-Permitted Noteholder"), the Issuer shall, promptly after determining that such person is a Non-Permitted Noteholder, send notice to such Non-Permitted Noteholder demanding that such Non-Permitted Noteholder transfer its interest to a person that is not a Non-Permitted Noteholder within 30 days of the date of such notice. If such Non-Permitted Noteholder fails to effect the transfer required within such 30-day period, (a) the Issuer shall cause such beneficial interest to be transferred in a commercially reasonable sale to a person or entity that certifies to the Issuer, in connection with such transfer, that such person or entity either is not a U.S. Person or is a QIB/QP, and (b) pending such transfer, no further payments will be made in respect of such beneficial interest; provided, however, that such Non-Permitted Noteholder will be deemed to have agreed that, if any further payments in respect of such beneficial interest are in fact received by such Non-Permitted Noteholder, such payments shall be held in trust for the benefit of the Issuer and shall be turned over to the Issuer on demand.

The Issuer may issue other series of debt securities

The Fiscal and Paying Agency Agreement permits the Issuer to issue different series of debt securities from time to time. Notes may be issued in such amounts, at such times and on such terms as the Issuer determines. The Notes will differ from one another, and from other series, in their terms.

When we refer to the "Notes" or "these Notes", we mean all debt securities issued under the Issuer's Debt Issuance Programme. When we refer to a "series" of debt securities, we mean Notes of a series designated as such under the Fiscal and Paying Agency Agreement.

Amounts that the Issuer may issue

The Program provides for the offering and issuance by the Issuer of Notes, in one or several series, each having a term as determined from time to time by the Issuer and as set out in the applicable Pricing Supplement, subject to a maximum aggregate principal amount outstanding of C$40 billion at any one time. The Fiscal and Paying Agency Agreement does not limit the number of series or the aggregate amount of any particular series that the Issuer may issue. Also, if the Issuer issues Notes having the same terms in a particular offering (or the same terms except for their issue dates and, in certain circumstances, interest commencement dates and/or issue prices), it may "reopen" that offering at any later time and offer additional Notes having those terms, provided that such additional debt securities must be fungible with the outstanding Notes of the applicable series for Canadian and U.S. federal income tax purposes.

The Issuer intends to issue Notes from time to time, in one or more series, subject to a maximum aggregate principal amount outstanding in the amount specified on the cover of this Offering Memorandum. However, the Issuer may issue additional Notes in amounts that exceed the amount on the cover at any time, without your consent and without notifying you.

The Fiscal and Paying Agency Agreement and the Notes do not limit our or the Issuer's ability to incur other indebtedness or to issue other securities. Also, neither we nor the Issuer are subject to financial or similar restrictions by the terms of the Notes or the Fiscal and Paying Agency Agreement.

Ranking

All Notes will be direct, senior, unsecured obligations of the Issuer and will rank *pari passu* in right of payment with all other senior unsecured indebtedness of the Issuer, will be senior in right of payment to any of the Issuer's future indebtedness that is expressly subordinated to the Notes, will be effectively subordinated to all of the Issuer's existing and future indebtedness that is secured, to the extent of the value of the assets securing such indebtedness, and will be structurally subordinated to all indebtedness and other liabilities of all of the Issuer's subsidiaries, to the extent of the assets of such subsidiaries.

The Notes will not be secured by any property or assets of the Issuer or any of its subsidiaries. Thus, by owning a Note, you are one of the Issuer's unsecured creditors. To the extent the Issuer incurs indebtedness that is secured by liens over its property, the Notes will effectively rank behind such indebtedness to the extent of the value of the property securing such indebtedness.

The Guarantee will constitute our unsecured and unsubordinated obligation. The Guarantee ranks equally with all of our other unsecured and unsubordinated obligations.

Principal amount, stated maturity and maturity

The principal amount of a Note means the principal amount payable at its stated maturity, unless that amount is not determinable, in which case the principal amount of a Note is its face amount or, in the case of any Exempt Notes, as otherwise determinable in accordance with the relevant Pricing Supplement. The term "stated maturity" with respect to any Note means the day on which the principal amount of that Note is scheduled to become due, as specified in the relevant Pricing Supplement. The principal may become due sooner, by reason of redemption or acceleration after a default or otherwise in accordance with the terms of the Note. The day on which the principal actually becomes due, whether at the stated maturity or earlier, is called the maturity date of the principal.

We also use the terms "stated maturity" and "maturity date" to refer to the days when other payments become due. For example, we may refer to a regular interest payment date when an installment of interest is scheduled to become due as the "stated maturity" of that installment.

When we refer to the "stated maturity" or the "maturity date" of a Note without specifying a particular payment, we mean the stated maturity or maturity date, as the case may be, of the principal.

Currency of Notes

Amounts that become due and payable on your Note in cash will be payable in U.S. dollars, euro, another currency other than U.S. dollars or euro or in a composite currency, as may be specified in the relevant Pricing Supplement. We refer to this currency or composite currency as the "Specified Currency." The Specified Currency for your Note will be U.S. dollars, unless the relevant Pricing Supplement states otherwise. Some Notes may have different Specified Currencies for principal, premium and interest. You will have to pay for your Notes by delivering the requisite amount of the Specified Currency for the principal to any of the Agents that we name in the relevant Pricing Supplement, unless other arrangements have been made between you and the Issuer or you and any such Agents. See "Currency Conversions — Payments for Notes" below.

The Issuer will make payments on your Notes in the Specified Currency or, as the case may be, Specified Currencies, except as described below and in "Currency Conversions—Payments on Notes." See "Risk Factors — Risks Relating to the Notes — Notes denominated and payable in a currency other than the investor's currency are subject to exchange rate and exchange control risks." above for more information about risks of investing in Notes of this kind.

If, on or after the date of the issuance of a series of Notes, the Specified Currency of such Note is unavailable to us due to the cessation of use of (i) such Specified Currency (other than the euro) both by the government of the country that issued such Specified Currency and for the settlement of transactions by a central bank or other public institutions of or within the international banking community, (ii) the euro by the then member states of the European Monetary Union that have adopted the euro as their currency or for the settlement of transactions by public institutions of or within the international banking community, or (iii) any currency unit (or composite currency) other than the euro for the purposes for which it was established, then all payments in respect of the Notes will be made in U.S. dollars until such Specified Currency is again available to us or so used. The amount payable on any date in the applicable Specified Currency will be converted into U.S. dollars on the basis of the market exchange rate for the applicable Specified Currency most recently available on, or prior to, the second business day before the relevant payment date. Any payment in respect of the Notes so made in U.S. dollars will not constitute an event of default under the Notes or the Fiscal and Paying Agency Agreement. The Fiscal and Paying Agent shall not have any responsibility for any calculation or conversion in connection with the forgoing.

Types of Notes

The Issuer may issue any of the following types of Notes and any other types of Notes that may be described in a supplement to, or other form of update of, this Offering Memorandum or, in the case of Exempt Notes, in the relevant Pricing Supplement:

Fixed Rate Notes

A Note of this type (a "Fixed Rate Note") will bear interest at a fixed rate described in the relevant Pricing Supplement. This type includes Zero Coupon Notes, which bear no interest and are instead issued at a price lower than the principal amount. See "— Original Issue Discount Notes" below for more information about Zero Coupon Notes and other Original Issue Discount Notes.

Each Fixed Rate Note, except any Zero Coupon Note, will bear interest from its issue date or from the most recent date to which interest on the Note has been paid or made available for payment. Interest will accrue on the principal of a Fixed Rate Note at the fixed rate stated in the relevant Pricing Supplement, until the principal is paid or made available for payment or the Note is converted or exchanged. Each payment of interest due on an interest payment date or at maturity will include interest accrued from and including the last date to which interest has been paid, or made available for payment, or from the issue date if none has been paid or made available for payment, to but excluding the interest payment date or the maturity date.

Unless otherwise specified in the applicable Pricing Supplement in respect of Exempt Notes, we will compute interest on Fixed Rate Notes denominated in U.S. dollars on the basis of a 360-day year of twelve 30-day months and, in the case of a Note denominated in a Specified Currency other than U.S. dollars on the following basis:

- In the case of Notes where the number of days in the relevant period from (and including) the most recent interest payment date (or, if none, the interest commencement date) to (but excluding) the relevant interest payment date (the "Accrual Period") is equal to or shorter than the Determination Period during which the Accrual Period ends, the number of days in such Accrual Period divided by the product of (a) the number of days in such Determination Period and (b) the number of Determination Dates (as defined in the applicable Pricing Supplement) that would occur in one calendar year; or

- In the case of Notes where the Accrual Period is longer than the Determination Period during which the Accrual Period ends, the sum of: (a) the number of days in such Accrual Period falling in the Determination Period in which the Accrual Period begins divided by the product of (x) the number of days in such Determination Period and (y) the number of Determination Dates that would occur in one calendar year; and (b) the number of days in such Accrual Period falling in the next Determination Period divided by the product of (x) the number of days in such Determination Period and (y) the number of Determination Dates that would occur in one calendar year.

For purposes of this subsection, "Determination Period" means each period from (and including) a Determination Date to but excluding the next Determination Date (including, where either the interest commencement date or the final interest payment date is not a Determination Date, the period commencing on the first Determination Date prior to, and ending on the first Determination Date falling after, such date). For any interim period, the rate of interest applicable to the Fixed Rate Notes may be computed on the basis of a 360-day year, a 365-day year or such other length of year, as applicable.

Interest will be payable on each interest payment date and on the maturity date as described below under "—Payment mechanics for Notes."

Floating Rate Notes

A Note of this type (a "Floating Rate Note") will bear interest at rates that are determined by reference to an interest rate formula. In some cases, the rates may also be adjusted by adding or subtracting a Spread or multiplying by a Spread Multiplier (each as defined herein) and may be subject to a minimum rate or a maximum rate. The various interest rate formulas and these other features are described below in "—Interest rates—Floating Rate Notes." In the case of Exempt Notes, if your Note is a Floating Rate Note, the formula and any adjustments that apply to the interest rate may be specified in the relevant Pricing Supplement.

Each Floating Rate Note will bear interest from its issue date or from the most recent date to which interest on the Note has been paid or made available for payment. Unless otherwise specified in the applicable Pricing Supplement in respect of Exempt Notes, we will compute interest on Floating Rate Notes on the basis of the actual number of days in the relevant interest period divided by 360 (or, in the case of a Floating Rate Note bearing interest at a rate determined by reference to the Treasury Rate, EURIBOR or SONIA, by the actual number of days in the year or by 365 for EURIBOR or SONIA). Notwithstanding the previous sentence, and, in the case of Exempt Notes, unless specified otherwise in the applicable Pricing Supplement, interest on SOFR Notes and SONIA Rate Notes will be calculated as described below under "— Interest Rates — Floating Rate Notes — SOFR Notes" and "— Interest Rates — Floating Rate Notes — SONIA Rate Notes," respectively. Interest will accrue on the principal of a Floating Rate Note at the rate set out in the relevant Pricing Supplement or, in the case of Exempt Notes, as determined according to the interest rate formula stated in the relevant Pricing Supplement, until the principal is paid or made available for payment or until it is converted or exchanged. Interest will be payable on each interest payment date and on the maturity date as described below under "—Payment mechanics for Notes." Unless otherwise stated in the relevant Pricing Supplement, the minimum rate of interest will be zero.

For any interim period, the rate of interest applicable to the Floating Rate Notes may be computed on the basis of a 360-day year, a 365-day year or such other length of year, as applicable.

Original Issue Discount Notes

A Note of this type (an "Original Issue Discount Note") may be a Fixed Rate Note or a Floating Rate Note. An Original Issue Discount Note is issued at a price lower than its principal amount. An Original Issue Discount Note may be a Zero Coupon Note. A Note may, for United States federal income tax purposes, be considered as having been issued with "original issue discount," regardless of the amount payable upon redemption or acceleration of maturity. See "Tax Considerations — Material United States Federal Income Tax Considerations — U.S. Holders — Original Issue Discount" below for a brief description of the United States federal income tax consequences of owning a Note issued with "original issue discount."

Information in the Pricing Supplement

The relevant Pricing Supplement will describe one or more of the following terms of your Notes:

- the aggregate principal amount of your Notes;
- the stated maturity;
- the Specified Currency or currencies for principal, premium and interest;
- the price at which we originally issue your Note, expressed as a percentage of the principal amount, and the issue date;
- whether your Note is a Fixed Rate Note, a Floating Rate Note, an Original Issue Discount Note (which may be a Zero Coupon Note) or, in the case of Exempt Notes, any combination of the foregoing;
- if your Note is a Fixed Rate Note, the rate at which your Note will bear interest, if any, and the interest payment dates, if different from those stated below under "—Interest rates—Fixed Rate Notes;"
- if your Note is a Floating Rate Note, the interest rate basis; any applicable index currency or Index Maturity (each, as defined herein), Spread or Spread Multiplier or initial, maximum or minimum rate; the interest reset, determination, calculation and interest payment dates; the day count used to calculate interest payments for any period; and the Calculation Agent, all of which we describe under "—Interest rates—Floating Rate Notes" below;
- if your Note is an Original Issue Discount Note, the yield to maturity;
- if applicable, the circumstances under which your Note may be redeemed at the Issuer's option or repaid at the Holder's option before the stated maturity, including any redemption commencement date, repayment date(s), redemption price(s) and redemption period(s), all of which we describe under "—Redemption and repayment" below;
- the authorized denominations, if, in the case of Exempt Notes, other than denominations of U.S.$250,000 and multiples of U.S.$1,000 in excess thereof;
- the Depositary for your Note, if, in the case of Exempt Notes, other than DTC, Euroclear or Clearstream, Luxembourg, and any circumstances under which the Holder may request Notes in non-global form, if your Note is not issued in book-entry form only;
- the name of each offering Agent;
- the price of the Notes to the offering Agent or Agents;
- the discount or commission to be received by the offering Agent or Agents;
- the net proceeds to the Issuer;
- the names and duties of any co-agents, depositaries, Paying Agents, transfer agents, Exchange Agents, Calculation Agents or registrars for your Note; and
- any other terms of your Note, which, in the case of Exempt Notes, could be different from those described in this Offering Memorandum.

Form of Notes

Each Note will be issued in global (i.e., book-entry) form only, unless, in the case of Exempt Notes, we specify otherwise in the relevant Pricing Supplement. Notes in book-entry form which are not to be held under the New Safekeeping Structure ("NSS") will be represented by a global security registered in the name of a Depositary or a nominee of a Depositary, which will be the Holder for all purposes of all the Notes represented by the global security, except with respect to any Notes deposited with, and registered in the name of a nominee for, a common depositary or common safekeeper for Euroclear and/or Clearstream, Luxembourg, for which purposes the Accountholders (as defined above) shall be deemed to be the "Holder" for all purposes other than with respect to the payment of principal or interest on such nominal amount of such Notes for which purposes the person or persons in whose name the Notes are registered shall, as aforesaid, be treated as the Holder. Notes in book-entry form to be held under the NSS will be registered in the name of a common safekeeper (or its nominee) for Euroclear and/or Clearstream, Luxembourg, and/or any other relevant clearing system and the Note will be deposited on or about the issue date with the common safekeeper for Euroclear and/or Clearstream, Luxembourg.

Those who own beneficial interests in a Global Note (as defined under "General Terms of the Notes and the Guarantee—Form and Denomination") will do so through participants in the Depositary's securities clearance system, and the rights of these indirect owners will be governed solely by the applicable procedures of the Depositary and its participants. We describe Global Notes above under "General Terms of the Notes and the Guarantee—Form and Denomination."

In addition, each Note will be issued in registered form, without coupons, unless we specify otherwise in the relevant Pricing Supplement in the case of Exempt Notes.

Interest rates

This subsection describes the different kinds of interest rates that may apply to your Note, if it bears interest.

Fixed Rate Notes

Interest on a Fixed Rate Note will be payable annually, semi-annually or quarterly on the date or dates specified in the relevant Pricing Supplement and at maturity. Any payment of principal, premium and interest for any Fixed Rate Note required to be made on an interest payment date that is not a business day (as defined herein) will be postponed to the next succeeding business day as if made on the date that payment was due, and no interest will accrue on that payment for the period from and after the interest payment date to the date of that payment on the next succeeding business day. For each Fixed Rate Note that bears interest, interest will accrue, and the Issuer will compute and pay accrued interest, as described under "—Types of Notes—Fixed Rate Notes" above and "—Payment mechanics for Notes" below.

Floating Rate Notes

In this subsection, we use several specialized terms relating to the manner in which floating interest rates are calculated. We define these terms in "—Special Rate Calculation Terms" at the end of this subsection. For each Floating Rate Note, interest will accrue, and the Issuer will compute and pay accrued interest, as described under "—Types of Notes—Floating Rate Notes" above and "—Payment mechanics for Notes" below. In addition, the following will apply to Floating Rate Notes.

Base Rates

The Issuer may issue Floating Rate Notes that bear interest at rates based on one or more of the following "Base Rates":

- CMT Rate;
- Commercial Paper Rate;
- EURIBOR;
- SONIA (based on a weighted average or compounding);
- Federal Funds Rate;
- LIBOR;
- SOFR (based on compounding or a simple or weighted average);
- Prime Rate; and/or
- Treasury Rate.

We describe each of the Base Rates in further detail below in this subsection.

If you purchase a Floating Rate Note, the applicable Pricing Supplement will specify the type of Base Rate that applies to your Note.

Unless otherwise specified in the applicable Note and any applicable Pricing Supplement in the case of Exempt Notes, each Floating Rate Note will be issued as described below. The applicable Note and any applicable Pricing Supplement will specify certain terms with respect to which each Floating Rate Note is being delivered, including: if applicable, Base Rate, initial interest rate, if any, initial Interest Reset Date, interest reset period and dates, interest period and dates, record dates, Index Maturity, maximum interest rate and/or minimum interest rate, if any, and Spread and/or Spread Multiplier, if any, as such terms are defined below. If the applicable Base Rate is

LIBOR or the CMT Rate, the applicable Note and any applicable Pricing Supplement will also specify the index currency and the Designated LIBOR Page, the ISDA Determination or the Designated CMT Reuters Page, as applicable, as such terms are defined below.

Floating Rate Notes will bear interest at the rate determined by reference to the applicable Base Rate (a) plus or minus the applicable Spread, if any, and/or (b) multiplied by the applicable Spread Multiplier, if any. Commencing on the first Interest Reset Date (as defined below) occurring after the issue date (the "initial Interest Reset Date"), the rate at which interest on such Floating Rate Note will be payable will be reset as of each Interest Reset Date; provided, however, that the interest rate in effect for the period, if any, from the issue date to the initial Interest Reset Date will be the initial interest rate.

Initial Base Rate. For any Floating Rate Note, the Base Rate in effect from the issue date to the first Interest Reset Date will be the Initial Base Rate. The Initial Base Rate will be specified in the applicable Pricing Supplement.

Spread or Spread Multiplier. In some cases, the Base Rate for a Floating Rate Note may be adjusted:

- by adding or subtracting a specified number of basis points, called the "Spread", with one basis point being 0.01%; or
- by multiplying the Base Rate by a specified percentage, called the "Spread Multiplier."

If you purchase a Floating Rate Note, the applicable Pricing Supplement will specify whether a Spread or Spread Multiplier will apply to your Note and, if so, the amount of the Spread or Spread Multiplier.

Maximum and Minimum Rates. The actual interest rate on Floating Rate Notes, after being adjusted by the Spread or Spread Multiplier, may also be subject to either or both of the following limits:

- a maximum rate—*i.e.*, a specified upper limit that the actual interest rate in effect at any time may not exceed; and/or
- a minimum rate—*i.e.*, a specified lower limit that the actual interest rate in effect at any time may not fall below.

If you purchase a Floating Rate Note, the applicable Pricing Supplement will specify whether a maximum rate and/or minimum rate will apply to your Note and, if so, what those rates are.

Whether or not a maximum rate applies, the interest rate on a Floating Rate Note will in no event be higher than the maximum rate permitted by Canadian law or by New York law, as it may be modified by United States federal law of general application.

In addition, the minimum rate will be zero unless otherwise specified in the relevant Pricing Supplement.

The rest of this subsection describes how the interest rate and the interest payment dates will be determined, and how interest will be calculated, on a Floating Rate Note.

Interest Reset Dates. The rate of interest on a Floating Rate Note will be reset by the Calculation Agent daily, weekly, monthly, quarterly, semi-annually, annually or, in the case of Exempt Notes, at some other interval specified in the applicable Pricing Supplement. The date on which the interest rate resets and the reset rate becomes effective is called the Interest Reset Date. Except as otherwise specified in the applicable Pricing Supplement, the Interest Reset Date will be as follows:

- for Floating Rate Notes that reset daily, each business day;
- for Simple Average SOFR Notes or SOFR Notes with a weighted average that reset daily, each day;
- for Floating Rate Notes that reset weekly and are not Treasury Rate Notes, the Wednesday of each week;
- for Treasury Rate Notes that reset weekly, the Tuesday of each week, except as otherwise described in the next to last paragraph under "—Interest Determination Dates" below;
- for Floating Rate Notes that reset monthly, the third Wednesday of each month;

- for Floating Rate Notes that reset quarterly, the third Wednesday of March, June, September and December of each year;
- for Floating Rate Notes that reset semi-annually, the third Wednesday of each of two months of each year as specified in the applicable Pricing Supplement; and
- for Floating Rate Notes that reset annually, the third Wednesday of one month of each year as specified in the applicable Pricing Supplement.

For a Floating Rate Note, the interest rate in effect on any particular day will be the interest rate determined with respect to the latest Interest Reset Date that occurs on or before that day. There are several exceptions, however, to the reset provisions described above.

The Base Rate in effect from the issue date to the first Interest Reset Date will be the Initial Base Rate. For Floating Rate Notes that reset daily or weekly, the Base Rate in effect for each day following the second business day before an interest payment date to, but excluding, the interest payment date, and for each day following the second business day before the maturity date to, but excluding, the maturity date, will be the Base Rate in effect on that second business day.

If any Interest Reset Date for a Floating Rate Note would otherwise be a day that is not a business day, the Interest Reset Date will be postponed to the next day that is a business day. For a LIBOR or a EURIBOR Note, however, if that business day is in the next succeeding calendar month, the Interest Reset Date will be the immediately preceding business day.

Interest Determination Dates. The interest rate that takes effect on an Interest Reset Date will be determined by the Calculation Agent by reference to a particular date called an Interest Determination Date. Except as otherwise specified in the applicable Pricing Supplement:

- For all Floating Rate Notes other than LIBOR Notes, SOFR Notes, SONIA Rate Notes, EURIBOR Notes and Treasury Rate Notes, the Interest Determination Date relating to a particular Interest Reset Date will be the second business day before the Interest Reset Date.
- For LIBOR Notes, the Interest Determination Date relating to a particular Interest Reset Date will be the second London business day preceding the Interest Reset Date, unless the index currency is pounds sterling, in which case the Interest Determination Date will be the Interest Reset Date. We refer to an Interest Determination Date for a LIBOR Note as a LIBOR Interest Determination Date.
- For all Compounded SOFR Notes except for Compounded SOFR Notes with Payment Delay and Compounded SOFR Index Notes with Payment Delay, the Interest Determination Date relating to a particular Interest Payment Date, which we refer to as a SOFR Interest Determination Date, will be the number of U.S. Government Securities Business Days preceding the related Interest Payment Date specified in the applicable Pricing Supplement.
- For Simple Average SOFR Notes, the Interest Determination Date relating to a particular Interest Reset Date will be the first U.S. Government Securities Business Day immediately preceding the related Interest Reset Date or, if a “Lag Period” is specified in the applicable Pricing Supplement, the number of U.S. Government Securities Business Days preceding the related Interest Reset Date specified in that Pricing Supplement.
- For EURIBOR Notes, the Interest Determination Date relating to a particular Interest Reset Date will be the second euro business day (as defined herein) preceding the Interest Reset Date. We refer to an Interest Determination Date for a EURIBOR Note as a EURIBOR Interest Determination Date.
- For SONIA Rate Notes, the Interest Determination Date relating to a particular Interest Reset Date, which we refer to as a SONIA Interest Determination Date, will be the fifth (or other number specified under the definition of “Observation Look-Back Period” below) London Banking Day prior to the end of each interest period.
- For Treasury Rate Notes, the Interest Determination Date relating to a particular Interest Reset Date, which we refer to as a Treasury Interest Determination Date, will be the day of the week on which the Interest Reset Date falls on which treasury bills—*i.e.*, direct obligations of the U.S. government—would normally be auctioned. Treasury bills are usually sold at auction on the Monday of each week, unless that day is a legal holiday in the United States, in which case the auction is usually held on the following

Tuesday, except that the auction may be held on the preceding Friday. If, as the result of a legal holiday an auction is held on the preceding Friday, that Friday will be the Treasury Interest Determination Date relating to the Interest Reset Date occurring in the next succeeding week. If the auction is held on a day that would otherwise be an Interest Reset Date, then the Interest Reset Date will instead be the first business day following the auction date.

The "Interest Determination Date" pertaining to a Floating Rate Note the interest rate of which is determined by reference to two or more Base Rates will be the most recent business day which is at least two business days prior to the applicable Interest Reset Date for such Floating Rate Note on which each Base Rate is determinable. Each Base Rate will be determined as of such date, and the applicable interest rate will take effect on the applicable Interest Reset Date.

Interest Calculation Dates. As described above, the interest rate that takes effect on a particular Interest Reset Date will be determined by reference to the corresponding Interest Determination Date. Except for LIBOR Notes, SOFR Notes, SONIA Rate Notes, and EURIBOR Notes, however, the determination of the rate will actually be made on a day no later than the corresponding interest calculation date. The interest calculation date will be the earlier of the following:

- the tenth calendar day after the Interest Determination Date or, if that tenth calendar day is not a business day, the next succeeding business day; and
- the business day immediately preceding the interest payment date or the maturity date, whichever is the day on which the next payment of interest will be due.

The Calculation Agent need not wait until the relevant interest calculation date to determine the interest rate if the rate information it needs to make the determination is available from the relevant sources sooner.

Interest Payment Dates. The interest payment dates for a Floating Rate Note will depend on when the interest rate is reset and, unless otherwise specified in the applicable Pricing Supplement in the case of Exempt Notes, will be as follows:

- for Floating Rate Notes that reset daily, weekly or monthly, the third Wednesday of each month or the third Wednesday of March, June, September and December of each year, as specified in the applicable Pricing Supplement;
- for Floating Rate Notes that reset quarterly, the third Wednesday of March, June, September and December of each year;
- for Floating Rate Notes that reset semi-annually, the third Wednesday of the two months of each year specified in the applicable Pricing Supplement; or
- for Floating Rate Notes that reset annually, the third Wednesday of the month specified in the applicable Pricing Supplement.

Regardless of these rules, if a Note is originally issued after the Regular Record Date and before the date that would otherwise be the first interest payment date, the first interest payment date will be the date that would otherwise be the second interest payment date. We have defined the term "Regular Record Date" under "—Payment mechanics for Notes" below.

If any interest payment date other than the maturity date for any Floating Rate Note would otherwise be a day that is not a business day, that interest payment date will be postponed to the next succeeding business day, except that in the case of a LIBOR Note, a EURIBOR Note or a Compounded SOFR Note where that business day falls in the next succeeding calendar month, that interest payment date will be the immediately preceding business day, in each case, unless otherwise indicated in the applicable Pricing Supplement in the case of Exempt Notes. Unless otherwise indicated in the applicable Pricing Supplement in the case of Exempt Notes, if the maturity date of a Floating Rate Note falls on a day that is not a business day, the required payment of principal, premium and interest will be made on the next succeeding business day as if made on the date that payment was due, and no interest will accrue on that payment for the period from and after the maturity date to the date of that payment on the next succeeding business day.

Calculation of Interest. Calculations relating to Floating Rate Notes will be made by the "Calculation Agent", an institution that the Issuer appoints as its agent for this purpose. That institution may include us or any affiliate of ours. The relevant Pricing Supplement for a particular Floating Rate Note will name the institution that has been appointed to act as the Calculation Agent for that Note as of its issue date. The Issuer has initially appointed The Bank of New York Mellon as its Calculation Agent for any Floating Rate Notes. The Issuer may appoint a different institution to serve as Calculation Agent from time to time after the issue date of the relevant Notes without your consent and without notifying you of the change. In addition, we or an affiliate of ours may assume the duties of the Calculation Agent for the Floating Rate Notes.

For each Floating Rate Note, the Calculation Agent will determine, on or before the corresponding interest calculation or determination date, the interest rate that takes effect on each Interest Reset Date. In addition, the Calculation Agent will calculate the amount of interest that has accrued during each interest period—i.e., the period from and including the issue date, or the last date to which interest has been paid or made available for payment, to but excluding the payment date (except in the case of Compounded SOFR Notes with Payment Delay and Compounded SOFR Index Notes with Payment Delay). For Floating Rate Notes other than SOFR Notes, for each interest period, the Calculation Agent will calculate the amount of accrued interest by multiplying the face or other specified amount of the Floating Rate Note by an accrued interest factor for the interest period. This factor will equal the sum of the interest factors calculated for each day during the interest period.

Unless otherwise specified in the applicable Pricing Supplement in the case of Exempt Notes, the interest factor for each day will be calculated by dividing the interest rate, expressed as a decimal, applicable to that day by the following:

- 360, in the case of Commercial Paper Rate Notes, Prime Rate Notes, LIBOR Notes, CMT Rate Notes and Federal Funds Rate Notes;
- 365, for EURIBOR Notes; or
- the actual number of days in the year, in the case of Treasury Rate Notes;

and will be made without any liability on the part of the Calculation Agent.

Unless otherwise specified in the applicable Pricing Supplement in the case of Exempt Notes, the interest factor for Floating Rate Notes whose interest rate is calculated by reference to two or more Base Rates will be calculated in each period in the same manner as if only one of the applicable Base Rates applied as specified in the applicable Note and any applicable Pricing Supplement.

Upon the request of the Holder of any Floating Rate Note, the Calculation Agent will provide for that Note the interest rate then in effect and, if determined, the interest rate that will become effective on the next Interest Reset Date. The Calculation Agent's determination of any interest rate, and its calculation of the amount of interest for any interest period, will be final and binding in the absence of manifest or proven error, and will be made without any liability on the part of the Calculation Agent.

All percentages resulting from any calculation relating to a Note will be rounded upward or downward, if necessary, to the nearest one hundred-thousandth of a percentage point, with five one millionths of a percentage point rounded upward. For example, 9.876541% (or .09876541) would be rounded down to 9.87654% (or .0987654) and 9.876545% (or .09876545) would be rounded up to 9.87655% (or .0987655). All amounts used in or resulting from any calculation relating to a Floating Rate Note will be rounded upward or downward, as appropriate, to the nearest cent, in the case of U.S. dollars, or to the nearest corresponding hundredth of a unit, in the case of a currency other than U.S. dollars, with one-half cent or one-half of a corresponding hundredth of a unit or more being rounded upward.

In determining the Base Rate that applies to a Floating Rate Note during a particular interest period, the Calculation Agent may obtain rate quotes from various banks or dealers active in the relevant market selected by us. Those reference banks and dealers may include the Calculation Agent itself and its affiliates, as well as any underwriter, dealer or agent participating in the distribution of the relevant Floating Rate Notes and its affiliates.

If a Benchmark Transition Event and its related Benchmark Replacement Date occur with respect to U.S. dollar LIBOR at any time when U.S. dollar LIBOR Notes are outstanding, then the foregoing provisions concerning the calculation and payment of interest on the U.S. dollar LIBOR Notes will be modified in accordance with the benchmark transition provisions described below under "— LIBOR Notes." If a Benchmark Transition Event and its related Benchmark Replacement Date occur with respect to SOFR at any time when Compounded SOFR Notes are outstanding, then the foregoing provisions concerning the calculation and payment of interest on Compounded SOFR Notes will be modified in accordance with the benchmark transition provisions described below under "*—Effect of a Benchmark Transition Event for Compounded SOFR Notes*." Similarly, if a Benchmark Event occurs with respect to non-U.S. dollar LIBOR Notes or EURIBOR Notes with respect to non-U.S. dollar LIBOR or EURIBOR at any time when non-U.S. dollar LIBOR Notes or EURIBOR Notes, respectively, are outstanding, then the foregoing provisions concerning the calculation of payment of interest on the non-U.S. dollar LIBOR Notes and EURIBOR Notes, to the extent applicable, will be modified in accordance with the Benchmark Discontinuation Provisions described below.

CMT Rate Notes

If you purchase a CMT Rate Note, your Note will bear interest at a Base Rate equal to the CMT Rate as adjusted by the Spread or Spread Multiplier, if any, specified in the applicable Pricing Supplement.

As indicated in the applicable Pricing Supplement, the CMT Rate will be either:

1) any of the following rates displayed on the Designated CMT Reuters Page under the heading "… Treasury Constant Maturities …" for the designated CMT Index Maturity:

- if the Designated CMT Reuters Page is the Reuters Page FRBCMT, the rate for the relevant Interest Determination Date; or
- if the Designated CMT Reuters Page is the Reuters Page FEDCMT, the weekly or monthly average, as specified in the applicable Pricing Supplement, for the week that ends immediately before the week in which the relevant Interest Determination Date falls, or for the month that ends immediately before the month in which the relevant Interest Determination Date falls, as applicable; or

2) the "ISDA Designation", which is the rate equal to the Floating Rate that would be determined by us under an interest rate swap transaction if we were acting as Calculation Agent for that swap transaction under the terms of an agreement incorporating the 2006 ISDA Definitions, as published by the International Swaps and Derivatives Association, Inc. and as amended and updated as at the issue date of the applicable Notes (the "ISDA Definitions") and under which:

- the Floating Rate Option is as specified in the applicable Pricing Supplement;
- the Designated Maturity is a period specified in the applicable Pricing Supplement; and
- the relevant Reset Date is the day specified in the applicable Pricing Supplement.

For the purposes of this sub-paragraph (2) only, "Floating Rate", "Calculation Agent", "Floating Rate Option", "Designated Maturity" and "Reset Date" have the meanings given to those terms in the ISDA Definitions.

If the Designated CMT Reuters Page is specified in the applicable Pricing Supplement, in which case (1) above applies, and the CMT Rate cannot be determined in the manner specified in (1) above, the following procedures will apply.

- If the applicable rate described above is not displayed on the relevant Designated CMT Reuters Page at 3:00 P.M., New York City time, on the relevant interest calculation date (unless the calculation is made earlier and the rate is available from that source at that time), then the CMT Rate will be the applicable treasury constant maturity rate described above—*i.e.*, for the designated CMT Index Maturity and for either the relevant Interest Determination Date or the weekly or monthly average, as applicable—as published in H.15(519) under the heading "Treasury Constant Maturities."
- If the applicable rate described above does not appear in H.15(519) at 3:00 P.M., New York City time, on the relevant interest calculation date (unless the calculation is made earlier and the rate is available

from one of those sources at that time), then the CMT Rate will be the Treasury constant maturity rate, or other U.S. Treasury Rate, for the designated CMT Index Maturity and with reference to the relevant Interest Determination Date, that:

- o is published by the Board of Governors of the Federal Reserve System, or the U.S. Department of the Treasury, and
- o is determined by us or our Designee to be comparable to the applicable rate formerly displayed on the Designated CMT Reuters Page and published in H.15(519).

- If the rate described in the prior paragraph does not appear at 3:00 P.M., New York City time, on the relevant interest calculation date (unless the calculation is made earlier and the rate is available from one of those sources at that time), then the CMT Rate will be the yield to maturity of the arithmetic mean of the following secondary market offered rates for the most recently issued Treasury Notes (as defined below) having an original maturity of approximately the designated CMT Index Maturity and a remaining term to maturity of not less than the designated CMT Index Maturity minus one year, and in a representative amount: the offered rates, as of approximately 3:30 P.M., New York City time, on the relevant Interest Determination Date, of three primary U.S. government securities dealers in New York City selected by the Calculation Agent. In selecting these offered rates, the Calculation Agent will request quotations from five of these primary dealers selected by us and will disregard the highest quotation—or, if there is equality, one of the highest—and the lowest quotation—or, if there is equality, one of the lowest. "Treasury Notes" are direct, non-callable, fixed rate obligations of the U.S. government.
- If the Calculation Agent is unable to obtain three quotations of the kind described in the prior paragraph, the CMT Rate will be the yield to maturity of the arithmetic mean of the following secondary market offered rates for Treasury Notes with an original maturity longer than the designated CMT Index Maturity, with a remaining term to maturity closest to the designated CMT Index Maturity and in a representative amount: the offered rates, as of approximately 3:30 P.M., New York City time, on the relevant Interest Determination Date, of three primary U.S. government securities dealers in New York City selected by the Calculation Agent. In selecting these offered rates, the Calculation Agent will request quotations from five of these primary dealers selected by us and will disregard the highest quotation—or, if there is equality, one of the highest—and the lowest quotation—or, if there is equality, one of the lowest. If two Treasury Notes with an original maturity longer than the designated CMT Index Maturity have remaining terms to maturity that are equally close to the designated CMT Index Maturity, the Calculation Agent will obtain quotations for the Treasury Note with the shorter remaining term to maturity.
- If fewer than five but more than two of these primary dealers are quoting as described in each of the prior two paragraphs, then the CMT Rate for the relevant Interest Determination Date will be based on the arithmetic mean of the offered rates so obtained, and neither the highest nor the lowest of those quotations will be disregarded.
- If two or fewer primary dealers selected by us are quoting as described in the prior paragraph, the CMT Rate in effect for the new interest period will be the CMT Rate in effect for the prior interest period. If the Initial Base Rate has been in effect for the prior interest period, however, it will remain in effect for the new interest period.

Commercial Paper Rate Notes

If you purchase a Commercial Paper Rate Note, your Note will bear interest at a Base Rate equal to the Commercial Paper Rate as adjusted by the Spread or Spread Multiplier, if any, specified in the applicable Pricing Supplement.

The Commercial Paper Rate for each interest period will be the Money Market Yield of the rate for the relevant Interest Determination Date and for commercial paper having the Index Maturity specified in the applicable Pricing Supplement, as published in H.15(519) under the heading "Commercial Paper—Financial." If the Commercial Paper Rate cannot be determined as described above, the following procedures will apply:

- If the rate described above does not appear in H.15(519) at 3:00 P.M., New York City time, on the relevant interest calculation date, unless the calculation is made earlier and the rate is available from that source at that time, then the Commercial Paper Rate will be the rate, for the relevant Interest Determination Date, for commercial paper having the Index Maturity specified in the applicable Pricing Supplement, as published in H.15 daily update or any other recognized electronic source used for displaying that rate, in each case, under the heading "Commercial Paper—Financial."
- If the rate described above does not appear in H.15(519), H.15 daily update or another recognized electronic source at 3:00 P.M., New York City time, on the relevant interest calculation date, unless the calculation is made earlier and the rate is available from one of those sources at that time, then the Commercial Paper Rate will be calculated by the Calculation Agent and will be the Money Market Yield of the arithmetic mean of the following offered rates for U.S. dollar commercial paper that has the relevant Index Maturity and is placed for an industrial issuer whose bond rating is "AA", or the equivalent, from a nationally recognized rating agency: the rates offered as of 11:00 A.M., New York City time, on the relevant Interest Determination Date, by three leading U.S. dollar commercial paper dealers in New York City selected by us.
- If fewer than three dealers selected by us are quoting as described above, the Commercial Paper Rate for the new interest period will be the Commercial Paper Rate in effect for the prior interest period. If the Initial Base Rate has been in effect for the prior interest period, it will remain in effect for the new interest period.

EURIBOR Notes

If you purchase a EURIBOR Note, your Note will bear interest at a Base Rate equal to the interest rate for deposits in euros designated as "EURIBOR", which rate is published by the European Money Markets Institute ("EMMI"). In addition, the EURIBOR Base Rate will be adjusted by the Spread or Spread Multiplier, if any, specified in the applicable Pricing Supplement. EURIBOR will be determined in the following manner:

- EURIBOR will be the offered rate for deposits in euros having the Index Maturity specified in the applicable Pricing Supplement, beginning on the relevant Interest Reset Date, as that rate appears on Reuters Page EURIBOR01 as of 11:00 A.M., Brussels time, on the relevant EURIBOR Interest Determination Date.
- If the rate described in the prior paragraph does not appear on Reuters Page EURIBOR01, EURIBOR will be determined on the basis of the rates, at approximately 11:00 A.M., Brussels time, on the relevant EURIBOR Interest Determination Date, at which deposits of the following kind are offered to prime banks in the euro-zone interbank market by the principal euro-zone office of each of four major banks in that market selected by us: euro deposits having the relevant Index Maturity, beginning on the relevant Interest Reset Date, and in a representative amount. The Calculation Agent will request the principal euro-zone office of each of these banks, as identified by us, to provide a quotation of its rate. If at least two quotations are provided, EURIBOR for the relevant EURIBOR Interest Determination Date will be the arithmetic mean of the quotations.
- If fewer than two quotations are provided as described in the prior paragraph, EURIBOR for the relevant EURIBOR Interest Determination Date will be the arithmetic mean of the rates for loans of the following kind to leading euro-zone banks quoted, at approximately 11:00 A.M., Brussels time on that EURIBOR Interest Determination Date, by four major banks in the euro-zone selected by us: loans of euros having the relevant Index Maturity, beginning on the relevant Interest Reset Date, and in a representative amount determined by us.
- If fewer than four banks selected by us are quoting as described in the prior paragraph, EURIBOR for the new interest period will be EURIBOR in effect for the prior interest period. If the Initial Base Rate has been in effect for the prior interest period, however, it will remain in effect for the new interest period.

EURIBOR Notes are subject to the provisions described below under "— Benchmark Discontinuation — Reference Rate Replacement — non-U.S. dollar LIBOR and EURIBOR."

Federal Funds Rate Notes

If you purchase a Federal Funds Rate Note, your Note will bear interest at a Base Rate equal to the Federal Funds Rate as adjusted by the Spread or Spread Multiplier, if any, specified in the applicable Pricing Supplement.

The Federal Funds Rate will be the rate for U.S. dollar federal funds for the relevant Interest Determination Date, as published in H.15 (519) opposite the heading "Federal Funds (Effective)", as that rate is displayed on Reuters Page FEDFUNDS1 under the heading "EFFECT." If the Federal Funds Rate cannot be determined in this manner, the following procedures will apply.

- If the rate described above is not displayed on Reuters Page FEDFUNDS1 at 3:00 P.M., New York City time, on the relevant interest calculation date (unless the calculation is made earlier and the rate is available from that source at that time), then the Federal Funds Rate, for the relevant Interest Determination Date, will be the rate described above as published in H.15 daily update, or another recognized electronic source used for displaying that rate, under the heading "Federal funds (effective)."
- If the rate described in the prior paragraph is not displayed on Reuters Page FEDFUNDS1 and does not appear in H.15(519), H.15 daily update or another recognized electronic source at 3:00 P.M., New York City time, on the relevant interest calculation date (unless the calculation is made earlier and the rate is available from one of those sources at that time), the Federal Funds Rate will be the arithmetic mean of the rates for the last transaction in overnight, U.S. dollar federal funds arranged, before 9:00 A.M., New York City time, on the business day following the relevant Interest Determination Date, by three leading brokers of U.S. dollar federal funds transactions in New York City selected by us.
- If fewer than three brokers selected by us are quoting as described in the prior paragraph, the Federal Funds Rate in effect for the new interest period will be the Federal Funds Rate in effect for the prior interest period. If the Initial Base Rate has been in effect for the prior interest period, however, it will remain in effect for the new interest period.

LIBOR Notes

If you purchase a LIBOR Note, your Note will bear interest at a Base Rate equal to LIBOR for deposits in U.S. dollars or any other index currency, as specified in the applicable Pricing Supplement. In addition, the applicable LIBOR Base Rate will be adjusted by the Spread or Spread Multiplier, if any, specified in the applicable Pricing Supplement.

LIBOR for currencies other than U.S. dollars will be determined in the following manner:

- LIBOR will be the offered rate appearing on the Designated LIBOR Page, as of 11:00 A.M., London time, on the relevant LIBOR Interest Determination Date, for deposits of the relevant index currency having the relevant Index Maturity beginning on the relevant Interest Reset Date. The applicable Pricing Supplement will indicate the index currency, the Index Maturity, and the Designated LIBOR Page that apply to your LIBOR Note.
- If no such rate appears on the Designated LIBOR Page, then LIBOR will be determined on the basis of the rates, at approximately 11:00 A.M., London time, on the relevant LIBOR Interest Determination Date, at which deposits of the following kind are offered to prime banks in the London interbank market by four major banks in that market selected by us: deposits of the index currency having the relevant Index Maturity, beginning on the relevant Interest Reset Date, and in a representative amount determined by us. The Calculation Agent will request the principal London office of each of these banks, as identified by us, to provide a quotation of its rate. If at least two quotations are provided, LIBOR for the relevant LIBOR Interest Determination Date will be the arithmetic mean of the quotations.
- If fewer than two quotations are provided as described in the prior paragraph, LIBOR for the relevant LIBOR Interest Determination Date will be the arithmetic mean of the rates for loans of the following kind to leading European banks quoted, at approximately 11:00 A.M., in the principal financial center, on that LIBOR Interest Determination Date, by three major banks in that financial center selected by us: loans of the index currency having the relevant Index Maturity, beginning on the relevant Interest Reset Date, and in a representative amount.

- If fewer than three banks selected by us are quoting as described in the prior paragraph, LIBOR for the new interest period will be LIBOR in effect for the prior interest period. If the Initial Base Rate has been in effect for the prior interest period, however, it will remain in effect for the new interest period.

Notwithstanding the foregoing paragraphs if, on or prior to any Interest Determination Date, we or our Designee determine that such non-U.S. dollar LIBOR has been discontinued or is permanently no longer being published, the Calculation Agent will use a substitute or successor base rate that we or our Designee have determined, in its sole discretion after consulting any source we or our Designee deem to be reasonable, is (i) the industry-accepted substitute or successor base rate or (ii) if there is no such industry-accepted substitute or successor base rate, a substitute or successor base rate that is most comparable to such non-U.S. dollar LIBOR.

Upon selection of such substitute or successor base rate, we or our Designee may determine, in its sole discretion after consulting any source it deems to be reasonable, the day count, the business day convention, the definition of business day, the Interest Determination Date and any other relevant methodology or definition for calculating such substitute or successor base rate, including any adjustment factor we or our Designee determine is needed to make such substitute or successor base rate comparable to such non-U.S. dollar LIBOR, in a manner that is consistent with any industry-accepted practices for such substitute or successor base rate, provided however, that if we or our Designee determine, and, if the Designee, following consultation with us, determines that there is no clear market consensus as to whether any rate has replaced the relevant non-U.S. dollar LIBOR in customary market usage, we will appoint in our sole discretion the IFA to determine an appropriate alternative rate, and the decision of the IFA will be binding on us, the Calculation Agent and the Holders.

Non-U.S. dollar LIBOR Notes are subject to the provisions described below under "—Benchmark Discontinuation — Reference Rate Replacement — non-U.S. dollar LIBOR and EURIBOR."

LIBOR Notes with an index currency of U.S. dollars will be calculated as the rate determined by the Calculation Agent as the London interbank offered rate for deposits in U.S. dollars having the relevant index maturity in amounts of at least U.S.$1,000,000, as that rate appears on Reuters Page LIBOR01 at approximately 11:00 a.m., London time, on the relevant LIBOR Interest Determination Date, *provided* that if no such rate appears on Reuters Page LIBOR01 on that LIBOR Interest Determination Date at approximately 11:00 a.m., London time, then we or our Designee, after consulting such sources as it deems comparable to Reuters Page LIBOR01, or any such source as it deems reasonable from which to estimate the relevant London interbank offered rate for U.S. dollar deposits, shall determine LIBOR for the relevant Index Maturity in its sole discretion.

Notwithstanding the foregoing paragraph, if we or our Designee (which term includes any of our affiliates, a calculation agent or the Calculation Agent) determine on or prior to the relevant LIBOR Interest Determination Date that a Benchmark Transition Event and its related Benchmark Replacement Date (each as defined below) have occurred with respect to U.S. dollar LIBOR, then the provisions set forth below under the heading "Effect of Benchmark Transition Event," which we refer to as the benchmark transition provisions, will thereafter apply to all determinations of the rate of interest payable on the such U.S. dollar LIBOR Note. In accordance with the benchmark transition provisions, after a Benchmark Transition Event and its related Benchmark Replacement Date have occurred, the amount of interest that will be payable for each interest period on the U.S. dollar LIBOR Note will be an annual rate equal to the sum of the Benchmark Replacement (as defined below) and the applicable margin.

Effect of Benchmark Transition Event for U.S. dollar LIBOR Notes

Benchmark Replacement. If we or our Designee determine that a Benchmark Transition Event and its related Benchmark Replacement Date have occurred prior to the Reference Time in respect of any determination of the Benchmark on any date, the Benchmark Replacement will replace the then-current Benchmark (initially, U.S. dollar LIBOR) for all purposes relating to the U.S. dollar LIBOR Notes in respect of such determination on such date and all determinations on all subsequent dates.

Benchmark Replacement Conforming Changes. In connection with the implementation of a Benchmark Replacement, we or our Designee will have the right to make Benchmark Replacement Conforming Changes from time to time.

Decisions and Determinations. Any determination, decision or election that may be made by us or by our Designee pursuant to the benchmark transition provisions, including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection:

- will be conclusive and binding absent manifest error;
- if made by us, will be made in our sole discretion;
- if made by our Designee, will be made after consultation with us, and the Designee will not make any such determination, decision or election to which we reasonably object; and
- notwithstanding anything to the contrary in the Fiscal and Paying Agency Agreement or the Notes, shall become effective without consent from the holders of the Notes or any other party.

If the Designee does not make any determination, decision or election hereunder, then we will make that determination, decision or election on the same basis as described above.

Certain Defined Terms. As used in this section "Effect of a Benchmark Transition Event for U.S. dollar LIBOR Notes":

"Benchmark" means, initially, U.S. dollar LIBOR; provided that if a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to U.S. dollar LIBOR or the then-current Benchmark, then "Benchmark" means the applicable Benchmark Replacement.

"Benchmark Replacement" means the Interpolated Benchmark with respect to the then-current Benchmark, plus the Benchmark Replacement Adjustment for such Benchmark; provided that if the Designee cannot determine the Interpolated Benchmark as of the Benchmark Replacement Date, then "Benchmark Replacement" means the first alternative set forth in the order below that can be determined by us or the Designee, as applicable, as of the Benchmark Replacement Date:

(1) the sum of: (a) Term SOFR and (b) the Benchmark Replacement Adjustment;

(2) the sum of: (a) Compounded SOFR and (b) the Benchmark Replacement Adjustment;

(3) the sum of: (a) the alternate rate of interest that has been selected or recommended by the Relevant Governmental Body as the replacement for the then-current Benchmark for the applicable Corresponding Tenor and (b) the Benchmark Replacement Adjustment;

(4) the sum of: (a) the ISDA Fallback Rate and (b) the Benchmark Replacement Adjustment;

(5) the sum of: (a) the alternate rate of interest that has been selected by us or our Designee as the replacement for the then-current Benchmark for the applicable Corresponding Tenor giving due consideration to any industry-accepted rate of interest as a replacement for the then-current Benchmark for U.S. dollar-denominated floating rate notes at such time and (b) the Benchmark Replacement Adjustment.

"Benchmark Replacement Adjustment" means the first alternative set forth in the order below that can be determined by us or our Designee as of the Benchmark Replacement Date:

(1) the spread adjustment, or method for calculating or determining such spread adjustment, (which may be a positive or negative value or zero) that has been selected or recommended by the Relevant Governmental Body for the applicable Unadjusted Benchmark Replacement;

(2) if the applicable Unadjusted Benchmark Replacement is equivalent to the ISDA Fallback Rate, then the ISDA Fallback Adjustment;

(3) the spread adjustment (which may be a positive or negative value or zero) that has been selected by us or our Designee giving due consideration to any industry-accepted spread adjustment, or method for

calculating or determining such spread adjustment, for the replacement of the then-current Benchmark with the applicable Unadjusted Benchmark Replacement for U.S. dollar-denominated floating rate notes at such time.

"Benchmark Replacement Conforming Changes" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the definition of "interest period", timing and frequency of determining rates and making payments of interest, rounding of amounts or tenors, and other administrative matters) that we or our Designee decide may be appropriate to reflect the adoption of such Benchmark Replacement in a manner substantially consistent with market practice (or, if we or our Designee decide that adoption of any portion of such market practice is not administratively feasible or if we or our Designee determine that no market practice for use of the Benchmark Replacement exists, in such other manner as we or our Designee determine is reasonably necessary).

"Benchmark Replacement Date" means the earliest to occur of the following events with respect to the then-current Benchmark:

(1) in the case of clause (1) or (2) of the definition of "Benchmark Transition Event," the later of (a) the date of the public statement or publication of information referenced therein and (b) the date on which the administrator of the Benchmark permanently or indefinitely ceases to provide the Benchmark; or

(2) in the case of clause (3) of the definition of "Benchmark Transition Event," the date of the public statement or publication of information referenced therein.

For the avoidance of doubt, if the event giving rise to the Benchmark Replacement Date occurs on the same day as, but earlier than, the Reference Time in respect of any determination, the Benchmark Replacement Date will be deemed to have occurred prior to the Reference Time for such determination.

"Benchmark Transition Event" means the occurrence of one or more of the following events with respect to the then-current Benchmark:

(1) a public statement or publication of information by or on behalf of the administrator of the Benchmark announcing that such administrator has ceased or will cease to provide the Benchmark, permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark;

(2) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark, the central bank for the currency of the Benchmark, an insolvency official with jurisdiction over the administrator for the Benchmark, a resolution authority with jurisdiction over the administrator for the Benchmark or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark, which states that the administrator of the Benchmark has ceased or will cease to provide the Benchmark permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark; or

(3) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark announcing that the Benchmark is no longer representative.

"Compounded SOFR" means the compounded average of SOFRs for the applicable Corresponding Tenor, with the rate, or methodology for this rate, and conventions for this rate being established by us or our Designee in accordance with:

(1) the rate, or methodology for this rate, and conventions for this rate selected or recommended by the Relevant Governmental Body for determining compounded SOFR; provided that:

(2) if, and to the extent that, we or our Designee determine that Compounded SOFR cannot be determined in accordance with clause (1) above, then the rate, or methodology for this rate, and conventions for this

rate that have been selected by us or our Designee giving due consideration to any industry-accepted market practice for U.S. dollar-denominated floating rate notes at such time.

For the avoidance of doubt, the calculation of Compounded SOFR shall exclude the Benchmark Replacement Adjustment and any applicable Spread and/or Spread Multiplier on the Notes.

"Corresponding Tenor" with respect to a Benchmark Replacement means a tenor (including overnight) having approximately the same length (disregarding business day adjustment) as the applicable tenor for the then-current Benchmark.

"Federal Reserve Bank of New York's Website" means the website of the FRBNY at www.newyorkfed.org, or any successor source.

"Interpolated Benchmark" with respect to the Benchmark means the rate determined for the Corresponding Tenor by interpolating on a linear basis between: (1) the Benchmark for the longest period (for which the Benchmark is available) that is shorter than the Corresponding Tenor and (2) the Benchmark for the shortest period (for which the Benchmark is available) that is longer than the Corresponding Tenor.

"ISDA Definitions" means the 2006 ISDA Definitions published by the International Swaps and Derivatives Association, Inc. or any successor thereto, as amended or supplemented from time to time, or any successor definitional booklet for interest rate derivatives published from time to time.

"ISDA Fallback Adjustment" means the spread adjustment (which may be a positive or negative value or zero) that would apply for derivatives transactions referencing the ISDA Definitions to be determined upon the occurrence of an index cessation event with respect to the Benchmark for the applicable tenor.

"ISDA Fallback Rate" means the rate that would apply for derivatives transactions referencing the ISDA Definitions to be effective upon the occurrence of an index cessation date with respect to the Benchmark for the applicable tenor excluding the applicable ISDA Fallback Adjustment.

"Reference Time" with respect to any determination of the Benchmark means (1) if the Benchmark is U.S. dollar LIBOR, 11:00 a.m. (London time) on the relevant LIBOR Interest Determination Date, and (2) if the Benchmark is not U.S. dollar LIBOR, the time determined by us or our Designee in accordance with the Benchmark Replacement Conforming Changes.

"Relevant Governmental Body" means the Federal Reserve Board and/or the FRBNY, or a committee officially endorsed or convened by the Federal Reserve Board and/or the FRBNY or any successor thereto.

"SOFR" with respect to any day means the secured overnight financing rate published for such day by the FRBNY, as the administrator of the benchmark, (or a successor administrator) on the Federal Reserve Bank of New York's Website.

"Term SOFR" means the forward-looking term rate for the applicable Corresponding Tenor based on SOFR that has been selected or recommended by the Relevant Governmental Body.

"Unadjusted Benchmark Replacement" means the Benchmark Replacement excluding the Benchmark Replacement Adjustment.

Prime Rate Notes

If you purchase a Prime Rate Note, your Note will bear interest at a Base Rate equal to the Prime Rate as adjusted by the Spread or Spread Multiplier, if any, specified in the applicable Pricing Supplement. The Prime Rate for each interest period will be the rate, for the relevant Interest Determination Date, published in H.15(519) under the heading "Bank Prime Loan." If the Prime Rate cannot be determined as described above, the following procedures will apply.

- If the rate described above does not appear in H.15(519) at 3:00 P.M., New York City time, on the relevant interest calculation date, unless the calculation is made earlier and the rate is available from that source at that time, then the Prime Rate will be the rate, for the relevant Interest Determination Date, as published in H.15 daily update, or another recognized electronic source used for the purpose of displaying that rate, in each case, under the heading "Bank Prime Loan."

- If the rate described above does not appear in H.15(519), H.15 daily update or another recognized electronic source at 3:00 P.M., New York City time, on the relevant interest calculation date, unless the calculation is made earlier and the rate is available from one of those sources at that time, then the Prime Rate will be the arithmetic mean, as determined by the Calculation Agent, of the following rates as they appear on the Reuters Page US PRIME1: the rate of interest publicly announced by each bank appearing on that page as that bank's prime rate or base lending rate, as of 11:00 A.M., New York City time, on the relevant Interest Determination Date.
- If fewer than four of these rates appear on the Reuters Page US PRIME1, the Prime Rate will be the arithmetic mean of the prime rates or base lending rates, as of the close of business on the relevant Interest Determination Date, of three major banks in New York City selected by us. For this purpose, the Calculation Agent will use rates quoted on the basis of the actual number of days in the year divided by a 360-day year, unless otherwise specified in the applicable Pricing Supplement.
- If fewer than three banks selected by us are quoting as described above, the Prime Rate for the new interest period will be the Prime Rate in effect for the prior interest period. If the Initial Base Rate has been in effect for the prior interest period, it will remain in effect for the new interest period.

SOFR Notes

If you purchase a SOFR Note, your Note will bear interest at a Base Rate equal to SOFR (as defined below) as adjusted by the Spread or Spread Multiplier, if any, specified in the applicable Pricing Supplement.

SOFR Notes will be either Compounded SOFR Notes with Lookback, Compounded SOFR Notes with Observation Period Shift, Compounded SOFR Notes with Payment Delay, Compounded SOFR Index Notes with Observation Period Shift, Compounded SOFR Index Notes with Payment Delay, Simple Average SOFR Notes or Weighted Average SOFR Notes, each as indicated in the applicable Pricing Supplement and as described below.

The Interest Rate applicable for an interest period will be determined on the applicable SOFR Interest Determination Date, except that the Interest Rate for Compounded SOFR Notes with Payment Delay or Compounded SOFR Index Notes with Payment Delay will be determined on the applicable Interest Accrual Period End Date, with the Interest Rate for the final Interest Accrual Period being determined on the Rate Cut-off Date.

The amount of interest accrued and payable on the SOFR Notes for each interest period will be calculated by the Calculation Agent and will be equal to the product of (i) the outstanding principal amount of the SOFR Notes multiplied by (ii) the product of (a) the Base Rate plus the applicable Spread or Spread Multiplier for the relevant interest period multiplied by (b) the quotient of the actual number of calendar days in such interest period divided by 360. For Compounded SOFR Notes with Payment Delay or Compounded SOFR Index Notes with Payment Delay, this calculation will be made in respect of each Interest Accrual Period, rather than each interest period.

The Day Count Convention for all Compounded SOFR Notes is Actual/360.

The SOFR Interest Determination Date for Compounded SOFR Notes with Lookback, Compounded SOFR Notes with Observation Period Shift and Compounded SOFR Index Notes with Observation Period Shift means the day that is the number of U.S. Government Securities Business Days prior to the Interest Payment Date in respect of the relevant interest period, as specified in the applicable Pricing Supplement. The Interest Payment Determination Date for Compounded SOFR Notes with Payment Delay or Compounded SOFR Index Notes with Payment Delay is the Interest Accrual Period End Date at the end of each Interest Accrual Period; provided that the SOFR Interest Determination Date with respect to the final Interest Accrual Period will be the Rate Cut-off Date.

Compounded SOFR Notes with Lookback

"Compounded SOFR with Lookback," with respect to any interest period, means the rate of return of a daily compound interest investment computed in accordance with the following formula, with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, 0.000005 being rounded upwards to .00001:

$$\left[\prod_{i=1}^{d_0}\left(1+\frac{SOFR_{i-yUSBD}\ x\ n_i}{360}\right)-1\right]x\ \frac{360}{d}$$

where:

"d_0", for any Interest Period, means the number of U.S. Government Securities Business Days in the relevant interest period;

"i" means a series of whole numbers from one to d_o, each representing the relevant U.S. Government Securities Business Day in chronological order from, and including, the first U.S. Government Securities Business Day in the relevant interest period;

"$SOFR_{i-yUSBD}$", for any U.S. Government Securities Business Day "i" in the relevant interest period, is equal to SOFR in respect of the U.S. Government Securities Business Day that is "y" (the Lookback Number of U.S. Government Securities Business Days) prior to that day "i";

"n_i", for any U.S. Government Securities Business Day "i" in the relevant interest period, is the number of calendar days from, and including, such U.S. Government Securities Business Day "i" to, but excluding, the following U.S. Government Securities Business Day ("i+1"); and

"d" means the number of calendar days in the relevant interest period.

"SOFR", with respect to any U.S. Government Securities Business Day, means:

(1) the Secured Overnight Financing Rate published for such U.S. Government Securities Business Day as such rate appears on the SOFR Administrator's Website at 3:00 p.m. (New York time) on the immediately following U.S. Government Securities Business Day (the "SOFR Determination Time"); or

(2) if the rate specified in (1) above does not so appear, unless both a Benchmark Transition Event and its related Benchmark Replacement Date (as each such term is defined below under "*—Effect of a Benchmark Transition Event for Compounded SOFR Notes*") have occurred, the Secured Overnight Financing Rate as published in respect of the first preceding U.S. Government Securities Business Day for which the Secured Overnight Financing Rate was published on the SOFR Administrator's Website; or

(3) If a Benchmark Transition Event and its related Benchmark Replacement Date have occurred, the Benchmark Replacement, subject to the provisions described, and as defined, below under "*—Effect of a Benchmark Transition Event for Compounded SOFR Notes*".

where:

"Lookback Number of U.S. Government Securities Business Days" has the meaning specified in the applicable Pricing Supplement and represented in the formula above as "y".

"SOFR Administrator" means the Federal Reserve Bank of New York (or a successor administrator of the Secured Overnight Financing Rate); and

“SOFR Administrator’s Website” means the website of the Federal Reserve Bank of New York, or any successor source.

Compounded SOFR Notes with Observation Period Shift

“Compounded SOFR with Observation Period Shift”, with respect to any interest period, means the rate of return of a daily compound interest investment computed in accordance with the following formula, with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, 0.000005 being rounded upwards to .00001:

$$\left[\prod_{i=1}^{d_0}\left(1+\frac{SOFR_i\ x\ n_i}{360}\right)-1\right]x\ \frac{360}{d}$$

where:

“d_0”, for any Observation Period, means the number of U.S. Government Securities Business Days in the relevant Observation Period;

“i” means a series of whole numbers from one to d_0, each representing the relevant U.S. Government Securities Business Day in chronological order from, and including, the first U.S. Government Securities Business Day in the relevant Observation Period;

“$SOFR_i$”, for any U.S. Government Securities Business Day “i” in the relevant Observation Period, is equal to SOFR (as defined above under “— *Compounded SOFR Notes with Lookback*”) in respect of that day “i”;

“n_i”, for any U.S. Government Securities Business Day “i” in the relevant Observation Period, is the number of calendar days from, and including, such U.S. Government Securities Business Day “i” to, but excluding, the following U.S. Government Securities Business Day (“i+1”); and

“d” means the number of calendar days in the relevant Observation Period.

“Observation Period” means, in respect of each interest period, the period from, and including, the date that is the number of U.S. Government Securities Business Days specified in the applicable Pricing Supplement preceding the first date in such interest period to, but excluding, the date that is the same number of U.S. government securities Business Days so specified and preceding the Interest Payment Date for such interest period.

Compounded SOFR Notes with Payment Delay

“Compounded SOFR with Payment Delay” with respect to any Interest Accrual Period means the rate of return of a daily compound interest investment computed in accordance with the following formula, with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, 0.000005 being rounded upwards to .00001:

$$\left[\prod_{i=1}^{d_0}\left(1+\frac{SOFR_i\ x\ n_i}{360}\right)-1\right]x\ \frac{360}{d}$$

where:

“d_0”, for any Interest Accrual Period, means the number of U.S. Government Securities Business Days in the relevant Interest Accrual Period;

"*i*" means a series of whole numbers from one to d*o*, each representing the relevant U.S. Government Securities Business Day in chronological order from, and including, the first U.S. Government Securities Business Day in the relevant Interest Accrual Period;

"*SOFRi*", for any U.S. Government Securities Business Day "i" in the relevant Interest Accrual Period, is equal to SOFR (as defined above under "*— Compound SOFR Notes with Lookback*") in respect of that day "i";

"n_i", for any U.S. Government Securities Business Day "i" in the relevant Interest Accrual Period, is the number of calendar days from, and including, such U.S. Government Securities Business Day "i" to, but excluding, the following U.S. Government Securities Business Day ("i+1"); and

"*d*" means the number of calendar days in the relevant Interest Accrual Period.

"Interest Accrual Period" means each quarterly period, or such other period as specified in the applicable Pricing Supplement, from, and including, an Interest Accrual Period End Date (or, in the case of the first Interest Accrual Period, the issue date) to, but excluding, the next Interest Accrual Period End Date (or, in the case of the final Interest Accrual Period, the maturity date or, if we elect to redeem the Compounded SOFR Notes with Payment Delay on any earlier redemption date, the redemption date).

"Interest Accrual Period End Dates" means the dates specified in the applicable Pricing Supplement, ending on the maturity date or, if we elect to redeem the Compounded SOFR Notes with Payment Delay on any earlier redemption date, the redemption date.

"Interest Payment Date" means the second Business Day, or such other Business Day as specified in the applicable Pricing Supplement, following each Interest Accrual Period End Date; provided that the Interest Payment Date with respect to the final Interest Accrual Period will be the maturity date or, if we elect to redeem the Compounded SOFR Notes with Payment Delay on any earlier redemption date, the redemption date.

"Interest Payment Determination Date" means the Interest Accrual Period End Date at the end of each Interest Accrual Period; provided that the Interest Payment Determination Date with respect to the final Interest Accrual Period will be the Rate Cut-off Date.

"Rate Cut-Off Date" means the second U.S. Government Securities Business Day, or such other U.S. Government Securities Business Day as specified in the applicable Pricing Supplement, prior to the maturity date or redemption date, as applicable. For purposes of calculating Compounded SOFR with respect to the final Interest Accrual Period, the level of SOFR for each U.S. Government Securities Business Day in the period from and including the Rate Cut-Off Date to but excluding the maturity date or any earlier redemption date, as applicable, shall be the level of SOFR in respect of such Rate Cut-Off Date.

Compounded SOFR Index Notes with Observation Period Shift

"SOFR Index," with respect to any U.S. Government Securities Business Day, means:

(1) the SOFR Index value as published by the SOFR Administrator as such index appears on the SOFR Administrator's Website at the SOFR Determination Time; provided that:

(2) if a SOFR Index value does not so appear as specified in (1) above at the SOFR Determination Time, then:

(i) if a Benchmark Transition Event and its related Benchmark Replacement Date (each as defined below under "*—Effect of a Benchmark Transition Event for Compounded SOFR Notes*") have not occurred with respect to SOFR, then Compounded SOFR shall be the rate determined pursuant to the "SOFR Index Unavailable" provisions below; or

(ii) if a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to SOFR, then Compounded SOFR shall be the rate determined pursuant to the "—*Effect of a Benchmark Transition Event for Compounded SOFR Notes*" provisions below.

where:

"SOFR" means the daily secured overnight financing rate as provided by the SOFR Administrator on the SOFR Administrator's Website.

"Compounded SOFR," with respect to any interest period, means the rate computed in accordance with the following formula (and the resulting percentage will be rounded, if necessary, to the nearest one hundred-thousandth of a percentage point e.g., 9.876541% (or .09876541) being rounded down to 9.87654% (or .0987654) and 9.876545% (or .09876545) being rounded up to 9.87655% (or .0987655)):

$$\left(\frac{SOFR\ Index_{End}}{SOFR\ Index_{Start}} - 1\right) x\, \frac{360}{d_c}$$

where:

"SOFR $Index_{Start}$" is the SOFR Index value for the day which is two U.S. Government Securities Business Days, or such other number of U.S. Government Securities Business Days as specified in the applicable Pricing Supplement, preceding the first date of the relevant interest period;

"SOFR $Index_{End}$" is the SOFR Index value for the day which is two, or such other number of U.S. Government Securities Business Days as specified in the applicable Pricing Supplement, U.S. Government Securities Business Days preceding the Interest Payment Date relating to such interest period; and

"d_c" is the number of calendar days from (and including) SOFR $Index_{Start}$ to (but excluding) SOFR $Index_{End}$ [(the number of calendar days in the applicable Observation Period)].

"SOFR Index Unavailable" means, if a SOFR $Index_{Start}$ or SOFR $Index_{End}$ is not published on the associated SOFR Interest Determination Date and a Benchmark Transition Event and its related Benchmark Replacement Date (each as defined below under "—*Effect of a Benchmark Transition Event for Compounded SOFR Notes*") have not occurred with respect to SOFR, "Compounded SOFR" means, for the applicable interest period for which such index is not available, the rate of return on a daily compounded interest investment calculated in accordance with the formula for SOFR Averages, and definitions required for such formula, published on the SOFR Administrator's Website at www.newyorkfed.org/markets/treasury-repo-reference-rates-information. For the purposes of this provision, references in the SOFR Averages compounding formula and related definitions to "calculation period" shall be replaced with "Observation Period" and the words "that is, 30-, 90-, or 180- calendar days" shall be removed. If the daily SOFR ("$SOFR_i$") does not so appear for any day, "*i*" in the Observation Period, $SOFR_i$ for such day "*i*" shall be SOFR published in respect of the first preceding U.S. Government Securities Business Day for which SOFR was published on the SOFR Administrator's Website.

Compounded SOFR Index Notes with Payment Delay

"Compounded SOFR," with respect to any Interest Accrual Period, means the rate computed in accordance with the following formula (and the resulting percentage will be rounded, if necessary, to the nearest one hundred-thousandth of a percentage point e.g., 9.876541% (or .09876541) being rounded down to 9.87654% (or .0987654) and 9.876545% (or .09876545) being rounded up to 9.87655% (or .0987655)):

$$\left(\frac{SOFR\ Index_{End}}{SOFR\ Index_{Start}} - 1\right) x\, \frac{360}{d_c}$$

where:

“SOFR $\text{Index}_{\text{Start}}$” is the SOFR Index value for the applicable Interest Accrual Period End Date;

“SOFR $\text{Index}_{\text{End}}$” is the SOFR Index value for the following Interest Accrual Period End Date; and

“d_c” is the number of calendar days from (and including) SOFR $\text{Index}_{\text{Start}}$ to (but excluding) SOFR $\text{Index}_{\text{End}}$ [(the number of calendar days in the applicable Interest Accrual Period)].

The terms “SOFR Index” and “SOFR” are each as defined above under “*—Compounded SOFR Index Notes with Observation Period Shift*.”

Notwithstanding the formulation above, for the purpose of calculating Compounded SOFR for the final Interest Accrual Period:

- “SOFR $\text{Index}_{\text{End}}$” is the SOFR Index value for the Rate Cut-Off Date;
- The level of SOFR for each U.S. Government Securities Business Day in the period from and including the Rate Cut-Off Date to but excluding the maturity date or any earlier redemption date, as applicable (the “Rate Cut-Off Period”), shall be the level of SOFR in respect of such Rate Cut-Off Date;
- Compounded SOFR” with respect to the Rate Cut-Off Period means the rate of return of a daily compound interest investment computed in accordance with the following formula, with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, 0.000005 being rounded upwards to .00001:

  - $$\left[\prod_{i=1}^{d_0}\left(1+\frac{SOFR_i\, x\, n_i}{360}\right)-1\right] x\ \frac{360}{d}$$

  where:

  - “d_0”, for the Rate Cut-Off Period, means the number of U.S. Government Securities Business Days in the Rate Cut-Off Period;

  - “*i*” means a series of whole numbers from one to d_o, each representing the relevant U.S. Government Securities Business Day in chronological order from, and including, the first U.S. Government Securities Business Day in the Rate Cut-Off Period;

  - “n_i”, for any U.S. Government Securities Business Day “i” in the Rate Cut-Off Period, is the number of calendar days from, and including, such U.S. Government Securities Business Day “i” to, but excluding, the following U.S. Government Securities Business Day (“i+1”); and

  - “*d*” means the number of calendar days in the Rate Cut-Off Period.

Compounded SOFR for the final Interest Accrual Period shall be calculated by giving a proportionate weight to the result of the second preceding Compounded SOFR formula above, based on the number of calendar days in the final Interest Accrual Period, and giving a proportionate weight to the result of calculating Compounded SOFR for the Rate Cut-Off Period, based on the number of calendar days in the Rate Cut-Off Period.

“Interest Accrual Period” means each quarterly period, or such other period as specified in the applicable Pricing Supplement, from, and including, an Interest Accrual Period End Date (or, in the case of the first Interest Accrual Period, the issue date) to, but excluding, the next Interest Accrual Period End Date (or, in the case of the final Interest Accrual Period, the maturity date or, if we elect to redeem the Compounded SOFR Index Notes with Payment Delay on any earlier redemption date, the redemption date).

"Interest Accrual Period End Dates" means the dates specified in the applicable Pricing Supplement, ending on the maturity date or, if we elect to redeem the Compounded SOFR Index Notes with Payment Delay on any earlier redemption date, the redemption date.

"Interest Payment Date" means the second Business Day, or such other Business Day as specified in the applicable Pricing Supplement, following each Interest Accrual Period End Date; provided that the Interest Payment Date with respect to the final Interest Accrual Period will be the maturity date or, if we elect to redeem the Compounded SOFR Index Notes with Payment Delay on any earlier redemption date, the redemption date.

"Interest Payment Determination Date" means the Interest Accrual Period End Date at the end of each Interest Accrual Period; provided that the Interest Payment Determination Date with respect to the final Interest Accrual Period will be the Rate Cut-off Date.

"Rate Cut-Off Date" means the second U.S. Government Securities Business Day, or such other U.S. Government Securities Business Day as specified in the applicable Pricing Supplement, prior to the maturity date or redemption date, as applicable.

Effect of a Benchmark Transition Event for Compounded SOFR Notes

If we or our Designee determine on or prior to the relevant Reference Time that a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to the then-current Benchmark, the Benchmark Replacement will replace the then-current Benchmark for all purposes relating to the SOFR Notes in respect of all determinations on such date and for all determinations on all subsequent dates.

In connection with the implementation of a Benchmark Replacement, we or our Designee will have the right to make Benchmark Replacement Conforming Changes from time to time.

Any determination, decision or election that may be made by us or our Designee pursuant to this section, including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection:

(1) will be conclusive and binding absent manifest error;

(2) will be made in our or our Designee's sole discretion, as applicable; and

(3) notwithstanding anything to the contrary in the documentation relating to the SOFR Notes, shall become effective without consent from the Holders or any other party.

"Benchmark" means, initially, the Base Rate (Compounded SOFR or Weighted Average SOFR, as applicable) as specified in the applicable Pricing Supplement, as such terms are defined above; provided that if we or our Designee determine on or prior to the Reference Time that a Benchmark Transition Event and its related Benchmark Replacement Date have occurred with respect to the Base Rate (or the published daily SOFR used in the calculation thereof) or the then-current Benchmark, then "Benchmark" means the applicable Benchmark Replacement.

"Benchmark Replacement" means the first alternative set forth in the order below that can be determined by us or our Designee as of the Benchmark Replacement Date.

(1) the sum of: (a) the alternate rate of interest that has been selected or recommended by the Relevant Governmental Body as the replacement for the then-current Benchmark and (b) the Benchmark Replacement Adjustment;

(2) the sum of: (a) the ISDA Fallback Rate and (b) the Benchmark Replacement Adjustment; or

(3) the sum of: (a) the alternate rate of interest that has been selected by us or our Designee as the replacement for the then-current Benchmark giving due consideration to any industry-accepted rate of

interest as a replacement for the then-current Benchmark for U.S. dollar-denominated floating rate notes at such time and (b) the Benchmark Replacement Adjustment.

"Benchmark Replacement Adjustment" means the first alternative set forth in the order below that can be determined by us or our Designee as of the Benchmark Replacement Date:

(1) the spread adjustment, or method for calculating or determining such spread adjustment, (which may be a positive or negative value or zero) that has been selected or recommended by the Relevant Governmental Body for the applicable Unadjusted Benchmark Replacement;

(2) if the applicable Unadjusted Benchmark Replacement is equivalent to the ISDA Fallback Rate, the ISDA Fallback Adjustment; or

(3) the spread adjustment (which may be a positive or negative value or zero) that has been selected by us or our Designee giving due consideration to any industry-accepted spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the then-current Benchmark with the applicable Unadjusted Benchmark Replacement for U.S. dollar-denominated floating rate notes at such time.

"Benchmark Replacement Conforming Changes" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the timing and frequency of determining rates and making payments of interest, rounding of amounts or tenors, and other administrative matters) that we or our Designee decides may be appropriate to reflect the adoption of such Benchmark Replacement in a manner substantially consistent with market practice (or, if we or our Designee decides that adoption of any portion of such market practice is not administratively feasible or if we or our Designee determine that no market practice for use of the Benchmark Replacement exists, in such other manner as we or our Designee determine is reasonably necessary).

"Benchmark Replacement Date" means the earliest to occur of the following events with respect to the then-current Benchmark (including the daily published component used in the calculation thereof):

(1) in the case of clause (1) or (2) of the definition of "Benchmark Transition Event," the later of (a) the date of the public statement or publication of information referenced therein and (b) the date on which the administrator of the Benchmark permanently or indefinitely ceases to provide the Benchmark (or such component); or

(2) in the case of clause (3) of the definition of "Benchmark Transition Event," the date of the public statement or publication of information referenced therein.

For the avoidance of doubt, if the event that gives rise to the Benchmark Replacement Date occurs on the same day as, but earlier than, the Reference Time in respect of any determination, the Benchmark Replacement Date will be deemed to have occurred prior to the Reference Time for such determination.

"Benchmark Transition Event" means the occurrence of one or more of the following events with respect to the then-current Benchmark (including the daily published component used in the calculation thereof):

(1) a public statement or publication of information by or on behalf of the administrator of the Benchmark (or such component) announcing that such administrator has ceased or will cease to provide the Benchmark (or such component), permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark (or such component); or

(2) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark (or such component), the central bank for the currency of the Benchmark (or such component), an insolvency official with jurisdiction over the administrator for the Benchmark (or such component), a resolution authority with jurisdiction over the administrator for the Benchmark (or such

component) or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark, which states that the administrator of the Benchmark (or such component) has ceased or will cease to provide the Benchmark (or such component) permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark (or such component); or

(3) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark announcing that the Benchmark is no longer representative.

"ISDA Definitions" means the 2006 ISDA Definitions published by the International Swaps and Derivatives Association, Inc. or any successor thereto, as amended or supplemented from time to time, or any successor definitional booklet for interest rate derivatives published from time to time.

"ISDA Fallback Adjustment" means the spread adjustment (which may be a positive or negative value or zero) that would apply for derivatives transactions referencing the ISDA Definitions to be determined upon the occurrence of an index cessation event with respect to the Benchmark.

"ISDA Fallback Rate" means the rate that would apply for derivatives transactions referencing the ISDA Definitions to be effective upon the occurrence of an index cessation date with respect to the Benchmark for the applicable tenor excluding the applicable ISDA Fallback Adjustment.

"Reference Time" with respect to any determination of the Benchmark means (1) if the Benchmark is Compounded SOFR or Weighted Average SOFR, the SOFR Determination Time, and (2) if the Benchmark is not Compounded SOFR or Weighted Average SOFR, the time determined by us or our Designee after giving effect to the Benchmark Replacement Conforming Changes.

"Relevant Governmental Body" means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto.

"Unadjusted Benchmark Replacement" means the Benchmark Replacement excluding the Benchmark Replacement Adjustment.

Simple Average SOFR Notes

With respect to Simple Average SOFR Notes, "SOFR" means with respect to any Interest Reset Date:

- The Secured Overnight Financing Rate in respect of the Interest Determination Date as provided by the SOFR Administrator on the SOFR Administrator's Website on or about 5:00 p.m. (New York time) on that Interest Reset Date (or, if such Reset Date is not a U.S. Government Securities Business Day, on the first U.S. Government Securities Business Day following such Interest Reset Date); provided, however, if the applicable Pricing Supplement specifies a "Lag Period," then the Secured Overnight Financing Rate will be the rate on a U.S. Government Securities Business Day specified in the applicable Pricing Supplement that will be greater than one U.S. Government Securities Business Day prior to the Interest Reset Date; or
- If the Secured Overnight Financing Rate cannot be determined with respect to that Interest Reset Date as specified in the preceding paragraph, unless both a SOFR Index Cessation Event and a SOFR Index Cessation Effective Date have occurred, the Secured Overnight Financing Rate in respect of the first preceding U.S. Government Securities Business Day for which such Rate was published on the SOFR Administrator's Website; or
- If a SOFR Index Cessation Event and SOFR Index Cessation Effective Date have occurred, the rate (inclusive of any spreads or adjustments) that was recommended as the replacement for the Secured Overnight Financing Rate by the Federal Reserve Board and/or the SOFR Administrator or a committee officially endorsed or convened by the Federal Reserve Board and/or the SOFR Administrator for the purpose of recommending a replacement for the Secured Overnight Financing Rate (which rate may be

produced by a Federal Reserve Bank or other designated administrator), provided that, if no such rate has been recommended within one U.S. Government Securities Business Day of the SOFR Index Cessation Effective Date, then the rate for each Interest Reset Date occurring on or after the SOFR Index Cessation Effective Date will be determined as if (i) references to SOFR where references to OBFR, (ii) references to U.S. Government Securities Business Day were references to New York City Banking Day, (iii) references to SOFR Index Cessation Event were references to OBFR Index Cessation Event and (iv) references to SOFR Index Cessation Effective Date were references to OBFR Index Cessation Effective Date; and provided further that, if no such rate has been recommended within one U.S. Government Securities Business Day of the SOFR Index Cessation Effective Date and an OBFR Index Cessation Event has occurred, then the rate for each Interest Reset Date occurring on or after the SOFR Index Cessation Effective Date will be determined as if (x) references to SOFR were references to FOMC Target Rate, (y) references to U.S. Government Securities Business Day were references to New York City Banking Day and (z) references to the New York Fed's Website were references to the Federal Reserve's Website.

For Simple Average SOFR Notes, the rate for each Interest Reset Date in the period from, and including, the Rate Cut-Off Date to, but excluding, the corresponding Interest Payment Date of an interest period, shall be the rate in effect on the Interest Reset Date coinciding with the Rate Cut-Off Date for such interest period.

For Simple Average SOFR Notes, the "Rate Cut-Off Date" is the day that is no more than the fourth U.S. Government Securities Business Day (as specified in the applicable pricing supplement) prior to the Interest Payment Date in respect of the relevant interest period.

Where:

"Federal Reserve's Website" means the website of the Board of Governors of the Federal Reserve System currently at www.federalreserve.gov, or any or any successor website of the Board of Governors of the Federal Reserve System.

"FOMC Target Rate" means the short-term interest rate target set by the Federal Open Market Committee and published on the Federal Reserve's Website or, if the Federal Open Market Committee does not target a single rate, the mid-point of the short-term interest rate target range set by the Federal Open Market Committee and published on the Federal Reserve's Website (calculated as the arithmetic average of the upper bound of the target range and the lower bound of the target range, rounded in accordance with the ISDA Definition).

"New York City Banking Day" means any day on which commercial banks are open for general business (including dealings in foreign exchange and foreign currency deposits) in New York City.

"New York Fed's Website" means the website of the FRBNY currently at www.newyorkfed.org, or any successor website of the FRBNY.

"OBFR" means, with respect to any Reset Date, the daily Overnight Bank Funding Rate in respect of the New York City Banking Day immediately preceding such Reset Date as provided by the FRBNY, as the administrator of such Rate (or a successor administrator) on the New York Fed's Website on or about 5:00 p.m. (New York time) on such Reset Date.

"OBFR Index Cessation Effective Date" means, in respect of a OBFR Index Cessation Event, the date on which the FRBNY (or any successor administrator of the Overnight Bank Funding Rate), ceases to publish the Overnight Bank Funding Rate, or the date as of which the Overnight Bank Funding Rate may no longer be used.

"OBFR Index Cessation Event" means the occurrence of one or more of the following events:

- A public statement by the FRBNY (or a successor administrator of the OBFR) announcing that it has ceased or will cease to provide OBFR permanently or indefinitely, provided that, at that time, there is no successor administrator that will continue to provide OBFR; or

- The publication of information that reasonably confirms that the FRBNY (or a successor administrator of OBFR) has ceased or will cease to provide OBFR permanently or indefinitely, provided that, at that time, there is no successor administrator that will continue to publish or provide OBFR; or
- A public statement by a U.S. regulator or other U.S. official sector entity prohibiting the use of OBFR that applies to, but need not be limited to, all Swap Transactions, including existing Swap Transactions.

"SOFR Index Cessation Effective Date" means, in respect of a SOFR Index Cessation Event, the date on which the FRBNY (or any successor administrator of the Secured Overnight Financing Rate), ceases to publish the Secured Overnight Financing Rate, or the date as of which the Secured Overnight Financing Rate may no longer be used.

"SOFR Index Cessation Event" means the occurrence of one or more of the following events:

- A public statement by the FRBNY (or a successor administrator of the Secured Overnight Financing Rate) announcing that it has ceased or will cease to provide the Secured Overnight Financing Rate permanently or indefinitely, provided that, at that time, there is no successor administrator that will continue to provide a Secured Overnight Financing Rate; or
- The publication of information that reasonably confirms that the FRBNY (or a successor administrator of the Secured Overnight Financing Rate) has ceased or will cease to provide the Secured Overnight Financing Rate permanently or indefinitely, provided that, at that time, there is no successor administrator that will continue to provide the Secured Overnight Financing Rate; or
- A public statement by a U.S. regulator or U.S. other official sector entity prohibiting the use of the Secured Overnight Financing Rate that applies to, but need not be limited to, all Swap Transactions, including existing Swap Transactions.

"Swap Transaction" has the meaning given that term in the ISDA Definitions.

If a SOFR Index Cessation Event occurs, we will notify the Calculation Agent of such occurrence.

The applicable Pricing Supplement will specify whether SOFR Notes will have a compounded interest calculation (Compounded SOFR Notes), a simple average calculation (Simple Average SOFR Notes) or use a weighted average calculation (Weighted Average SOFR Notes).

The Federal Reserve Bank of New York notes on its publication page for SOFR that use of SOFR is subject to important limitations, indemnification obligations and disclaimers, including that the Federal Reserve Bank of New York may alter the methods of calculation, publication schedule, rate revision practices or availability of SOFR at any time without notice. Neither the Federal Reserve Bank of New York's Website, nor any of the information or materials available thereon, are a part of this document or incorporated herein by reference.

Weighted Average SOFR Notes Interest Calculation:

If the applicable Pricing Supplement specifies "Weighted Average," interest on the Weighted Average SOFR Notes will be calculated as a "Weighted Average" (as defined in the ISDA Definitions).

SONIA Rate Notes

If you purchase a SONIA Rate Note, your Note will bear interest at a Base Rate equal to Compounded Daily SONIA (as defined below) as adjusted by the Spread or Spread Multiplier, if any, specified in the applicable Pricing Supplement.

- the Rate of Interest for each Interest Accrual Period shall, subject as provided below, be Compounded Daily SONIA plus or minus (as indicated in the applicable Pricing Supplement) the Spread.
- If, in respect of any London Banking Day, the applicable SONIA Reference Rate is not available on the Relevant Screen Page or has not otherwise been published by the relevant authorized distributors, then the SONIA Reference Rate in respect of such London Banking Day shall be: (A) (1) the Bank of

England's Bank Rate (the "Bank Rate") prevailing at 5:00 PM (or, if earlier, close of business) on such London Banking Day plus (2) the mean of the spread of the SONIA Reference Rate to the Bank Rate over the previous five London Banking Days on which a SONIA Reference Rate has been published, excluding the highest spread (or, if there are more than one highest spread, then only one of those highest spreads) and the lowest spread (or, if there are more than one lowest spread, then only one of those lowest spreads) to the Bank Rate; or (B) if the Bank Rate is not available on the relevant London Banking Day, the most recent SONIA Reference Rate in respect of a London Banking Day.

- Notwithstanding the previous paragraph, in the event the Bank of England publishes guidance as to: (1) how the SONIA Reference Rate is to be determined or (2) any rate that is to replace the SONIA Reference Rate, then the Calculation Agent shall, to the extent that is reasonably practicable and as set forth in a direction from us in writing, follow such guidance in order to determine the SONIA Reference Rate for any London Banking Day "i" for the purposes of the Notes and for so long as the SONIA Reference Rate is not available or has not been published by the relevant authorized distributors.
- If the Notes become due and payable pursuant to an event of default, as described under "—Default, remedies and waiver of default — Events of Default" below, then the final Rate of Interest shall be calculated for the Interest Accrual Period to (but excluding) the date on which such Notes become due and payable and such Rate of Interest on the Notes shall apply for so long as such Notes remain outstanding.

As used herein:

- "Compounded Daily SONIA" means, with respect to an Interest Accrual Period, the rate of return of a daily compound interest investment (with the daily SONIA rate as reference rate for the calculation of interest) and will be calculated by the Calculation Agent on the relevant SONIA Interest Determination Date, as follows, and the resulting percentage shall be rounded if necessary to the fifth decimal place (with .000005 being rounded upwards),

where:

$$\left[\prod_{i=1}^{d_o}\left(1+\frac{SONIA_{\mathrm{i-pLBD}} \times n_{\mathrm{i}}}{365}\right)-1\right]\times\frac{365}{d}$$

"d" is the number of calendar days in the relevant Interest Accrual Period,

"d_o" is the number of London Banking Days in the relevant Interest Accrual Period,

"i" is a series of whole numbers from one to d_o, each representing the relevant London Banking Day in chronological order from, and including, the first London Banking Day in the relevant Interest Accrual Period,

"Interest Accrual Period" means: (a) any given interest period or (b) in the event the SONIA Rate Notes become due and payable on a date other than an interest payment date, the period beginning on and including the last interest payment date and ending on but excluding the date on which the relevant payment of interest and principal on the SONIA Rate Notes falls due,

"London Banking Day" or "LBD" means any day on which commercial banks are open for general business (including dealing in foreign exchange and foreign currency deposits) in London,

"n_i", for any London Banking Day "i", means the number of calendar days from and including such London Banking Day "i" up to but excluding the following London Banking Day,

"Observation Look-Back Period" is as specified in the applicable Pricing Supplement, “p”, for any Interest Accrual Period, is the number of London Banking Days included in the Observation Look-Back Period, as specified in the applicable Pricing Supplement, which shall not be specified in the applicable Pricing Supplement as less than five London Banking Days without the prior agreement of the Calculation Agent;

“SONIA Reference Rate,” in respect of any London Banking Day, is a reference rate equal to the daily Sterling Overnight Index Average (“SONIA”) rate for such London Banking Day as provided by the administrator of SONIA to authorized distributors and as then published on the Relevant Screen Page or, if the Relevant Screen Page is unavailable, as otherwise published by such authorized distributors, in each case on the London Banking Day immediately following such London Banking Day, and

“SONIAi-pLBD” means, in respect of any London Banking Day “i”, the SONIA Reference Rate for the London Banking Day falling “p” London Banking Days prior to the relevant London Banking Day “i.”

Treasury Rate Notes

If you purchase a Treasury Rate Note, your Note will bear interest at a Base Rate equal to the Treasury Rate as adjusted by the Spread or Spread Multiplier, if any, specified in the applicable Pricing Supplement.

Unless the applicable Pricing Supplement specifies otherwise, “Treasury Rate” means the rate for the auction held on the relevant Interest Determination Date of direct obligations of the United States (Treasury Bills) having the Index Maturity specified in the applicable Pricing Supplement as that rate appears on Reuters Page US AUCTION10 or Reuters Page US AUCTION11 under the heading “INVEST RATE.”

If the Treasury Rate cannot be determined in the manner described in the prior paragraph, the following procedures will apply:

- If the rate described above does not appear on either page by 3:00 P.M., New York City time, on the relevant interest calculation date (unless the calculation is made earlier and the rate is available from that source at that time), the Treasury Rate will be the bond equivalent yield of the auction rate, for the relevant Interest Determination Date and for treasury bills of the kind described above, as announced by the U.S. Department of the Treasury.
- If the auction rate described in the prior paragraph is not so announced by 3:00 P.M., New York City time, on the relevant interest calculation date, or if no such auction is held for the relevant week, then the Treasury Rate will be the bond equivalent yield of the rate, for the relevant Interest Determination Date and for treasury bills having a remaining maturity closest to the specified Index Maturity, as published in H.15(519) under the heading “U.S. government securities/Treasury bills/secondary market.”
- If the rate described in the prior paragraph does not appear in H.15(519) by 3:00 P.M., New York City time, on the relevant interest calculation date (unless the calculation is made earlier and the rate is available from one of those sources at that time), then the Treasury Rate will be the rate, for the relevant Interest Determination Date and for treasury bills having a remaining maturity closest to the specified Index Maturity, as published in H.15 daily update, or another recognized electronic source used for displaying that rate, under the heading “U.S. government securities/Treasury bills/secondary market.”
- If the rate described in the prior paragraph does not appear in H.15 daily update, H.15(519) or another recognized electronic source by 3:00 P.M., New York City time, on the relevant interest calculation date (unless the calculation is made earlier and the rate is available from one of those sources at that time), the Treasury Rate will be the bond equivalent yield of the arithmetic mean of the following secondary market bid rates for the issue of treasury bills with a remaining maturity closest to the specified Index Maturity: the rates bid as of approximately 3:30 P.M., New York City time, on the relevant Interest Determination Date, by three primary U.S. government securities dealers in New York City selected by us.
- If fewer than three dealers selected by us are quoting as described in the prior paragraph, the Treasury Rate in effect for the new interest period will be the Treasury Rate in effect for the prior interest period. If the Initial Base Rate has been in effect for the prior interest period, however, it will remain in effect for the new interest period.

Benchmark Discontinuation - Reference Rate Replacement – non-U.S. dollar LIBOR and EURIBOR

(a) *Independent Adviser*

If a Benchmark Event occurs in relation to an Original Reference Rate when any Rate of Interest (or any component part(s) thereof) remains to be determined by reference to such Original Reference Rate, then we shall use its reasonable endeavors to appoint and consult with an Independent Adviser, as soon as reasonably practicable, with a view to us determining a Successor Rate, failing which an Alternative Rate (in accordance with paragraph (b) below) and, in each case, an Adjustment Spread, if any (in accordance with paragraph (c) below) and any other required Benchmark Amendments (in accordance with paragraph (d) below).

An Independent Adviser appointed pursuant to this provision shall act in good faith and in a commercially reasonable manner and (in the absence of bad faith or fraud) shall have no liability whatsoever to us, the Fiscal and Paying Agent, the Holders for any determination made by it or for any advice given to us in connection with any determination made by us pursuant to this provision.

(b) *Successor Rate or Alternative Rate*

Notwithstanding the provisions of "—EURIBOR Notes" and "—LIBOR Notes" (for currencies other than U.S. dollars) above, if we, following consultation with an Independent Adviser pursuant to paragraph (a) above and acting in good faith and in a commercially reasonable manner, determine that a Benchmark Event has occurred and that:

(i) there is a Successor Rate, then such Successor Rate shall (subject to adjustment as provided in paragraph (c) below) subsequently be used in place of the Original Reference Rate to determine the Rate of Interest (or the relevant component part(s) thereof) for all relevant future payments of interest on the Notes (subject to the subsequent operation of, and adjustment as provided in, this provision), or

(ii) there is no Successor Rate but that there is an Alternative Rate, then such Alternative Rate shall (subject to adjustment as provided in paragraph (c) below) subsequently be used in place of the Original Reference Rate to determine the Rate(s) of Interest (or the relevant component part(s) thereof) for all relevant future payments of interest on the Notes (subject to the subsequent operation of, and adjustment as provided in, this provision).

(c) *Adjustment Spread*

If we, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determine: (i) that an Adjustment Spread is required to be applied to the Successor Rate or the Alternative Rate (as the case may be) that has been determined in accordance with paragraph (b) above and (ii) the quantum of, or a formula or methodology for determining, such Adjustment Spread, then such Adjustment Spread shall be applied to the Successor Rate or the Alternative Rate (as the case may be). If we are unable to determine the quantum of, or a formula or methodology for determining, such Adjustment Spread, then the Successor Rate or the Alternative Rate (as the case may be) will be used as described in paragraph (b) above without application of any Adjustment Spread (subject to the subsequent operation of, and to adjustment as provided in, this provision).

(d) *Benchmark Amendments*

If any Successor Rate, Alternative Rate and/or Adjustment Spread, as the case may be, is determined in accordance with the foregoing provisions of this provision and we, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determine: (i) that additional amendments to these conditions and/or the Agency Agreement are necessary to ensure the proper operation of such Successor Rate, Alternative Rate and/or Adjustment Spread (such amendments, the "*Benchmark Amendments*") and (ii) the terms of the Benchmark Amendments, then we shall, subject to giving notice thereof in accordance with paragraph (e) below, without any requirement for the consent or approval of Holders, vary these conditions and/or the Agency Agreement to give effect to such Benchmark Amendments with effect from the date specified in such notice.

In connection with any such variation in accordance with this paragraph (d), we shall comply with the rules of any stock exchange or other relevant authority on or by which the Notes are for the time being listed or admitted to trading.

(e) *Notices, etc.*

Any Successor Rate or Alternative Rate, Adjustment Spread (if any) and the specific terms of any Benchmark Amendments, each as determined under this provision, will be notified promptly by the Issuer to the Calculation Agent and the other Paying Agents and, in accordance with the provisions of "— Notices" below, the Holders. Such notice shall be irrevocable and shall specify the effective date of the Benchmark Amendments, if any.

Prior to any Benchmark Amendments taking effect and no later than one London Business Day following the date of notifying the Calculation Agent of the same, the Issuer shall deliver to the Calculation Agent a certificate signed by two authorized signatories of the Issuer:

(i) confirming: (A) that a Benchmark Event has occurred, (B) the Successor Rate or, as the case may be, the Alternative Rate, (C) where applicable, any Adjustment Spread, and (D) where applicable, the specific terms of any Benchmark Amendments, in each case as determined in accordance with these provisions, and

(ii) certifying that the Benchmark Amendments are necessary to ensure the proper operation of such Successor Rate, Alternative Rate and/or Adjustment Spread, if applicable.

The Successor Rate or Alternative Rate and the Adjustment Spread (if any) and the Benchmark Amendments (if any) specified in such certificate will (in the absence of manifest error or bad faith in the determination of the Successor Rate or Alternative Rate and the Adjustment Spread (if any) and the Benchmark Amendments (if any)) be binding upon the Issuer, the Calculation Agent, the other Paying Agents and the Holders.

(f) *Survival of Original Reference Rate and Fallback Provisions*

Without prejudice to the obligations of the Issuer under paragraphs (a) through (e), the Original Reference Rate and the fallback provisions provided for in "—EURIBOR Notes" and "—LIBOR Notes" (for currencies other than U.S. dollars) above will continue to apply unless and until a Benchmark Event has occurred in relation to the Original Reference Rate and the Calculation Agent has been notified of the Successor Rate or the Alternative Rate (as the case may be), any Adjustment Spread and any Benchmark Amendments, in each case, in accordance with paragraph (e).

If, following the occurrence of a Benchmark Event and in relation to the determination of the Rate of Interest on the relevant Interest Determination Date, no Successor Rate or Alternative Rate (as applicable) is determined and notified to the Calculation Agent pursuant to this provision, then the Original Reference Rate will continue to apply for the purposes of determining such Rate of Interest on such Interest Determination Date, with the effect that the fallback provisions provided for in "—EURIBOR Notes" and "—LIBOR Notes" (for currencies other than U.S. dollars) above will (if applicable) continue to apply to such determination.

For the avoidance of doubt, the preceding paragraph shall apply to the determination of the Rate of Interest on the relevant Interest Determination Date only and the Rate of Interest applicable to any subsequent interest period(s) is subject to the subsequent operation of, and to adjustment as provided in, this provision.

(g) *Defined Terms*

As used in this provision:

"*Adjustment Spread*" means either a spread (which may be positive or negative), or the formula or methodology for calculating a spread, in each case, that we, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determine is required to be applied to the Successor Rate or the Alternative Rate (as the case may be) to reduce or eliminate, to the extent reasonably practicable in the circumstances, any economic prejudice or benefit (as the case may be) to Holders as a result of the replacement of the Original Reference Rate with the Successor Rate or the Alternative Rate (as the case may be) and is the spread, formula or methodology that:

(i) in the case of a Successor Rate, is formally recommended in relation to the replacement of the Original Reference Rate with the Successor Rate by any Relevant Nominating Body,

(ii) in the case of a Successor Rate where no such formal recommendation as described in clause (i) has been made or in the case of an Alternative Rate, we determine, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, is recognized or acknowledged as being in customary market usage in international debt capital market transactions that reference the Original Reference Rate, where such rate has been replaced by the Successor Rate or the Alternative Rate (as the case may be), or

(iii) if we determine that neither clause (i) nor clause (ii) applies, we, in our discretion, following consultation with the Independent Adviser and acting in good faith and in a commercially reasonable manner, determine to be appropriate.

"*Alternative Rate*" means an alternative to the Original Reference Rate that we determine in accordance with paragraph (b) has replaced the Original Reference Rate in customary market usage in the international debt capital markets for the purposes of determining floating rates of interest (or the relevant component part thereof) for a commensurate interest period and in the same Specified Currency as the Notes.

"*Benchmark Amendments*" has the meaning given to it in paragraph (d).

"*Benchmark Event*" means, with respect to an Original Reference Rate:

(i) the Original Reference Rate ceasing to be published or administered or ceasing to exist,

(ii) the later of: (A) the date of a public statement by the administrator of the Original Reference Rate that it will, by a specified date, cease publishing the Original Reference Rate permanently or indefinitely (in circumstances in which no successor administrator has been appointed that will continue publication of the Original Reference Rate) and (B) the date falling six months prior to the specified date referred to in clause (A),

(iii) the making of a public statement by the supervisor of the administrator of the Original Reference Rate that the Original Reference Rate has been permanently or indefinitely discontinued,

(iv) the later of: (A) the date of a public statement by the supervisor of the administrator of the Original Reference Rate that the Original Reference Rate has been or will, by a specified date, be permanently or indefinitely discontinued and (B) the date falling six months prior to the specified date referred to in clause (A),

(v) the later of: (A) the date of a public statement by the supervisor of the administrator of the Original Reference Rate that means the Original Reference Rate will be prohibited from being used (either generally or in respect of the Notes) or that its use will be subject to restrictions or adverse consequences, in each case on or before a specified date and (B) the date falling six months prior to the specified date referred to in clause (B),

(vi) it has, or will prior to the next Interest Determination Date, become unlawful for the Calculation Agent, any other Paying Agent or us to calculate any payments due to be made to any Holder using the Original Reference Rate, or

(vii) the making of a public statement by the supervisor of the administrator of the Original Reference Rate announcing that such Original Reference Rate is no longer representative or may no longer be used.

"*Independent Adviser*" means an independent financial institution of international repute or an independent financial adviser with appropriate expertise in the international debt capital markets appointed by us, at our own expense, under paragraph (a).

"*Original Reference Rate*" means the originally-specified Base Rate used to determine the Rate of Interest (or any component part(s) thereof) in respect of any interest period(s) on the Notes, as specified in the applicable Pricing Supplement.

"*Relevant Nominating Body*" means, in respect of an Original Reference Rate:

(i) the central bank for the currency to which such Original Reference Rate relates, or any central bank or other supervisory authority that is responsible for supervising the administrator of such Original Reference Rate, or

(ii) any working group or committee established, approved or sponsored by, chaired or co-chaired by or constituted at the request of: (A) the central bank for the currency to which such Original Reference Rate relates, (B) any central bank or other supervisory authority that is responsible for supervising the administrator of such Original Reference Rate, (C) a group of the aforementioned central banks or other supervisory authorities or (D) the Financial Stability Board or any part thereof.

"*Successor Rate*" means a successor to or replacement of the Original Reference Rate that is formally recommended by any Relevant Nominating Body.

Special Rate Calculation Terms

In this subsection entitled "—Interest Rates", we use several terms that have special meanings relevant to calculating floating interest rates. We describe these terms as follows:

The term "bond equivalent yield" means a yield expressed as a percentage and calculated in accordance with the following formula:

$$\text{bond equivalent yield} = \frac{D \times N}{360 - (D \times M)} \times 100$$

where

- "D" means the annual rate for treasury bills quoted on a bank discount basis and expressed as a decimal;
- "N" means 365 or 366, as the case may be; and
- "M" means the actual number of days in the applicable interest reset period.

The term "business day" means, for any Note, unless otherwise specified in the applicable Pricing Supplement, either: (i) in relation to any sum payable in a Specified Currency other than euro, a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealing in foreign exchange and foreign currency deposits) in the principal financial center of the country issuing the Specified Currency, or (ii) in relation to any sum payable in euro, a euro business day (as defined herein);

The term "Designated CMT Index Maturity" means the Index Maturity for a CMT Rate Note and will be the original period to maturity of a U.S. Treasury security specified in the applicable Pricing Supplement. If no such original maturity period is so specified, the designated CMT Index Maturity will be 2 years.

The term "Designated CMT Reuters Page" means the Reuters Page specified in the applicable Pricing Supplement that displays treasury constant maturities as reported in H.15(519). If no Reuters Page is so specified, then the applicable page will be Reuters Page FEDCMT. If Reuters Page FEDCMT applies but the applicable Pricing Supplement does not specify whether the weekly or monthly average applies, the weekly average will apply.

The term "Designated LIBOR Page" means the display on Reuters on page LIBOR01 or LIBOR02, as specified in the applicable Pricing Supplement, or any replacement page or pages on which London interbank rates of major banks for the relevant index currency are displayed.

The term "euro business day" means any day on which the Trans-European Automated Real-Time Gross Settlement Express Transfer System, which utilizes a single platform and which was launched in November 2007 (TARGET2) or any successor system, is open for business.

The term "euro-zone" means, at any time, the region comprised of the member states of the European Economic and Monetary Union that, as of that time, have adopted a single currency in accordance with the Treaty on European Union of February 1992.

"H.15(519)" means "Statistical Release H.15(519), Selected Interest Rates", or any successor publication as published weekly by the Board of Governors of the Federal Reserve System.

"H.15 daily update" means the daily update of H.15(519), available through the worldwide web site of the Board of Governors of the Federal Reserve System at www.federalreserve.gov/releases/h15/update, or any successor site or publication.

The term "index currency" means, with respect to a LIBOR Note, the currency specified as such in the applicable Pricing Supplement. The index currency may be U.S. dollars or any other currency, and will be U.S. dollars unless another currency is specified in the applicable Pricing Supplement.

The term "Index Maturity" means, with respect to a Floating Rate Note, the period to maturity of the instrument or obligation on which the interest rate formula is based, as specified in the applicable Pricing Supplement.

"London business day" means any day on which dealings in the relevant index currency are transacted in the London interbank market.

The term "Money Market Yield" means a yield expressed as a percentage and calculated in accordance with the following formula:

$$\text{money market yield} = \frac{D \times 360}{360 - (D \times M)} \times 100$$

Where

- "D" means the annual rate for commercial paper quoted on a bank discount basis and expressed as a decimal; and
- "M" means the actual number of days in the relevant interest reset period.

The term "principal financial center" means the capital city of the country issuing the Specified Currency of the applicable Note (which where the Specified Currency is euro, will be Brussels, Belgium). However, for Australian dollars, Canadian dollars and Swiss francs, the principal financial center may be specified in the applicable Pricing Supplement as Sydney, Toronto and Zurich, respectively.

The term “representative amount” means an amount that, in our judgment, acting reasonably and in good faith, is representative of a single transaction in the relevant market at the relevant time.

“Reuters Page” means the display on Reuters, or any successor service, on the page or pages specified in this Offering Memorandum or the applicable Pricing Supplement, or any replacement page or pages on that service.

“Reuters Page EURIBOR01” means the display on the Reuters Page designated as “EURIBOR01” or any replacement page or pages on which euro-zone interbank rates of major banks for euro are displayed.

“Reuters Page FEDFUNDS1” means the display on the Reuters Page designated as “FEDFUNDS1” or any replacement page or pages.

“Reuters Page FEDCMT” means the display on the Reuters Page designated as “FEDCMT” or any replacement page or pages.

“Reuters Page FRBCMT” means the display on the Reuters Page designated “FRBCMT” or any replacement page or pages.

“Reuters Page LIBOR01” means the display designated on the Reuters Page “LIBOR01” for the purpose of displaying London interbank offered rates for U.S. dollar deposits by ICE Benchmark Administration Limited (“IBA”) or its successor or such other entity assuming the responsibility of IBA or its successor in calculating the London interbank offered rate in the event IBA or its successor no longer does so.

“Reuters Page US AUCTION10” means the display on the Reuters Page designated as “US AUCTION10” or any replacement page or pages.

“Reuters Page US AUCTION11” means the display on the Reuters Page designated as “US AUCTION11” or any replacement page or pages.

“Reuters Page US PRIME1” means the display on the Reuters Page designated as “US PRIME1” or any replacement page or pages on which prime rates or base lending rates of major U.S. banks are displayed.

A “U.S. Government Securities Business Day” is any day, except for a Saturday, Sunday or a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in U.S. government securities.

If, when we use the terms Designated CMT Reuters Page, Designated LIBOR Reuters Page, H.15(519), H.15 daily update, Reuters Page FEDFUNDS1, Reuters Page US AUCTION10 or Reuters Page US AUCTION11 we refer to a particular heading or headings on any of those pages, those references include any successor or replacement heading or headings as determined by us.

Interest Act (Canada) Disclosure Matters

Whenever interest is computed on the basis of a year (the “Deemed Year”) which contains fewer days than the actual number of days in the calendar year of calculation, such rate of interest shall be expressed as a yearly rate for purposes of the Interest Act (Canada) by multiplying such rate of interest by the actual number of days in the calendar year of calculation and dividing such product by the number of days in the Deemed Year.

Payment of additional amounts

The Issuer will make all payments in respect of the Notes and, if called, the Guarantor will make all payments under and pursuant to the Guarantee to all Holders of such Notes without withholding or deduction for, or on account of, any taxes, assessments or other governmental charges ("relevant tax") imposed or levied by or on behalf of Canada or any political subdivision or taxing authority in or of Canada (each a "relevant jurisdiction") unless the withholding or deduction is required by Canadian law. In that event, the Issuer or the Guarantor, as applicable, will withhold or deduct the amount required by law of the relevant jurisdiction and will pay such additional amounts as may be necessary so that the net amount received by the Holder of the Notes, after such withholding or deduction, will equal the amount that the Holder would have received in respect of the Notes or, if the Guarantee is called, under and pursuant to the Guarantee, without, in each case, such withholding or deduction. However, neither the Issuer nor the Guarantor will pay additional amounts:

- to the extent that the relevant tax is imposed or levied by virtue of the Holder, or the beneficial owner, of the Notes having some connection (whether present, past or future) with a relevant jurisdiction, other than mere receipt of such payment or being a Holder, or the beneficial owner, of the Notes;
- to the extent that the relevant tax is imposed or levied by virtue of the Holder, or the beneficial owner, of the Notes not complying with (1) any statutory, regulatory, administrative or tax treaty requirements of a relevant jurisdiction for an exemption or reduction of tax or (2) any reasonable request made by the Issuer or the Fiscal and Paying Agent for documentation to support a claim for an exemption or reduction of tax, if the Issuer or its agent has provided the Holder, or the beneficial owner, of the Notes with at least 30 days' prior written notice of an opportunity to comply with such statutory requirements or for such documents;
- to the extent that the relevant tax is imposed or levied by virtue of the Holder, or the beneficial owner, of the Notes having presented for payment (where required to be presented for payment) more than 30 days after the date on which the payment in respect of the Notes first became due and payable or the date on which payment thereof is duly provided for, whichever occurs later;
- to the extent that the relevant tax is imposed or levied by virtue of the Holder, or the beneficial owner, of the Notes or a person entitled to receive an amount in respect of the Notes not dealing at arm's length (within the meaning of the *Income Tax Act* (Canada)) with the Issuer or the Guarantor;
- to the extent that the relevant tax is imposed or levied as a result of the Holder being party to or participating in a scheme to avoid tax, being a scheme to which neither the Issuer nor the Guarantor was a party and in which neither the Issuer nor the Guarantor participated;
- to the extent that the relevant tax could have been avoided if the Holder, or the beneficial owner, of the Notes had presented the Notes for, or had made a claim for, payment to another paying agent;
- with respect to any estate, inheritance, gift, sale, transfer, personal property or similar tax, assessment or other similar governmental charge;
- with respect to any taxes payable otherwise than by deduction or withholding from payments under or with respect to any Note or the Guarantee; or
- any combination of the above.

In addition, any amounts to be paid on the Notes or, if the Guarantee is called, under and pursuant to the Guarantee will be paid, net of any deduction or withholding imposed or required pursuant to Sections 1471 through 1474 of the U.S. Internal Revenue Code of 1986, as amended (the "Code"), any current or future regulations or official interpretations thereof, any agreement entered into pursuant to Section 1471(b) of the Code, or any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement entered into in connection with the implementation of such Sections of the Code (a "FATCA Withholding"), and no additional amounts will be required to be paid on account of any such deduction or withholding.

Whenever we refer in this Offering Memorandum or any Pricing Supplement, in any context, to the payment of the principal of, or any premium on, any Note or the net proceeds received on the sale or exchange of any Note, we mean to include the payment of additional amounts to the extent that, in that context, additional amounts are, were or would be payable.

Redemption and repayment

Your Note will not be entitled to the benefit of any sinking fund, and the Issuer will not deposit money on a regular basis into any separate custodial account to repay your Note. In addition, the Issuer will not be entitled to redeem your Note before its stated maturity unless the relevant Pricing Supplement specifies a redemption commencement date. You will not be entitled to require the Issuer to buy any Note from you before its stated maturity unless the relevant Pricing Supplement specifies one or more repayment dates.

If the relevant Pricing Supplement specifies a redemption commencement date or a repayment date, it will also specify one or more redemption prices or repayment prices, which may be expressed as a percentage of the principal amount of your Note. It may also specify one or more redemption periods during which the redemption prices relating to a redemption of Notes during those periods will apply.

If the relevant Pricing Supplement specifies a redemption commencement date, your Note will be redeemable at the Issuer's option at any time on or after that date or at a specified time or times as specified in the relevant Pricing Supplement. If the Issuer redeems your Note, it will do so at the specified redemption price, together with interest accrued to the redemption date. If different prices are specified for different redemption periods, the price the Issuer pays will be the price that applies to the redemption period during which your Note is redeemed.

If the relevant Pricing Supplement specifies a repayment date, your Note will be repayable at the Holder's option on the specified repayment date at the specified repayment price, together with interest accrued to the repayment date. In the case of any Notes held in definitive form, and unless stated otherwise in the relevant Pricing Supplement in the case of Exempt Notes, in order to obtain repayment on a repayment date for a Note, you must surrender your Note to a Paying Agent not less than 30 calendar days nor more than 45 calendar days prior to the repayment date (together with the "Option to Elect Repayment Form" attached to the terms of the Notes).

If the Issuer exercises an option to redeem any Note, it will give to the Holder written notice of the principal amount of the Note to be redeemed, not less than 30 days nor more than 60 days before the applicable redemption date, unless otherwise specified in the relevant Pricing Supplement in the case of Exempt Notes. If the Issuer chooses to redeem a series of Notes in part, the Fiscal and Paying Agent will select the Notes that will be redeemed by such usual method as it deems fair and appropriate, provided that Notes represented by a Global Note will be selected for redemption, in these circumstances, in accordance with the rules and procedures of the relevant clearing system(s) (and, in the case of Notes represented by Global Notes deposited with a common depositary or common safekeeper for Euroclear and/or Clearstream, Luxembourg, to be reflected in the records of Euroclear and Clearstream, Luxembourg as either a pool factor or a reduction in the nominal amount, at their discretion).

If any Note is redeemed in part, the notice of redemption relating to such Note shall state the portion of the principal amount thereof to be redeemed; provided that no Note in aggregate principal amount of U.S.$250,000 (or equivalent in another currency) or less shall be redeemed in part. A replacement Note in principal amount equal to the unredeemed portion thereof will be issued in the name of the Holder thereof upon cancellation of the original note.

The Issuer will give the notice in the manner described below in "— Notices."

If a Note represented by a Global Note is subject to repayment at the Holder's option, the Depositary (or its nominee, as applicable) or, in the limited circumstances described above, the Accountholders, as the Holder(s), will be the only person(s) that can exercise the right to repayment. Any indirect owners who own beneficial interests in the Global Note and wish to exercise a repayment right must give proper and timely instructions to their banks or brokers or participant in the relevant clearing system through which they hold their interests (including, where relevant, Accountholders), requesting that they notify the Depositary (or its nominee, as applicable) to exercise the repayment right on their behalf. Different firms have different deadlines for accepting instructions from their customers, and you should take care to act promptly enough to ensure that your request is given effect by the Depositary (or, as applicable, its nominee or Accountholders) before the applicable deadline for exercise.

Street name and other indirect owners should contact their banks or brokers for information about how to exercise a repayment right in a timely manner.

Notwithstanding the above requirements relating to redemption of Notes, we, the Issuer or our affiliates may purchase Notes from investors who are willing to sell from time to time in private transactions at negotiated prices. Notes that we or they purchase may, at our discretion, be held, resold or canceled and, if cancellation is so elected, such Notes will be delivered to the Fiscal and Paying Agent for cancellation.

Redemption for taxation reasons

The Issuer will have the right to redeem the Notes of a series in whole, but not in part, at any time following the occurrence of a tax event (as defined herein); provided, however, that the Issuer is required to deliver to the Fiscal and Paying Agent an opinion of counsel confirming that the conditions that must be satisfied for such redemption have occurred and at the time of giving a notice to redeem, the Issuer's obligation to pay an additional amount remains in effect.

A "tax event" means that there has been, as a result of any amendment to, or change in, the laws or regulations of a relevant jurisdiction, or any amendment to or change in an official interpretation or application of such laws or regulations, which amendment or change is effective on or after the date of the Pricing Supplement with respect to the first tranche of any series of Notes, following which the Issuer will become obligated to pay additional amounts due to a withholding or deduction for or on account of certain taxes, assessments or other governmental charges, and such obligation cannot be avoided within 60 days of such tax event by the Issuer by filing a form, making an election or taking some reasonable measure that in the Issuer's sole judgment will not be adverse to the Issuer and will involve no material cost to the Issuer.

If the Notes are redeemed in these circumstances, the redemption price of each Note redeemed will be equal to 100% of the principal amount of such Note plus accrued and unpaid interest up to (but excluding) the date of redemption or any other amount as specified in the relevant Pricing Supplement.

Covenants of the Issuer

For so long as any amount outstanding under the Notes remains unpaid:

- **Payment When Due.** The Issuer will duly and punctually pay or cause to be paid to the holder of every Note the principal thereof, premium, if any, and interest accrued thereon (including, in the case of default, interest on the amount in default), on the dates and at the places, in the currency and in the manner specified herein and in such Note and will duly and punctually pay or cause to be paid all other amounts required to be paid by it to the Fiscal and Paying Agent and the Holders of such Note pursuant to the Fiscal and Paying Agency Agreement or such Note at the times, in the currencies and in the manner set forth therein.
- **Observance of Covenants.** The Issuer will in all material respects observe and perform all of the covenants, agreements, terms and conditions to be observed and performed by it in the Fiscal and Paying Agency Agreement and the Notes.
- **Rating**. In respect of a particular issuance of Notes, the Issuer shall maintain an engagement in respect of such Notes with at least two of S&P, Moody's, DBRS and Fitch Ratings, Inc. or any of their respective successors as specified in the Pricing Supplement applicable to such series of Notes.
- **Reporting Requirements.** Together with each such delivery of financial statements pursuant to "—Covenants of the Guarantor—Financial Reporting Requirements", the Issuer will furnish, or cause to be furnished, to the Holders a certificate of the Issuer signed on its behalf by an authorized signatory of the Issuer to the effect that (i) all of the covenants of the Issuer contained in the Fiscal and Paying Agency Agreement and the Notes have been fully complied with to the date thereof and (ii) no Default or Event of Default of, or pertaining to, the Issuer, has occurred during the period to which such certificate relates and remains outstanding as of the date thereof, other than as may be set out in the certificate together with the action which has been, or is proposed to be, taken with respect thereto.
- **Notice of Event of Default.** The Issuer will deliver, or cause to be delivered, to the Holders, forthwith upon becoming aware of any Default or Event of Default, a certificate of an authorized signatory of the Issuer specifying such Default or Event of Default together with a statement of an authorized signatory of the Issuer setting forth details of such Default or Event of Default and the action which has been, or is proposed to be, taken with respect thereto.
- **Actions, Proceedings.** The Issuer will forthwith notify, or cause to be notified, the Holders of any actions, suits or proceedings pending against or affecting the Issuer or any of its undertaking, property and assets of which it has knowledge and in respect of which there is a reasonable possibility of a

determination adverse to the Issuer and which would, if determined adversely, materially impair the ability of the Issuer to satisfy its obligations under the Fiscal and Paying Agency Agreement or the Notes.

- **Maintain Existence.** Subject to permitted changes as set out under the covenant "Limitations on Consolidations, Mergers and Acquisitions" below, the Issuer will at all times maintain its corporate existence.
- **Keeping of Books.** The Issuer will keep proper books of record and account, in which a complete record of all financial transactions will be kept in accordance with International Financial Reporting Standards.
- **Limitations on Consolidations, Mergers and Acquisitions.** The Issuer shall not enter into any transaction or series of related transactions (whether by way of reconstruction, reorganization, consolidation, amalgamation, merger, transfer, sale, lease or otherwise) whereby all or substantially all of the undertaking, property or assets of the Issuer (in any case, a "**Predecessor Corporation**"), in each case taken as a whole, would become the property of any other person or, in the case of any such amalgamation, of the continuing corporation resulting therefrom (such other person or continuing corporation, a "**Successor Corporation**") unless: (i) immediately following and after giving effect to such transaction, the Issuer or, if applicable, its successor would be in full compliance with all covenants contained in the Fiscal and Paying Agency Agreement and the Notes; (ii) no Default or Event of Default will have occurred and be continuing or will occur as a result of such transaction or series of related transactions; (iii) no "tax event" shall occur as a result of such transaction or series of related transactions; and (iv) the Successor Corporation is incorporated under the laws of Canada or a province or territory thereof and expressly and unconditionally assumes, by supplemental fiscal and paying agency agreement, the due and punctual payment of the principal of, and premium, if any, and interest on, all of the Notes and all other amounts due hereunder and the performance and observance of every covenant of the Predecessor Corporation under the Notes and the Fiscal and Paying Agency Agreement.

Covenants of the Guarantor

For so long as any amount outstanding under any Guarantee remains unpaid:

- **Observance of Covenants.** The Guarantor will in all material respects observe and perform all of the covenants, agreements, terms and conditions to be observed and performed by it in any applicable Guarantee and under the Fiscal and Paying Agency Agreement.
- **Rating.** The Guarantor will provide to at least two of S&P, Moody's, DBRS and Fitch Ratings, Inc. or any of their respective successors engaged by the Issuer in respect of the Notes, the information necessary to complete an annual rating update with respect to the Notes.
- **Financial Reporting Requirements.** The Guarantor will furnish, or cause to be furnished, to the Holders:
    - as soon as practicable and in any event within 180 days after the end of each financial year of the Guarantor, the audited consolidated financial statements of the Guarantor for such year and the related notes thereto, together with the report thereon of auditors of recognized national standing, prepared in accordance with International Financial Reporting Standards; it being agreed and understood that the posting of such financial statements of the Guarantor's website will satisfy the requirement under this covenant to furnish such statements to the Holders; and
    - together with each such delivery of financial statements pursuant to the provisions of the foregoing paragraph, a certificate of the Guarantor to the Fiscal and Paying Agent, signed on its behalf by the chief financial officer of the Guarantor, to the effect that (i) all of the covenants of the Guarantor contained in the Fiscal and Paying Agency Agreement and the Guarantee have been fully complied with to the date thereof, (ii) no Default or Event of Default of, or pertaining to, the Guarantor, has occurred during the period to which such certificate relates and remains outstanding as of the date thereof, other than as may be set out in the certificate together with the action which has been, or is proposed to be, taken with respect thereto and (iii) attached to such certificate are the financial statements of most recent date referred to in this covenant.
- **Holding in the Issuer.** The Guarantor will hold directly or indirectly at all times all of the outstanding voting securities of the Issuer.
- **Notice of Event of Default.** The Guarantor will deliver, or cause to be delivered, to the Holders, forthwith upon becoming aware of any Default or Event of Default of or pertaining to the Guarantor, a

certificate of an officer of the Guarantor specifying such Default or Event of Default together with a statement of an officer of the Guarantor setting forth details of such Default or Event of Default and the action which has been, or is proposed to be, taken with respect thereto.

- **Compliance with Law.** The Guarantor will not (i) violate in any material respect any law, ordinance, franchise, governmental rule or regulation to which it is subject, (ii) fail to obtain any material license, permit, franchise or governmental authorization necessary to the ownership of its property or the conduct of its affairs, or (iii) default in any material respect on any order of any court or governmental authority or arbitration board or tribunal that, in the case of each of (i), (ii) or (iii), could be material to the Notes or materially negatively impact the financial condition of the Guarantor.

Defeasance and Covenant Defeasance

Unless we indicate otherwise in the applicable Pricing Supplement, the provisions for full defeasance and covenant defeasance described below apply to the Notes. In general, we expect these provisions to apply to each Note that has a Specified Currency of U.S. dollars and is not a Floating Rate Note.

Full defeasance of Notes. If there is a change in (A) U.S. federal tax law or a U.S. Internal Revenue Service ("*IRS*") ruling and (B) Canadian federal tax law or a Canada Revenue Agency tax ruling, as described below, the Issuer can legally release itself from all payment and other obligations on any Notes (other than those terms that expressly survive). This is called full defeasance. For the Issuer to effect a full defeasance, each of the following must occur (in addition to other conditions set forth in the Fiscal and Paying Agency Agreement):

- The Issuer must deposit in trust for the benefit of all Holders of those Notes money or a combination of money and U.S. government or U.S. government agency notes or bonds that will, in the opinion of a nationally recognized accounting firm, generate enough cash to make interest, principal and any other payments on those Notes on their various due dates;
- There must be a change in (A) current U.S. federal tax law or an United States Internal Revenue Service ruling and (B) Canadian federal tax law or a Canada Revenue Agency tax ruling, that lets the Issuer make the above deposit without causing the holders to be taxed in accordance with U.S. or Canadian tax laws on those Notes any differently than if the Issuer did not make the deposit and just repaid those Notes itself in accordance with the terms thereof. Under current U.S. and Canadian federal tax law, the deposit and the Issuer's legal release from your Note would be treated generally as though the Issuer took back your Note and gave you your share of the cash and notes or bonds deposited in trust. In that event, you could recognize gain or loss on your Note; and
- The Issuer must deliver to the defeasance trustee and Fiscal and Paying Agent a legal opinion of our counsel confirming the tax law changes or tax rulings have the effect described above.

If the Issuer ever fully defeased your Note, you would have to rely solely on the trust deposit for payments on your Note. You would not be able to look to the Issuer or the Guarantor for payment in the event of any shortfall.

Covenant defeasance of Notes. Under current U.S. federal tax law, the Issuer or the Guarantor can make the same type of deposit described above and be released from some of the restrictive covenants in your Note and the Guarantee with respect to such Note. This is called covenant defeasance. In that event, you would lose the protection of those restrictive covenants but would gain the protection of having money and securities set aside in trust to repay the Notes. Unless we indicate otherwise in the applicable Pricing Supplement in the case of Exempt Notes, in order to achieve covenant defeasance for any Notes, the following conditions must be satisfied (in addition to other conditions set forth in the Fiscal and Paying Agency Agreement):

- The Issuer or the Guarantor must deposit in trust for the benefit of the Holders of those Notes money or a combination of money and U.S. government or U.S. government agency notes or bonds that will, in the opinion of a nationally recognized accounting firm, generate enough cash to make interest, principal and any other payments on those Notes on their various due dates;
- The Issuer or the Guarantor must deliver to the defeasance trustee and the Fiscal and Paying Agent a legal opinion of counsel confirming that under current U.S. federal tax law and Canadian federal tax law, the Issuer or the Guarantor, as the case may be, may make the above deposit without causing the Holders

to be taxed in accordance with U.S. or Canadian tax laws on those Notes any differently than if the Issuer or the Guarantor did not make the deposit;

- No Default or Event of Default shall have occurred and be continuing on the date the deposit in trust described above is made;
- The covenant defeasance must not result in a breach or violation of, or constitute a default under, any other material agreement or instrument to which the Issuer or the Guarantor is a party or by which the Issuer or the Guarantor is bound;
- The covenant defeasance must not result in the trust described above constituting an investment company as defined in the Investment Company Act or the trust must be qualified under the Investment Company Act or exempt from regulation thereunder;
- The Issuer or the Guarantor, as the case may be, must deliver to the defeasance trustee and the Fiscal and Paying Agent a certificate to the effect that the Notes, if then listed on any securities exchange, will not be delisted as a result of the deposit in trust described above; and
- The Issuer or the Guarantor, as the case may be, must deliver to the Fiscal and Paying Agent and the defeasance trustee a certificate and an opinion of counsel, each stating that all the conditions described above have been satisfied.

If the Issuer or the Guarantor accomplishes covenant defeasance with regard to your Note, the following provisions of the Note or the Guarantee with respect to such Note, as applicable, would no longer apply:

- Any covenants applicable to your Note and described in this Offering Memorandum other than the Issuer's obligations to make payments on the Notes in accordance with their respective terms and the Guarantor's obligations to guarantee such payments pursuant to the Guarantee.
- The Events of Default relating to breach of covenants described under the subsection entitled "—Events of Default."

Any right the Issuer has to redeem any Notes will survive covenant defeasance with regard to those Notes.

If the Issuer or the Guarantor accomplishes covenant defeasance on your Note, you can still look to the Issuer or the Guarantor for repayment of your Note in the event of any shortfall in the trust deposit. You should note, however, that if one of the remaining Events of Default occurred, such as the bankruptcy of the Issuer or the Guarantor, and your Note became immediately due and payable, there may be a shortfall. Depending on the event causing the Event of Default, you may not be able to obtain payment of the shortfall.

Default, remedies and waiver of default

You will have special rights if an Event of Default with respect to your Note occurs and is continuing, as described later in this subsection.

Events of Default

Unless the relevant Pricing Supplement indicates otherwise in the case of Exempt Notes, when we refer to the term "Event of Default" with respect to the Notes, we mean any of the following:

- the Issuer fails to make any payment of the principal of any Note, or premium, if any, thereon when the same becomes due;
- the Issuer fails to make any payment of interest on any Note when the same becomes due and such Default shall continue for more than five business days;
- the Issuer or the Guarantor fails to perform or observe any term, covenant or agreement contained in any Note on its part to be performed or observed other than those referred to in the above-listed Events of Default, and such failure remains unremedied for 60 days after written notice has been given to the Issuer and the Guarantor by any Holder of such Note;
- with respect to a particular series of Notes, the obligations of the Guarantor under the applicable Guarantee ceases to constitute the legal, valid and binding obligations of the Guarantor, or ceases to be

in full force and effect, or the Guarantor will have contested the validity of the applicable Guarantee, or denied that it had any liability thereunder;

- any representation, warranty or certification made by the Issuer or the Guarantor in the Notes or certificate required to be delivered in connection with the Notes proves to have been incorrect in any material respect when made, and such has not been cured or remedied within five business days after notice of such incorrect representation, warranty or certification has been provided by the Fiscal and Paying Agent to the Issuer and the Guarantor;
- any proceeding shall be instituted by or against the Issuer seeking to adjudicate the Issuer a bankrupt or insolvent, or seeking liquidation, dissolution, winding-up, reorganization, arrangement, adjustment, administration, protection, relief or composition of the Issuer or any substantial part of the property or debts of the Issuer under any law relating to bankruptcy, insolvency or reorganization or relief of debtors, or seeking the entry of an order for relief or the appointment of a receiver, trustee, administrator, liquidator, custodian or other similar official for the Issuer, or for any substantial part of its property and such proceeding shall have continued undismissed or unstayed for sixty (60) days, or a creditor or creditors of the Issuer, shall privately appoint a receiver, trustee or similar official for any substantial part of the property of the Issuer, and, if the Issuer shall be contesting such appointment in good faith, such appointment shall continue for ninety (90) days; or any such action or proceeding shall have been consented to or not expeditiously opposed by the Issuer;
- any proceeding shall be instituted by or against the Guarantor seeking to adjudicate the Guarantor, a bankrupt or insolvent, or seeking liquidation, dissolution, winding-up, reorganization, arrangement, adjustment, administration, protection, relief or composition of the Guarantor or any substantial part of the property or debts of the Guarantor under any law relating to bankruptcy, insolvency or reorganization or relief of debtors, or seeking the entry of an order for relief or the appointment of a receiver, trustee, administrator, liquidator, custodian or other similar official for the Guarantor, or for any substantial part of its property and such proceeding shall have been instituted as provided by the Parliament of Canada in respect of the Guarantor and shall have continued undismissed or unstayed for sixty (60) days, and, if the Guarantor shall be contesting such appointment in good faith, such appointment shall continue for ninety (90) days; or any such action or proceeding shall have been consented to or not expeditiously opposed by the Guarantor.

"Default" means any condition, act or event which, with notice or lapse of time or both, would constitute an Event of Default. We may change, eliminate, or add to the Events of Default with respect to any particular Note or Notes, as applicable, as indicated in the applicable Pricing Supplement in the case of Exempt Notes.

Remedies If an Event of Default Occurs

If an Event of Default under the Notes has occurred and is continuing, except as set out below, the Holders of not less than 25% in principal amount of the Notes of the affected series may, by written notice to the Issuer and the Guarantor at the specified office of the Fiscal and Paying Agent, declare the entire principal amount, and accrued but unpaid interest and premium, if any, of all the Notes of that series to be due and immediately payable, unless the Note is an Original Issue Discount Note, in which case the Default Amount in respect of all the Notes of that series will be due and immediately payable. This is called a "declaration of acceleration of maturity." Upon the occurrence of an Event of Default specified in the second to last bullet point above, relating to bankruptcy, insolvency and similar events, the principal, premium, if any, and all unpaid interest on the Notes will automatically become payable.

A declaration of acceleration of maturity may be cancelled by the Holders of at least a majority in principal amount of the Notes of the affected series if:

- the Issuer or the Guarantor has paid or deposited with the Fiscal and Paying Agent a sum sufficient to pay:
    - all overdue interest on all Notes of that series;
    - the principal of, and premium, if any, on any Notes of that series which have become due otherwise than by that declaration of acceleration of maturity and any interest thereon at the rate or rates prescribed therefor in the Notes;

- interest upon overdue interest at the rate or rates prescribed therefor in the Notes, to the extent that payment of that interest is lawful; and
- all sums paid or advanced by the Fiscal and Paying Agent under the terms of the Fiscal and Paying Agency Agreement and the reasonable compensation, expenses, disbursements and advances of the Fiscal and Paying Agent and its agents and counsel as agreed among the Issuer, the Guarantor and the Fiscal and Paying Agent; and

- all Events of Default with respect to the Notes of that series, other than the non-payment of the principal of or premium (if any) of, and interest on, Notes of that series which have become due solely by that declaration of acceleration of maturity, are no longer continuing.

Indirect Holders should consult their banks or brokers for information on how to give notice or to make or cancel a declaration of acceleration of maturity.

The Fiscal and Paying Agent will not act as a fiduciary for the holders of the Notes and will have no responsibility for the enforcement of remedies following an Event of Default.

See also the section entitled "Risks Relating to the Notes — In the event that we or the Issuer become insolvent, insolvency proceedings will be governed by Canadian Law."

Waiver of Default

If a Default or an Event of Default has occurred, the Holders of Notes of any series, by adopting an Extraordinary Resolution, may waive the Default or Event of Default for all Notes of that series. An Extraordinary Resolution means a resolution:

(i) approved by the Holders of Notes of such series representing not less than 66⅔% of the principal amount of Notes of such series represented and voted at a meeting of Holders of Notes of such series properly convened and held in accordance with the provisions of the Fiscal and Paying Agency Agreement at which Holders of Notes of such series representing not less than 50% of the outstanding principal amount of the Notes of such series were present in person or by proxy; or

(ii) approved by a resolution in writing signed by Holders of Notes of such series representing not less than 66⅔% of the outstanding principal amount of the Notes of such series.

If an Extraordinary Resolution is duly adopted, the Default or Event of Default will be treated as if it has not occurred. No one can waive a payment default on your Note, however, without the approval of the Holder of that Note.

Modification of the Fiscal and Paying Agency Agreement and waiver of covenants

The Fiscal and Paying Agency Agreement contains provisions for convening meetings of the Holders of Notes to consider matters affecting their interests. There are three types of changes, as listed below, that the Issuer and the Guarantor can make to the Fiscal and Paying Agency Agreement and the Notes and the Guarantee, and these changes may have United States federal tax consequences and/or Canadian tax consequences for Holders.

Changes requiring approval by Holders pursuant to a Special Resolution

Certain changes to the Fiscal and Paying Agency Agreement can only be made with the written consent or the affirmative vote or approval of a special supermajority of Holders of Notes of each affected series pursuant to a Special Resolution (which we define below). Certain changes to the Notes of a particular series can only be made with the written consent or the affirmative vote or approval of a special supermajority of Holders of Notes of such series pursuant to a Special Resolution. In the absence of an appropriate Special Resolution, we and the Issuer may not:

- change the due date for the payment of principal of, or premium, if any, or any installment of interest on any Note;
- reduce the principal amount of any Note, the portion of any principal amount that is payable upon acceleration of the stated maturity of the Note after a default, the interest rate or any premium payable upon redemption;
- permit redemption of a Note if not previously permitted;
- change the currency of any payment on a Note;
- change the Issuer's or our obligation to pay additional amounts;
- shorten the period during which redemption of the Notes is not permitted or permit redemption during a period not previously permitted;
- change the place of payment on a Note;
- impair a Holder's right to sue for payment of any amount due on its Notes;
- reduce the percentage of principal amount of the Notes outstanding necessary to modify, amend or supplement the Notes or to waive past defaults or future compliance;
- reduce the percentage of principal amount of the Notes outstanding required to adopt a resolution or the required quorum at any meeting of Holders of Notes at which a resolution is adopted; or
- change any provision in a Note with respect to redemption at the Holders' option in any manner adverse to the interests of any Holder of the Notes.

A Special Resolution means a resolution:

(i) approved by the Holders of Notes of a relevant series representing not less than 75% of the principal amount of Notes of such series represented and voted at a meeting of Holders of Notes of such series properly convened and held in accordance with the provisions of the Fiscal and Paying Agency Agreement at which Holders of Notes of such series representing not less than 75% of the outstanding principal amount of the Notes of such series were present in person or by proxy; or

(ii) approved by a resolution in writing signed by Holders of Notes of such series representing not less than 75% of the outstanding principal amount of the Notes of such series.

Changes not requiring approval

A second type of change to the Fiscal and Paying Agency Agreement and the Notes does not require any approval by Holders. These changes are limited to the following:

- for the purpose of adding to our covenants for the benefit of any Holders of any Notes;
- for the purpose of surrendering any right or power conferred upon us in any Notes;
- for the purpose of evidencing the succession of another person or entity to the Issuer or the Guarantor and the assumption by any such successor of the Issuer's or the Guarantor's covenants and obligations in any Notes or the Fiscal and Paying Agency Agreement;
- for the purpose of curing any ambiguity in, or of curing, correcting or supplementing any defective provision of, any Note or the Fiscal and Paying Agency Agreement;
- to evidence and provide for the acceptance of appointment under the Fiscal and Paying Agency Agreement by a successor Fiscal and Paying Agent;
- for the purpose of amending any Note of any series or the Fiscal and Paying Agency Agreement in any other manner which we and the Fiscal and Paying Agent may determine, provided that such amendment shall not be inconsistent with the Notes of such series and shall not adversely affect the interest of any Holder of any Note of such series; or
- changes to the conditions of the Notes made by the Calculation Agent arising from the selection of a substitute or successor base rate due to a benchmark being discontinued or no longer being published.

We may also make changes or obtain waivers that do not adversely affect a particular issuance of Notes, even if they affect other issuances of Notes. In those cases, we do not need to obtain the approval of the Holder of the unaffected Notes; we need only obtain any required approvals from the Holders of affected Notes.

Changes requiring approval by Holders pursuant to an Extraordinary Resolution

With respect to each series of Notes, any other change to the Fiscal and Paying Agency Agreement and the Notes would require approval by the Holders of Notes pursuant to an Extraordinary Resolution, as described above under "—Waiver of Default."

Unless otherwise indicated in the relevant Pricing Supplement in the case of Exempt Notes, the Issuer will be entitled to set any day as a record date for determining which Holders of book-entry Notes are entitled to make, take or give requests, demands, authorizations, directions, notices, consents, waivers or other action, or to vote on actions, authorized or permitted by the Fiscal and Paying Agency Agreement. In addition, record dates for any book-entry Note may be set in accordance with procedures established by the Depositary from time to time. Therefore, record dates for book-entry Notes may differ from those for other Notes. Book-entry and other indirect owners should consult their banks or brokers for information on how approval may be granted or denied if we seek to change the Fiscal and Paying Agency Agreement or any Notes or request a waiver.

Special rules for action by Holders

When Holders take any action under the Fiscal and Paying Agency Agreement, such as giving a notice of default, declaring an acceleration, approving any change or waiver or giving the Fiscal and Paying Agent an instruction, we will apply the following rules.

Only outstanding Notes are eligible

Only Holders of outstanding Notes as of the relevant record date will be eligible to participate in any action by Holders. Also, we will count only outstanding Notes in determining whether the various percentage requirements for taking action have been met. For these purposes, a Note will not be "outstanding":

- if it has been surrendered for cancellation;
- if the Issuer has deposited or set aside, in trust for its Holder, money for its payment or redemption;
- if we have fully defeased it as described above under "—Full defeasance of Notes;"
- Notes in lieu of or in substitution for which other Notes shall have been authenticated and delivered pursuant to the Fiscal and Paying Agency Agreement; or
- if the Issuer, the Guarantor or one of their affiliates is the owner.

Eligible principal amount of some Notes

In some situations, we may follow special rules in calculating the principal amount of a Note that is to be treated as outstanding for the purposes described above. This may happen, for example, if the principal amount is payable in a non-U.S. dollar currency, increases over time or is not to be fixed until the maturity date.

For any Note of the kind described below, we will decide how much principal amount to attribute to the Note as follows:

- For an Original Issue Discount Note, we will use the principal amount that would be due and payable on the action date if the maturity of the Note were accelerated to that date because of a default;
- For a Note whose principal amount is not known, we will use any amount that we indicate in the relevant Pricing Supplement or that we determine pursuant to a formula described in the relevant Pricing Supplement for that Note; or
- For Notes with a principal amount denominated in one or more non-U.S. dollar currencies, we will use the U.S. dollar equivalent, which we will determine.

Accountholders

Where we are required to determine the nominal amount of Notes to which an Accountholder is entitled as aforesaid, we will, subject to the foregoing, be entitled to treat and deem an Accountholder to be the Holder of such nominal amount of Notes represented by the Global Note as determined by reference to any certificate or other document issued by Euroclear or Clearstream, Luxembourg as to the nominal amount of such Notes standing to the account of such Accountholder in the clearing systems. Any such certificate or other document issued by the clearing systems as aforesaid will be conclusive and binding on ourselves, the Paying Agents and Holders for all purposes, save in the case of manifest error.

Form, exchange and transfer of Notes

If any Notes cease to be issued in registered global form, they will be issued:

- only in fully registered form;
- without interest coupons, unless otherwise specified in the relevant Pricing Supplement in the case of Exempt Notes; and
- in minimum denominations of U.S.$250,000, or greater (or the equivalent thereof in another currency or composite currency).

Holders may exchange their Notes for Notes of smaller denominations (but not smaller than the specified minimum denomination) or combine them into fewer Notes of larger denominations, as long as the total principal amount is not changed. You may not exchange your Notes for Notes of a different series or having different terms, unless, in the case of Exempt Notes, the relevant Pricing Supplement says you may.

Holders may exchange or transfer their Notes at the office of the Fiscal and Paying Agent. They may also replace lost, stolen, destroyed or mutilated Notes at that office. The Issuer and the Guarantor have appointed the Fiscal and Paying Agent for registering Notes in the names of Holders and transferring and replacing Notes. The Issuer and the Guarantor may appoint another entity to perform these functions or perform them themselves.

Holders will not be required to pay a service charge to transfer or exchange their Notes, but they may be required to pay for any tax or other governmental charge associated with the exchange or transfer. The transfer or exchange, and any replacement, will be made only if our transfer agent is satisfied with the Holder's proof of legal ownership. The transfer agent and the Issuer may, and we may, require an indemnity before replacing any Notes.

If the Issuer and the Guarantor have designated additional transfer agents for your Note, they will be named in the relevant Pricing Supplement. The Issuer and the Guarantor may appoint additional transfer agents or cancel the appointment of any particular transfer agent. The Issuer and the Guarantor may also approve a change in the office through which any transfer agent acts.

If any Notes are redeemable and the Issuer redeems less than all those Notes, the Issuer may block the transfer or exchange of those Notes during the period beginning 15 days before the day the Issuer mails the notice of redemption and ending on the day of that mailing, in order to freeze the list of Holders to prepare the mailing. The Issuer may also refuse to register transfers of or exchange any Note selected for redemption, except that the Issuer will continue to permit transfers and exchanges of the unredeemed portion of any Note being partially redeemed.

If a Note is issued as a Global Note, only the Depositary—e.g., DTC, Euroclear or Clearstream, Luxembourg—will be entitled to transfer and exchange the Global Note as described in this subsection.

The rules for exchange described above apply to exchange of Notes for other Notes of the same series and kind. If a Note is convertible, exercisable or exchangeable into or for a different kind of security, such as one that we have not issued, or for other property, the rules governing that type of conversion, exercise or exchange will in the case of Exempt Notes, be described in the relevant Pricing Supplement.

Payment mechanics for Notes

Who receives payment?

If interest is due on a Note on an interest payment date, the Issuer or the Guarantor will pay the interest to the person in whose name the Note is registered at the close of business on the Regular Record Date relating to the interest payment date as described below under "—Payment and record dates for interest." If interest is due at maturity, the Issuer or the Guarantor will pay the interest to the person entitled to receive the principal of the Note. If principal or another amount besides interest is due on a Note at maturity, the Issuer or the Guarantor will pay the amount to the Holder of the Note against surrender of the Note at a proper place of payment or, in the case of a Global Note, in accordance with the applicable rules and procedures of the Depositary, which will be DTC, Euroclear or Clearstream, Luxembourg (or, where applicable, their nominees).

Payment and record dates for interest

With respect to any DTC Note and unless otherwise specified in the relevant Pricing Supplement in the case of Exempt Notes, interest on any Fixed Rate Note will be payable annually, semi-annually or quarterly on the date or dates set forth in the relevant Pricing Supplement and at maturity. The Regular Record Date relating to an interest payment date for any DTC Note that is a Fixed Rate Note will also be set forth in the relevant Pricing Supplement. Unless otherwise specified in the relevant Pricing Supplement, the Regular Record Date relating to an interest payment date for any DTC Note that is a Floating Rate Note will be the 15th calendar day before that interest payment date. These record dates for such DTC Note will apply regardless of whether a particular record date is a "business day", as defined above. For the purpose of determining the holder of a DTC Note at the close of business on a Regular Record Date when business is not being conducted, the close of business will mean 5:00 P.M., New York City time, on that day. The Regular Record Date relating to an interest payment date for any Euro Note will be the close of business on the first business day (being for this purpose a day on which Euroclear and Clearstream, Luxembourg are open for business) before that interest payment date. The Regular Record Date relating to an interest payment date for any Note in definitive form issued in exchange for any Euro Note will be the close of business on the 15th calendar date (or, if such 15th calendar day is not a day on which banks are open for business in the city where the specified office of the note registrar is located, the first such day prior to such 15th calendar day) before that interest payment date.

How the Issuer or the Guarantor will make payments due in U.S. dollars

The Issuer or the Guarantor will follow the practice described in this subsection when paying amounts due in U.S. dollars.

Payments on Global Notes. The Issuer or the Guarantor will make payments on a Global Note in accordance with the applicable policies as in effect from time to time of the Depositary, which will be DTC, Euroclear or Clearstream, Luxembourg (or a nominee thereof). Under those policies, the Issuer or the Guarantor will pay directly to the Depositary, or its nominee, and not to any direct or indirect participants in the clearing system who own beneficial interests in the Global Note. A direct or indirect owner's right to receive those payments will be governed by the rules and practices of the clearing system and their participants, as described below in the section entitled "Book-Entry Clearance Systems."

Payments on non-Global Notes. The Issuer or the Guarantor will make payments on a Note in non-global, registered form as follows. Except as set forth in the final two sentences of this paragraph, the Issuer or the Guarantor will pay interest that is due on an interest payment date by check mailed on the interest payment date to the Holder at his or her address shown on the Fiscal and Paying Agent's records as of the close of business on the Regular Record Date. The Issuer or the Guarantor will make all other payments by check at the Paying Agent described below, against surrender of the Note. All payments by check will be made in next-day funds—i.e., funds that become available on the day after the check is cashed. Upon application of the relevant Holder to the specified office of the Fiscal and Paying Agent acting in its capacity as registrar for a Note (the "Registrar" for such Note) not less than five business days in the city where the specified office of such Registrar is located before the due date for any payment of interest in respect of a Note, the payment will be made by transfer on the due date in the manner provided in the paragraph below. Any such application for transfer shall be deemed to relate to all future payments of interest (other than interest due on redemption) in respect of the Registered Notes which become payable to the Holder who has made the initial application until such time as the Registrar for such Notes is notified in writing to the contrary by such Holder.

Alternatively, if a non-Global Note has a face amount of at least U.S.$5,000,000 and the Holder asks us to do so, the Issuer or the Guarantor will pay any amount that becomes due on the Note by wire transfer of immediately available funds to an account maintained by such Holder with any bank which processes payments in the applicable Specified Currency on the due date. To request wire payment, the Holder must give the Fiscal and Paying Agent appropriate wire transfer instructions at least five business days before the requested wire payment is due. In the case of any interest payment due on an interest payment date, the instructions must be given by the person or entity who is the Holder on the relevant Regular Record Date. In the case of any other payment, payment will be made only after the Note is surrendered to the Fiscal and Paying Agent. Any wire instructions, once properly given, will remain in effect unless and until new instructions are given in the manner described above.

Direct and other indirect owners of an interest in a Global Note denominated in a currency other than U.S. dollars should consult their banks or brokers for information on how to request payment in the Specified Currency.

Exchange Agent. If the Issuer issues a Note in a Specified Currency other than U.S. dollars, the Issuer and the Guarantor may appoint a financial institution to act as the Exchange Agent with respect to such Note and name the institution initially appointed when the Note is originally issued in the relevant Pricing Supplement. The Issuer and the Guarantor may change the Exchange Agent from time to time after the issue date of the Note without your consent and without notifying you of the change. Initially, the Issuer and the Guarantor have appointed the Fiscal and Paying Agent, at its corporate trust office in New York City, as the Exchange Agent.

All determinations made by the Exchange Agent will be in its sole discretion unless we state in this Offering Memorandum or, in the case of an Exempt Note, the relevant Pricing Supplement that any determination requires the approval of the Issuer or the Guarantor. In the absence of manifest or proven error, those determinations will be conclusive for all purposes and binding on you and the Issuer and the Guarantor, without any liability on the part of the Exchange Agent.

Payment when offices are closed

If any payment is due on a Note on a day that is not a business day, the Issuer or the Guarantor will make the payment on the next day that is a business day. Payments postponed to the next business day in this situation will be treated under the Fiscal and Paying Agency Agreement as if they were made on the original due date. Postponement of this kind will not result in a default under any Note or the Fiscal and Paying Agency Agreement. However, if any interest payment date, other than the one that falls on the maturity date, for a EURIBOR Note or a LIBOR Note would otherwise fall on a day that is not a business day and the next business day falls in the next calendar month, then the interest payment date will be advanced to the next preceding day that is a business day. The term business day has a special meaning, which we described above under "—Interest rates—Floating Rate Notes—Special rate calculation terms."

Paying Agents

The Issuer and the Guarantor may appoint one or more financial institutions to act as paying agents, at whose designated offices Notes in non-global entry form may be surrendered for payment at their maturity. We call each of those offices a "Paying Agent." The Issuer and the Guarantor may add, replace or terminate Paying Agents from time to time, provided that at all times there will be a Paying Agent in the Borough of Manhattan, The City of New York. The Issuer or the Guarantor will give notice of any such addition, replacement or termination of Paying Agents to the Holders of any affected Notes. The Issuer or the Guarantor may also choose to act as its own Paying Agent. Initially, the Issuer and the Guarantor have appointed the Fiscal and Paying Agent, at its corporate trust office in New York City, as a Paying Agent with respect to Notes held through DTC and The Bank of New York Mellon, London Branch as Paying Agent with respect to Notes held through Euroclear/Clearstream. We must notify the Fiscal and Paying Agent of changes in the Paying Agents.

Unclaimed payments

Regardless of who acts as Paying Agent, all money paid by the Issuer or the Guarantor to a Paying Agent that remains unclaimed at the end of two years after the amount is due to a Holder will be repaid to the Issuer or the Guarantor. After that two-year period, the Holder may look only to the Issuer or the Guarantor for payment and not to the Fiscal and Paying Agent, any other Paying Agent or anyone else.

Notices

Notices to be given to Holders of a Global Note will be given only to the relevant Depositary or, as the case may be, the relevant clearing systems, in accordance with its applicable policies as in effect from time to time. Notices to be given to Holders of Notes not in global form will be sent by mail to the respective addresses of the Holders as they appear in the Fiscal and Paying Agent's records, and will be deemed given when mailed. Neither the failure to give any notice to a particular Holder, nor any defect in a notice given to a particular Holder, will affect the sufficiency of any notice given to another Holder. Book-entry and other indirect owners should consult their banks or brokers for information on how they will receive notices.

Guarantee by the Guarantor

The Guarantor will fully and unconditionally guarantee the payment of principal of, and any interest and premium (including additional amounts) on, the Notes, when due and payable, whether at the stated maturity, by declaration of acceleration of maturity, call for redemption or otherwise, in accordance with the terms of the Notes, the Fiscal and Paying Agency Agreement and the applicable Pricing Supplement. The Guarantee will remain in effect until the entire principal of, and interest and premium, if any, on, each series of Notes has been paid in full or discharged in accordance with the provisions of such Notes, the Fiscal and Paying Agency Agreement and any applicable Pricing Supplement, or otherwise fully defeased by the Issuer.

The Guarantee by the Guarantor of the Notes will rank equally in right of payment with all senior unsecured indebtedness of the Guarantor.

Our relationship with the Fiscal and Paying Agent

The Bank of New York Mellon is initially serving as the Fiscal and Paying Agent for the Notes issued under the Fiscal and Paying Agency Agreement. The Bank of New York Mellon has provided commercial banking and other services for the Issuer, the Guarantor and their affiliates in the past and may do so in the future. Among other things, The Bank of New York Mellon serves as trustee or agent with regard to other debt obligations of the Issuer and the Guarantor.

Governing law

The Notes and the Fiscal and Paying Agency Agreement will be governed by, and construed in accordance with, the laws of the State of New York. The Issuer and the Guarantor have appointed Canada Pension Plan Investment Board, 510 Madison Avenue, 15th Floor, New York, NY as our agent for service of process in The City of New York in connection with any action arising out of the sale of the Notes or enforcement of the terms of the Fiscal and Paying Agency Agreement.

MANAGEMENT

Guarantor

Board of Directors

The members of our board (the "Directors") are the following:

Name	Role
Heather Munroe-Blum	Chairperson of the Board, Investment Committee*, ex officio member of the Audit, Governance, Human Resources and Compensation, and Risk Committees
Sylvia Chrominska	Investment Committee, Human Resources and Compensation Committee*, Risk Committee
William 'Mark' Evans	Investment Committee, Human Resources and Compensation Committee, Risk Committee
Ashleigh Everett	Investment Committee, Governance Committee*
Tahira Hassan	Investment Committee, Governance Committee, Risk Committee
Chuck Magro	Investment Committee, Audit Committee, Governance Committee, Human Resources and Compensation Committee
John Montalbano	Investment Committee, Audit Committee, Risk Committee, Governance Committee
Mary Phibbs	Investment Committee, Audit Committee*, Risk Committee (ex officio member)
Karen Sheriff	Investment Committee, Governance Committee, Human Resources and Compensation Committee
Kathleen Taylor	Investment Committee, Audit Committee, Human Resources and Compensation Committee
Jo Mark Zurel	Investment Committee, Audit Committee (ex officio member), Risk Committee *

*Indicates Chair position.

Heather Munroe-Blum, Corporate Director and Public Policy Scholar, Chairperson of the Board, Investment Committee, ex officio member of the Audit, Governance, Human Resources and Compensation, and Risk Committees

Ms. Munroe-Blum has been a director of the board ("Director") since December 2010. She was appointed Chair of the Board of Directors of CPP Investments (the "Board"), effective October 2014. Ms. Munroe-Blum is a director of the Royal Bank of Canada and chairperson of the Gairdner Foundation. She is a co-founder and the co-chair of the Canadian Children's Literacy Foundation. Ms. Munroe-Blum is also currently a member of the board of Stanford University's Center for Advanced Study in the Behavioral Sciences (CASBS), McGill's Tanenbaum Open Science Institute (TOSI), the Trilateral Commission and chair of the McGill University Health Centre Interdisciplinary Initiative in Infection and Immunity (MI4). Among others, she has served on the boards of Four Seasons Hotels, Alcan, Yellow Media Inc., Hydro One (Ontario) and CGI Group, and as a member of the President's Council of the New York Academy of Sciences, the Conference Board of Canada and the CD Howe Institute. Ms. Munroe-Blum served for over a decade as principal and vice chancellor (president) of McGill University and is the former vice-president (Research and International Relations) of the University of Toronto. Ms. Munroe-Blum is a recipient of numerous domestic and international honorary degrees and awards of distinction. She is an Officer of the Order of Canada, Officer of the Order of Quebec, Specially Elected Fellow of the Royal Society of Canada and Fellow of the Institute of Corporate Directors. Building on a distinguished career of clinical, scientific and policy contributions, her qualifications include more than 25 years of senior administrative leadership concentrated in higher education, public policy and research and development; Ms. Munroe-Blum has extensive board experience as a director on executive, human resources and compensation, governance, investment, finance and risk committees in the corporate and not-for-profit sectors.

Sylvia Chrominska, Corporate Director, Investment Committee, Human Resources and Compensation Committee, and Risk Committee

Ms. Chrominska has been a Director since September 2018. She currently serves on the board and as chair of the Human Resources and Compensation Committee of Wajax Inc., on the board and as chair of the Management Resources and Compensation Committee of Emera Inc., on the board and as chair of the Stratford Festival and the board of the University of Western Ontario. She previously served as chair of the boards of the Bank of Nova Scotia Jamaica and Scotiabank Trinidad & Tobago, as a director and chair of the Human Resources Committee of Dofasco Inc., as the chair of the Board of Governors of the Canadian Bankers Association, and on the Dean's Advisory Committee of the University of Western Ontario's Richard Ivey Business School. Ms. Chrominska is a member and Honorary Fellow of the Advisory Council for Dalhousie University, chair of the International Women's Forum; and board member and Vice President of the Canadian Club of Toronto. She holds an Honours Degree in Business Administration and an Honorary Doctorate from the University of Western Ontario. Her qualifications include more than 30 years of banking experience, including executive positions in human resources and Corporate Credit Risk, as well as extensive board experience.

William Mark Evans, Investment Committee, Human Resources and Compensation Committee, and Risk Committee

Mr. Evans has been a Director since May 2019. He currently works with several early stage technology companies, including Animal Dynamics, DisplayLink, Five.AI, Headspace, MyTomorrows, Oak North, Oxford Nanoimaging (ONI), PaySend and The Hut Group. Mr. Evans joined Benchmark Capital's Entrepreneur in Residence program in Silicon Valley (1999) and became a General Partner at Benchmark Europe/Balderton Capital from 2002 through 2015. He co-founded TrustBridge Partners in China (2006) and Kindred Capital in Europe (2016). Mr. Evans is a former member (until 1999) of the Management Committee at Goldman Sachs. He holds a master's degree in Economics from the University of Oxford and a BA in Economics from Queen's University. Mr. Evans' qualifications include 35 years' experience working in Europe, Asia and the United States.

Ashleigh Everett, Corporate Executive, Corporate Director, Investment Committee, and Governance Committee

Ms. Everett has been a Director since February 2017. Ms. Everett is a director of The Wawanesa Mutual Insurance Company. She is a former director of the Bank of Nova Scotia (where she served as chair of the corporate governance and pension committee) and of Manitoba Telecom Services (where she served as chair of the governance and nominating committee). Ms. Everett is a former member of the Premiers Enterprise Team for the province of Manitoba. She is president, corporate secretary and a director of Royal Canadian Securities Limited, the holding company of Royal Canadian Properties Limited, Domo Gasoline Corporation Ltd., and L'Eau-1 Inc. Ms. Everett has a Master of Business Administration from the Ivey School of Management of the University of Western Ontario. Her qualifications include extensive board experience as a director on executive and risk, governance and pension, and human resources and compensation committees in the public telecom and finance sectors, with experience in international risk and governance issues. Ms. Everett has over 25 years of senior management experience in private property development and retail business operations.

Tahira Hassan, Corporate Director, Investment Committee, Governance Committee, and Risk Committee

Ms. Hassan has been a Director since February 2015. She is a non-executive director of Brambles Limited and a director of Ontario Shores Centre for Mental Health Sciences. Ms. Hassan has served on several international management and joint venture boards. She is a past member of the Dean's advisory council of the Laurier School of Business & Economics at Wilfrid Laurier University. Ms. Hassan is former senior vice-president at Nestlé SA with extensive international experience in transformative change including mergers & acquisitions. She has held executive positions such as global business head for Nescafé Ready-to-Drink, head of Global Supply Chain and president of Ice Cream in Canada. Ms. Hassan is a Certified Management Accountant of Canada and Chartered Global Management Accountant. She is a fellow of the Chartered Institute of Management Accountants in the United Kingdom. Her qualifications include more than 40 years of business and board expertise, in countries such as the United Kingdom, Switzerland and Pakistan, in addition to Canada.

Chuck Magro, Corporate Executive, Investment Committee, Audit Committee, Governance Committee, and Human Resources and Compensation Committee

Mr. Magro has been a Director since July 2018. He serves on the boards of the Business Council of Canada and the Business Council of Alberta. He is the vice chairman of the International Fertilizer Industry Association and the past chair and current board member of The Fertilizer Institute. Mr. Magro is the former Chair of Canpotex and is on the boards of the Nutrients for Life Foundation and International Plant Nutrition Institute. Mr. Magro is the president and chief executive officer of Nutrien Ltd. His qualifications include 25 years of international business experience primarily in North and South America, Australia, Europe, and Asia, as well as board experience.

John Montalbano, Corporate Director, Investment Committee, Audit Committee, Risk Committee, and Governance Committee

Mr. Montalbano has been a Director since February 2017. He serves as a director on a number of corporate boards, including those of Aritzia Inc., Canalyst Financial Modeling Corporation and Eupraxia Pharmaceuticals Inc. Mr. Montalbano is a current member of the Asia Pacific Foundation board and serves as chair of The St. Paul's Hospital Foundation and as chair of The Vancouver Police Foundation. He was the former vice chairman of RBC Wealth Management. He served as chief executive officer of RBC Global Asset Management from 2008 to 2015. Mr. Montalbano was previously president of Phillips and Hager & North Investment Management. Mr. Montalbano is a designated chartered financial analyst and a Leslie Wong fellow of the UBC Portfolio Management Foundation. His qualifications include nearly 30 years working in asset management and extensive senior management experience including overseeing double-digit annual growth over 7 years as chief executive officer of RBC Global Asset Management, making it one of the 50 largest asset managers in the world.

Mary Phibbs, Corporate Director, Investment Committee, Audit Committee, and Risk Committee (ex officio member)

Ms. Phibbs has been a Director since May 2017. She is a chairperson of Virgin Money Unit Trust Managers Limited and a non-executive director of Morgan Stanley International Limited, Morgan Stanley & Co International plc and Morgan Stanley Bank International Limited. Previously, she was a non-executive director of Novae Group plc, New Day Group Limited, Nottingham Building Society, Friends Life Group plc, Stewart Title Limited, The Charity Bank Limited and Northern Rock plc during its period of public ownership. She held senior positions at Standard Chartered Bank plc, ANZ Banking Group, National Australia Bank, Commonwealth Bank of Australia, Allied Irish Banks plc and PricewaterhouseCoopers, among others. She holds a bachelor of science (honors) from the

University of Surrey, is a Fellow of the Institute of Chartered Accountants in England and Wales, and a Fellow of Chartered Accountants Australia and New Zealand. Her qualifications include more than 40 years of international business, risk management and board experience in various countries in the Australian, Pacific, Southeast Asia, Middle East and European regions, including the United Kingdom. Her qualifications include more than 40 years of international business, risk management and board experience in various countries in the Australian, Pacific, Southeast Asia, Middle East and European regions including the United Kingdom.

Karen Sheriff, Corporate Executive, Investment Committee, Governance Committee, and Human Resources and Compensation Committee

Ms. Sheriff has been a Director since October 2012. She is a director of BCE Inc/Bell Canada. She is a past director of Bell Aliant Inc., Bell Aliant Regional Communications Inc., Bell Aliant Preferred Equity Inc., Aliant Inc., Teknion Corporation and WestJet Airlines Ltd. Ms. Sheriff was chair of the board of trustees of the Gardiner Museum of Ceramic Arts from 2006 to 2016 and was president and chief executive officer of Q9 Networks from January 2015 through October 2016. She was previously president and chief executive officer of Bell Aliant, chief operating officer of Bell Aliant, president of small and medium business at Bell Canada, chief marketing officer at Bell Canada and senior vice president of product management and development at Bell Canada. Ms. Sheriff held a variety of assignments with Ameritech and United Airlines. She was named one of Canada’s top 25 Women of Influence for 2013 by Women of Influence Inc. and in 2012 she was named Woman of the Year by Canadian Women in Communications. Ms. Sheriff was named one of Atlantic Canada’s Top 50 CEOs by Atlantic Business Magazine. She was recognized as one of Canada’s Top 100 Most Powerful Women three times and named to the Women’s Executive Network Top 100 Women Hall of Fame. Her qualifications include extensive senior management experience and expertise in strategic-priority setting of major corporations, including oversight of Bell Aliant’s conversion back to a corporation from one of the largest income trusts in Canada and leading Bell Aliant’s corporate transformation and industry leading fiber-to-the-home network build, the first of its kind in Canada.

Kathleen Taylor, Global Executive, Corporate Director, Investment Committee, Audit Committee, and Human Resources and Compensation Committee

Ms. Taylor has been a Director since October 2013. She has been chair of the board of the Royal Bank of Canada since 2014 and has been a board member since 2001. She is chair of the board of the Hospital for Sick Children Foundation and a member of the hospital’s board of trustees. She has been a director of Air Canada since May 2016 and a director and vice chair of The Adecco Group since April 2015 and April 2017, respectively; and since April 2019, she has been the chair of Altas Partners, a Toronto-based private equity firm. Ms. Taylor is the former president and chief executive officer of Four Seasons Hotels and Resorts. She is a recipient of the Order of Canada with the grade of member (2016), an Honorary Doctor of Humane Letters from Mount Saint Vincent University (2015) and an Honorary Doctorates of Laws from University of Toronto (2019), McGill University (2017), Trent University (2016) and York University (2014). She was named the first woman Corporate Hotelier of the World by Hotels Magazine (2011) and was inducted to the Canadian Marketing Hall of Legends (2010). Ms. Taylor is a recipient of the Inaugural Medal for Career Achievement from Hennick Centre for Business and Law at York University (2010), and the Schulich School of Business Award for Outstanding Executive Leadership (2001). Her executive qualifications include almost 25 years of international experience building a global culture, overseeing major strategic and operations initiatives, negotiating expertise and strong relationship management capabilities. More recently, Ms. Taylor has been a senior partner in a private equity firm. Also, Ms. Taylor is a seasoned Director, with 20 years of governance experience on a number of corporate and not-for-profit boards.

Jo Mark Zurel, Chartered Professional Accountant, Corporate Director, Investment Committee, Audit Committee (ex officio member), and Risk Committee

Mr. Zurel has been a Director since November 2012. He is a director of Highland Copper, Major Drilling Group International Inc. and Fortis Inc. His current and recent volunteer activities include chair of the Atlantic Provinces Economic Council, chair of the St. John’s Board of Trade, chair of Junior Achievement of Newfoundland and Labrador, and chair of a Red Cross Capital Campaign. He is a former director of Newfoundland Power Inc., and Fronteer Gold Inc. In 2015, Mr. Zurel and his wife were named the Outstanding Philanthropists for Newfoundland and Labrador. Mr. Zurel was honored as one of Canada’s Top 40 under 40 in 2000. His qualifications include extensive investment industry and corporate director experience, including as an active angel investor and as director of the

Institute of Corporate Directors (“ICD”) and member of the founding executive of the ICD’s Newfoundland and Labrador Chapter.

Senior Management Team

Our Senior Management Team (the “Executives”) as of the date of this Offering Memorandum include the following:

Name	**Role**
Mark Machin	President & Chief Executive Officer
Neil Beaumont	Senior Managing Director & Chief Financial and Risk Officer
Alain Carrier	Senior Managing Director & Head of International, Head of Europe
Edwin D. Cass	Senior Managing Director & Global Head of Real Assets
Shane Feeney	Senior Managing Director & Global Head of Private Equity
John Graham	Senior Managing Director & Global Head of Credit Investments
Suyi Kim	Senior Managing Director & Head of Asia Pacific
Michel Leduc	Senior Managing Director & Global Head of Public Affairs and Communications
Deborah Orida	Senior Managing Director & Global Head of Active Equities
Geoffrey Rubin	Senior Managing Director & Chief Investment Strategist
Kelly Shen	Senior Managing Director & Chief Technology and Data Officer
Mary Sullivan	Senior Managing Director & Chief Talent Officer
Patrice Walch-Watson	Senior Managing Director, General Counsel & Corporate Secretary
Poul Winslow	Senior Managing Director & Global Head of Capital Markets and Factor Investing

Mark Machin, President & Chief Executive Officer

Mr. Machin was appointed President and Chief Executive Officer in June 2016, and is responsible for leading CPP Investments and its investment activities. Mr. Machin joined CPP Investments in 2012 as CPP Investments’ first President for Asia. In November 2013, he became Head of International where he was responsible for the organization’s international investment activities, managing global advisory relationships and leading the organization internationally. Prior to joining CPP Investments, Mr. Machin had a 20 year career at Goldman Sachs, where he was most recently vice chairman of Asia ex-Japan. Mr. Machin had been based in Asia for more than 20 years where, among other roles, he ran the Investment Banking Division of Goldman Sachs in Asia ex-Japan for 6 years. Mr. Machin was a member of Goldman Sachs’ Asia Management Committee and the Firmwide Capital Committee. He qualified as medical doctor in 1990. After practicing medicine in the United Kingdom, in 1991 he joined Goldman Sachs in London in European Corporate Finance. Mr. Machin holds a BA in Physiological Sciences from Oriel College, Oxford University and a BM BChir from Downing College, Cambridge University. Mr. Machin currently serves as chairperson of the board of directors of FCLT Global and in 2020, he joined the Advisory Board of the 30% Club of Canada. Mr. Machin was named one of Canada’s Top 10 CEOs in 2018 by Glassdoor in its Employee Choice Awards.

Neil Beaumont, Senior Managing Director & Chief Financial and Risk Officer

Mr. Beaumont is responsible for leading all the operations, finance and risk functions at CPP Investments, including strategy and business planning, investment operations, corporate and investment finance, tax, performance, reporting and analytics, investment and enterprise risk, and assurance and advisory. Prior to joining CPP Investments in 2017, Mr. Beaumont spent 5 years at BHP Billiton Ltd. where he was vice president, Finance, Minerals Americas, chaired the Finance Leadership team and led all public statutory reporting. Before that, Mr. Beaumont was a partner with KPMG for 10 years in senior client leadership roles, as well as having responsibility for the Regional Assurance practice for Western Canada. Mr. Beaumont is a Chartered Professional Accountant and holds a Bachelor of Commerce degree from the University of Saskatchewan.

Alain Carrier, Senior Managing Director & Head of International, Head of Europe

Mr. Carrier is responsible for CPP Investments' international investment activities and the overall management of our global advisory relationships. He is also Head of Europe. Mr. Carrier has more than 27 years of financial industry experience. Prior to joining CPP Investments in 2008, he was managing director at Goldman Sachs & Co. in their Investment Banking division in New York and London. Mr. Carrier started his career as a lawyer at Sullivan & Cromwell in New York. Mr. Carrier holds a Bachelor of Law from Laval University in Quebec City, a Masters in Law (D.E.S.S.) from the Sorbonne University in Paris and a Masters in Law from Columbia University in New York. He currently serves on the boards of Axel Springer, Dorna Sport and Institutional Investors Roundtable.

Edwin D. Cass, Senior Managing Director & Global Head of Real Assets

Mr. Cass is responsible for the global Real Assets program which encompasses Energy & Resources, Infrastructure, Power & Renewables, Real Estate and Portfolio Value Creation. The department is active in major developed and emerging countries. Mr. Cass joined CPP Investments in 2008, initially heading up the Global Capital Markets group during the financial crisis. He subsequently headed up the Global Corporate Securities group and then the Global Tactical Asset Allocation team, all within the Public Market Investments department. Most recently, Mr. Cass held the position of Chief Investment Strategist and Head of Total Portfolio Management. With over 25 years of investment experience, Mr. Cass previously held senior positions at Fortress Management Group, Deutsche Bank Canada and TD Securities. Mr. Cass holds a Bachelor of Science (Honours) degree in Theoretical Physics from Queen's University and a Bachelor of Laws from Osgoode Hall Law School.

Shane Feeney, Senior Managing Director & Global Head of Private Equity

Mr. Feeney is responsible for leading CPP Investments' private equity program, including teams dedicated to investments in direct private equity, private equity Asia, private equity funds and secondaries. Mr. Feeney joined CPP Investments in 2020 from Bridgepoint Capital Limited in London. Prior to Bridgepoint, Mr. Feeney was a partner and founding member of Hermes Private Equity's direct investing business until its transition to Bridgepoint in 2009. He had also previously been an associate director with Morgan Grenfell Private Equity in London and has served as a director of Neiman Marcus Group, Livingston International, 99 Cents Only Stores, The Gates Corporation and Air Distribution Technologies. Mr. Feeney has a BA in Economics from Dartmouth College and an MBA from INSEAD.

John Graham, Senior Managing Director & Global Head of Credit Investments

Mr. Graham is responsible for leading Credit Investments globally. Mr. Graham has worked in both the Total Portfolio Management group and in Private Investments. Mr. Graham took on the leadership of Principal Credit Investments in 2015 as Managing Director and Global Head of the group. Prior to joining CPP Investments in 2008, Mr. Graham spent 9 years at Xerox Innovation Group in research and strategy roles. Mr. Graham holds an MBA from the Rotman School of Management at the University of Toronto and a PhD from the University of Western Ontario. He is a CFA charterholder.

Suyi Kim, Senior Managing Director & Head of Asia Pacific

Ms. Kim is responsible for leading CPP Investments' investment activities in Asia Pacific and overseeing its portfolio of Asian Pacific investments. Ms. Kim joined CPP Investments in 2007, establishing its first international office in Hong Kong and has overseen the private equity business in Asia as Head of Private Equity Asia until early 2016. Ms. Kim has over 15 years of private equity investment experience, including at Ontario Teachers' Pension Plan and at The Carlyle Group. She also worked at McKinsey & Co. in various Asian countries and at

PricewaterhouseCoopers. Ms. Kim currently serves on the board of Home Plus, one of the largest multi-channel retailers in South Korea. Ms. Kim holds a BA in International Economics from Seoul National University and an MBA from Stanford's Graduate School of Business. She is a Certified Public Accountant.

Michel Leduc, Senior Managing Director & Global Head of Public Affairs and Communications

Mr. Leduc leads the team responsible for the organization's overall communications program and global public affairs, including relationships with domestic and foreign governments, media and other diverse stakeholder groups. He joined CPP Investments in 2011 and oversees CPP Investments' reputation management strategy, positioning its global capabilities to support long term investment and diversification goals, while upholding the mandate and governance structure. A senior communications professional, Mr. Leduc has 25 years of experience in the areas of public affairs, government relations, corporate communications, social responsibility and branding. Most recently, he was vice-president, Public and Corporate Affairs at Sun Life Financial where he oversaw the company's global public affairs, corporate communications and brand management functions. He has also held positions at the Canadian Bankers Association and the Canadian Payments Association. Mr. Leduc has also recently served on the board of directors of the Canada China Business Council, Canada-India Business Council and the Toronto Financial Services Alliance. He holds a B.A. in Law from Carleton University.

Deborah Orida, Senior Managing Director & Global Head of Active Equities

Ms. Orida is responsible for leading Active Fundamental Equities, Relationship Investments, Thematic Investing, Fundamental Equities Asia and Sustainable Investing. Ms. Orida joined CPP Investments in 2009 and has held senior leadership roles, including Managing Director, Head of Relationship Investments International, where she covered Europe and Asia, and was most recently Managing Director and Head of Private Equity Asia. Ms. Orida was previously a member of the board of Directors of Nord Anglia Education and the Bridgepoint Health Foundation. Prior to joining CPP Investments, Ms. Orida spent 9 years at Goldman Sachs in New York and Toronto. Previously, Ms. Orida was a securities lawyer at Blake, Cassels & Graydon in Toronto. Ms. Orida holds both a BA and Bachelor of Laws degree from Queen's University and an MBA from The Wharton School at the University of Pennsylvania. Ms. Orida currently serves on the board of directors of HKBN Ltd.

Geoffrey Rubin, Senior Managing Director & Chief Investment Strategist

Mr. Rubin is responsible for overall fund-level investment strategy and heads the Total Portfolio Management ("TPM") department. TPM is the operational arm of CPP Investments' Investment Planning Committee, with overall management accountability for the oversight and management of the fund's investment portfolio. Mr. Rubin joined CPP Investments in 2011 with the inception of the TPM department. He has helped shape the growth and evolution of the TPM team and helped to define and execute CPP Investments' Total Portfolio Approach. Before joining CPP Investments, Mr. Rubin held finance roles with Fannie Mae and Capital One Financial, where he managed the global balance sheet. He also ran a consulting practice and was Adjunct Professor at American University's Kogod School of Business. Mr. Rubin holds a B.A. in Economics from the University of Virginia and a Ph.D. in Economics from Princeton University.

Kelly Shen, Senior Managing Director & Chief Technology and Data Officer

Ms. Shen is responsible for all aspects of CPP Investments' technology and data capabilities and for leading the firm's efforts to optimize the use of data, advanced analytics, and technology to enable business growth, process automation, and innovation. Prior to joining CPP Investments in 2018, Ms. Shen served as the Chief Operating Officer and Executive Managing Director for S&P Global Ratings in New York. Before that, Ms. Shen was the Chief Information Officer, Business Intelligence for GE Capital, where she had dual responsibilities for GE Capital's global risk data warehouse and Capital Americas' entire data ecosystem and established an award-winning innovation team. Ms. Shen holds a BA from the University of Virginia and an MBA from New York University's Stern School of Business.

Mary Sullivan, Senior Managing Director & Chief Talent Officer

Ms. Sullivan leads our global Human Resources team. A seasoned executive with over 25 years of Human Resources experience, she joined CPP Investments in 2015 and is responsible for talent acquisition, organizational development, international mobility, compensation and benefits, facilities and office services, and inclusion and diversity. Prior to joining CPP Investments, Ms. Sullivan was senior vice president at Holt, Renfrew & Co. where she was responsible for their Human Resources function. Prior to that she was senior vice president, Corporate Human Resources at Four Seasons Hotels and Resorts. She also spent 7 years as the senior vice president of Human Resources at IMAX Corporation. Ms. Sullivan holds a BA in Administrative and Commercial Studies from the University of Western Ontario and an MBA from the Rotman School of Management at the University of Toronto.

Patrice Walch-Watson, Senior Managing Director, General Counsel & Corporate Secretary

Ms. Walch-Watson leads our global legal, compliance and corporate secretarial functions. She is a seasoned business lawyer and advisor with deep experience in transactions, regulation, corporate governance and providing strategic counsel. Prior to joining CPP Investments in 2015, Ms. Walch-Watson spent over 22 years as a corporate lawyer in private practice at Torys LLP, a highly respected cross-border law firm, advising some of Canada's largest public, private and government businesses in strategic merger and acquisitions, financing and governance matters. In addition to being a practicing partner, she also served on Torys' executive management committee for several years. Ms. Walch-Watson holds a Bachelor of Arts (Honours) from Wilfrid Laurier University and a Bachelor of Laws from Queen's University. She is a member of the Law Society of Ontario. She is an active member of the Advisory Council to the Dean of Queen's University Law School.

Poul Winslow, Senior Managing Director & Global Head of Capital Markets and Factor Investing

Mr. Winslow is responsible for leading the External Portfolio Management, Financing, Collateral & Trading, Macro Strategies, Research & Innovation Group, and Quantitative Strategies & Risk Premia groups. Before this appointment, Mr. Winslow was Managing Director and Head of Thematic Investing and External Portfolio Management. Prior to joining CPP Investments in 2009, Mr. Winslow had several senior roles, including Chief Investment Officer at AP2 in Sweden. Mr. Winslow also held senior roles at Nordea Investment Management, including Head of Tactical Asset Allocation, Fixed Income Research and Quantitative Portfolio Management. Mr. Winslow holds undergraduate and master's degrees in Economics and Management from Aarhus University in Denmark. He currently serves on the board of Enstar Group, and on the Standards Board for Alternative Investments.

The business address of our Directors and Executives is One Queen Street East, Suite 2500, Toronto, Ontario, Canada, M5C 2W5, and the telephone number of our registered office is +1 416-868-4075.

Issuer

Board of Directors

The members of the Issuer's board are the following:

Name	**Role**
Kristina Fanjoy..	Corporate Director
Ryan Barry...	Corporate Director

Kristina Fanjoy

Ms. Fanjoy is a Managing Director and the Head of Corporate Finance and Tax at CPP Investments. She built CPP Investments' global Tax team, which provides oversight and guidance for international tax-related strategy, risk management, investment support and compliance. Currently, she also leads its Corporate Finance teams, which are responsible for establishing financial policy and reporting strategy, preparation of the consolidated financial statements, ensuring appropriate governance over each of CPP Investments' wholly owned subsidiaries, and the oversight of its procurement practices. Ms. Fanjoy supports CPP Investments' Audit Committee to ensure the Board of Directors continues to deliver against best-practice standards of financial governance. Prior to joining CPP Investments in 2010, Ms. Fanjoy practiced international tax at KPMG where she advised global organizations. Ms. Fanjoy is a holds a Bachelor of Commerce from the University of Toronto. She is a Chartered Professional Accountant (Canada).

Ryan Barry

Mr. Barry is a Managing Director at CPP Investments and is responsible for delivery of legal services globally; including enterprise and investment legal support across the organization through both internal and external counsel. Before joining CPP Investments, Mr. Barry was general counsel of Turtle Creek Asset Management, a North American equity hedge fund business. He is also a prior managing director and head of multi-manager funds with The Carlyle Group, through its subsidiary Diversified Global Asset Management (DGAM), where he led management of global portfolios of hedge funds, credit funds, other private market funds and co-investments for institutional investors. He also previously acted as DGAM's general counsel, and began his career practicing corporate law at Torys LLP with emphasis on M&A and corporate finance. A member of the Law Society of Ontario, Mr. Barry has Master of Finance and Law degrees from the University of Toronto and a Bachelor of Arts from Queen's University.

BOOK-ENTRY CLEARANCE SYSTEMS

The information set out below is subject to any change in or reinterpretation of the rules, regulations and procedures of DTC, Euroclear or Clearstream, Luxembourg (together, the "Clearing Systems") currently in effect. The information in this section concerning the Clearing Systems has been obtained from sources that the management of CPP Investments and the Issuer respectively believe to be reliable, but none of CPP Investments, the Issuer or any Agent takes any responsibility for the accuracy thereof. Investors wishing to use the facilities of any of the Clearing Systems are advised to confirm the continued applicability of the rules, regulations and procedures of the relevant Clearing System. None of CPP Investments the Issuer nor any other party to the Fiscal and Paying Agency Agreement will have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the Notes held through the facilities of any Clearing System or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

Book-entry Systems

DTC

DTC has advised us and the Issuer that it is a limited purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to Section 17A of the Exchange Act. DTC holds securities that its direct participants ("Direct Participants") deposit with DTC. DTC also facilitates the settlement among Direct Participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerized book-entry changes in Direct Participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. Access to the DTC System is also available to others such as securities brokers and dealers, banks and trust companies that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants" and, together with Direct Participants, "Participants").

Under the rules, regulations and procedures creating and affecting DTC and its operations (the "DTC Rules"), DTC makes book-entry transfers of Notes among Direct Participants on whose behalf it acts with respect to Notes accepted into DTC's book-entry settlement system ("DTC Notes") as described below and receives and transmits distributions of principal and interest on DTC Notes. The DTC Rules are on file with the SEC. Participants with which beneficial owners of DTC Notes ("Beneficial Owners") have accounts with respect to the DTC Notes similarly are required to make book-entry transfers and receive and transmit such payments on behalf of their respective Beneficial Owners. Accordingly, although Beneficial Owners who hold interests in DTC Notes through Participants will not possess Notes, the DTC Rules, by virtue of the requirements described above, provide a mechanism by which Direct Participants will receive payments and will be able to transfer their interest in respect of the DTC Notes.

Purchases of DTC Notes under the DTC system must be made by or through Direct Participants, which will receive a credit for the DTC Notes on DTC's records. The ownership interest of each Beneficial Owner is in turn to be recorded on the relevant Direct Participant's and Indirect Participant's records. Beneficial Owners will not receive written confirmation from DTC of their purchases, but Beneficial Owners are expected to receive written confirmations providing details of each transaction, as well as periodic statements of their holdings, from the Participant through which the Beneficial Owner holds its interest in the DTC Notes. Transfers of ownership interests in the DTC Notes are to be accomplished by entries made on the books of Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in DTC Notes, except in the event that use of the book-entry system for the DTC Notes is discontinued.

To facilitate subsequent transfers, all DTC Notes deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. The deposit of DTC Notes with DTC and their registration in the name of Cede & Co. effect no change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the DTC Notes; DTC's records reflect only the identity of the Direct Participants to whose accounts such DTC Notes are credited, which may or may not be the Beneficial Owners. The Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to Cede & Co. If less than all of the DTC Notes within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. will consent or vote with respect to DTC Notes. Under its usual procedures, DTC mails an omnibus proxy to the Issuer as soon as possible after the record date. The omnibus proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the DTC Notes are credited on the record date (identified in a listing attached to the omnibus proxy).

Principal and interest payments on the DTC Notes will be made to DTC or its nominee. DTC's practice is to credit Direct Participants' accounts on the due date for payment in accordance with their respective holdings shown on DTC's records unless DTC has reason to believe that it will not receive payment on the due date. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name", and will be the responsibility of such Participant and not of DTC or the Issuer, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to DTC or its nominee is the responsibility of the Issuer, disbursement of such payments to Direct Participants is the responsibility of DTC, and disbursement of such payments to the Beneficial Owners is the responsibility of Participants.

Under certain circumstances, including if there is an Event of Default under the Notes, DTC will exchange the DTC Notes for definitive Registered Notes, which it will distribute to its Direct Participants in accordance with their requests and proportionate entitlements and which will be legended as set forth under "*Transfer Restrictions.*"

Since DTC may only act on behalf of Direct Participants, who in turn act on behalf of Indirect Participants, any Beneficial Owner desiring to pledge its interests in DTC Notes to persons or entities that do not participate in DTC, or otherwise take actions with respect to such DTC Notes, will be required to effect such pledge through DTC and its Participants or, if not possible to so effect it, to withdraw its Notes from DTC as described below.

The laws in some States within the United States require that certain persons take physical delivery of securities in definitive form. Consequently, the ability to transfer an interest in Notes represented by a Global Note to such persons might depend upon the ability to exchange such Notes for Notes in definitive form. Similarly, because DTC can only act on behalf of Direct Participants in the DTC system who in turn act on behalf of Indirect Participants, the ability of a person having an interest in Notes represented by a Global Note accepted by DTC to pledge such interests to persons or entities that do not participate in the DTC system or otherwise to take action in respect of such Notes may depend upon the ability to exchange such interests for Notes in definitive form. The ability of any holder of interests in Notes represented by a Global Note accepted by DTC to resell, pledge or otherwise transfer such interests might be impaired if the proposed transferee of such interests is not eligible to hold such interests through a Participant.

Clearstream, Luxembourg

Clearstream, Luxembourg is incorporated under the laws of Luxembourg as a professional depositary. Clearstream, Luxembourg holds securities for its customers and facilitates the clearance and settlement of securities transactions between Clearstream, Luxembourg customers through electronic book-entry changes in accounts of Clearstream, Luxembourg customers, thereby eliminating the need for physical movement of certificates. Transactions may be settled by Clearstream, Luxembourg in any of a number of currencies, including U.S. dollars Japanese Yen and British Pounds sterling. Clearstream, Luxembourg provides to its customers, among other things, services for safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Clearstream, Luxembourg also deals with domestic securities markets in several countries through established depository and custodial relationships.

Clearstream, Luxembourg is registered as a bank in Luxembourg, and as such is subject to regulation by the *Commission de Surveillance du Secteur Financier* and the *Banque Centrale du Luxembourg*, which supervise and oversee the activities of Luxembourg banks. Clearstream, Luxembourg's customers are recognized financial institutions around the world, including underwriters, securities brokers and dealers, banks, trust companies and clearing corporations. Indirect access to Clearstream, Luxembourg is available to other institutions that clear through or maintain a custodial relationship with an accountholder of Clearstream, Luxembourg. Clearstream, Luxembourg has established an electronic bridge with Euroclear to facilitate settlement of trades between Clearstream, Luxembourg and Euroclear.

The ability of an owner of a beneficial interest in a Note held through Clearstream, Luxembourg to pledge such interest to persons or entities that do not participate in the Clearstream, Luxembourg system, or otherwise take action in respect of such interest, may be limited by the lack of a definitive note for such interest because Clearstream, Luxembourg can act only on behalf of Clearstream, Luxembourg's customers, who in turn act on behalf of their own customers. The laws of some jurisdictions may require that certain persons take physical delivery of securities in definitive form. Consequently, the ability to transfer beneficial interests in the Notes to such persons may be limited. In addition, beneficial owners of Notes held through the Clearstream, Luxembourg system will receive payments of principal, interest and any other amounts in respect of the Notes only through Clearstream, Luxembourg accountholders.

Euroclear

Euroclear holds securities for its customers and facilitates the clearance and settlement of securities transactions by electronic book-entry transfer between its accountholders. Euroclear provides various services including safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Euroclear also deals with domestic securities markets in several countries through established depository and custodial relationships. Euroclear customers are world-wide financial institutions, including underwriters, securities brokers and dealers, banks, trust companies and clearing corporations. Indirect access to Euroclear is available to other institutions that clear through or maintain a custodial relationship with accountholders in Euroclear.

The ability of an owner of a beneficial interest in a Note held through Euroclear to pledge such interest to persons or entities that do not participate in the Euroclear system, or otherwise take action in respect of such interest, may be limited by the lack of a definitive note for such interest because Euroclear can act only on behalf of Euroclear's customers, who in turn act on behalf of their own customers. The laws of some jurisdictions may require that certain persons take physical delivery of securities in definitive form. Consequently, the ability to transfer beneficial interests in the Notes to such persons may be limited. In addition, beneficial owners of Notes held through the Euroclear system will receive payments of principal, interest and any other amounts in respect of the Notes only through Euroclear accountholders.

Book-entry Ownership of and Payments in respect of Global Notes

Euroclear/Clearstream

The Issuer has applied to each of Euroclear and Clearstream, Luxembourg to have Global Note(s) accepted in its book-entry settlement system. Upon the issue of any such Global Note, Euroclear and/or Clearstream, Luxembourg, as applicable, will credit, on its internal book-entry system, the respective nominal amounts of the interests represented by such Global Note to the accounts of persons who have accounts with Euroclear and/or Clearstream, Luxembourg, as applicable. Such accounts initially will be designated by or on behalf of the relevant Agent or investor. Interests in such a Global Note through Euroclear and/or Clearstream, Luxembourg, as applicable, will be limited to accountholders of Euroclear and/or Clearstream, Luxembourg, as applicable. Interests in such a Global Note will be shown on, and the transfer of such interests will be effected only through, records maintained by Euroclear and/or Clearstream, Luxembourg or its nominee (with respect to the interests of direct Euroclear and/or Clearstream, Luxembourg accountholders) and the records of direct Euroclear and/or Clearstream, Luxembourg accountholders (with respect to interests of indirect Euroclear and/or Clearstream, Luxembourg accountholders).

Payments with respect to interests in the Notes held beneficially through Euroclear and Clearstream, Luxembourg will be credited to cash accounts of Euroclear and Clearstream, Luxembourg accountholders in accordance with the rules and procedures of Euroclear and Clearstream, Luxembourg, respectively, to the extent received by each of them.

DTC

The Issuer may apply to DTC in order to have any series of Notes represented by a Global Note accepted in its book-entry settlement system. Upon the issue of any such Global Note, DTC or its custodian will credit, on its internal book-entry system, the respective nominal amounts of the individual beneficial interests represented by such Global Note to the accounts of persons who have accounts with DTC. Such accounts initially will be designated by or on behalf of the relevant Agent or investor. Ownership of beneficial interests in such a Global Note will be limited to Direct Participants or Indirect Participants, including, in the case of any Note offered and sold in compliance with Regulation S, the respective depositaries of Euroclear and Clearstream, Luxembourg. Ownership of beneficial interests in a Global Note accepted by DTC will be shown on, and the transfer of such ownership will be effected only through, records maintained by DTC or its nominee (with respect to the interests of Direct Participants) and the records of Direct Participants and Indirect Participants (with respect to interests of Indirect Participants).

Payments in U.S. dollars of principal and interest in respect of a Global Note accepted by DTC will be made to the order of DTC or its nominee as the registered holder of such Note. In the case of any payment in a currency other than U.S. dollars, payment will be made to the Exchange Agent on behalf of DTC or its nominee and the Exchange Agent will (in accordance with instructions received by it) remit all or a portion of such payment for credit directly to the beneficial holders of interests in the Global Note in the currency in which such payment was made and/or cause all or a portion of such payment to be converted into U.S. dollars and credited to the applicable Participants' account.

The Issuer expects DTC to credit accounts of Direct Participants on the applicable payment date in accordance with their respective holdings as shown in the records of DTC unless DTC has reason to believe that it will not receive payment on such payment date. The Issuer also expects that payments by Participants to beneficial owners of Notes will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers, and will be the responsibility of such Participant and not the responsibility of DTC, the Fiscal and Paying Agent, the registrar or the Issuer. Payment of principal, premium, if any, and interest, if any, on Notes to DTC is the responsibility of the Issuer.

Transfers of Notes Represented by Global Notes

Transfers of any interests in Notes represented by a Global Note within DTC, Euroclear and Clearstream, Luxembourg will be effected in accordance with the customary rules and operating procedures of the relevant clearing system. Subject to compliance with the transfer restrictions applicable to the Notes described under "*Transfer Restrictions*", cross-market transfers between Participants in DTC, on the one hand, and directly or indirectly through Clearstream, Luxembourg or Euroclear accountholders, on the other, will be effected by the relevant clearing system in accordance with its rules and through action taken by the registrar, the Fiscal and Paying Agent and any custodian ("Custodian") with whom the relevant Global Notes have been deposited.

On or after the Issue Date for any series, transfers of Notes of such series between accountholders in Clearstream, Luxembourg and Euroclear and transfers of Notes of such series between participants in DTC will generally have a settlement date two business days after the trade date (T+2). The customary arrangements for delivery versus payment will apply to such transfers.

Cross-market transfers between accountholders in Clearstream, Luxembourg or Euroclear and DTC Participants will need to have an agreed settlement date between the parties to such transfer. Because there is no direct link between DTC, on the one hand, and Clearstream, Luxembourg and Euroclear, on the other, transfers of interests in the relevant Global Notes will be effected through the Registrar, the Fiscal and Paying Agent and the Custodian receiving instructions (and, where appropriate, certification) from the transferor and arranging for delivery of the interests being transferred to the credit of the designated account for the transferee. In the case of cross-market transfers, settlement between Euroclear or Clearstream, Luxembourg accountholders and DTC's Participants cannot be made on a delivery-versus-payment basis. The securities will be delivered on a free delivery basis and arrangements for payment must be made separately.

DTC, Clearstream, Luxembourg and Euroclear have each published rules and operating procedures designed to facilitate transfers of beneficial interests in Global Notes among participants and accountholders of DTC, Clearstream, Luxembourg and Euroclear; *however*, they are under no obligation to perform or continue to perform such procedures, and such procedures may be discontinued or changed at any time. None of us, the Issuer or Agents will be responsible for any performance by DTC, Clearstream, Luxembourg or Euroclear or their respective direct or indirect participants or accountholders of their respective obligations under the rules and procedures governing their operations and none of them will have any liability for any aspect of the records relating to or payments made on account of beneficial interests in the Notes represented by Global Notes or for maintaining, supervising or reviewing any records relating to such beneficial interests.

CURRENCY CONVERSIONS

Payments for Notes

You will be required to pay for Notes in the applicable Specified Currency. Each Agent may, under certain terms and conditions, arrange for the conversion of the currency in which your financial activities are principally denominated (the "Investor's Currency") into the Specified Currency to enable investors such as you, whose financial activities are denominated principally in the Investor's Currency, to pay for the Notes in the Specified Currency. Each such conversion will be made by such Agent (in this respect acting as principal and not as an agent of the Issuer) on such terms and subject to such conditions, limitations and charges as such Agent may from time to time establish in accordance with its regular foreign exchange practices, and subject to any applicable laws and regulations. All costs of conversion will be borne by you and other such investors of the Notes.

Payments on Notes

Payments in respect of such Notes will be made in the Specified Currency for principal, premium (if any) and/or interest payments as specified in the applicable Pricing Supplement. Currently, there are limited facilities in the United States for the conversion of U.S. dollars into foreign currencies and vice versa. In addition, most banks in the United States do not currently offer non-U.S. dollar denominated checking or savings account facilities in the United States. Accordingly, unless otherwise specified in the applicable Pricing Supplement, payments in respect of Notes in a Specified Currency other than U.S. dollars will be made to an account outside the United States.

If you hold an interest in a DTC Note denominated in a Specified Currency other than U.S. dollars, you will receive payments in U.S. dollars, unless you elect to receive such payments in the Specified Currency. In the event that you shall not have made such election, payments in the Specified Currency will be converted to U.S. dollars by the Exchange Agent. The U.S. dollar amount in respect of any payment to be paid to you, if you did not make a timely election to receive payment in the Specified Currency, will be based on the Exchange Agent's spot rate for the purchase of U.S. dollars with the aggregate amount of the Specified Currency payable to all holders of a DTC Note ("DTC Noteholders") receiving U.S. dollar payments, for settlement on the applicable payment date, at a time and date immediately preceding such payment date, unless otherwise specified in the applicable Pricing Supplement. If such spot rate is not available, the Exchange Agent will obtain a bid quotation from a leading foreign exchange bank in London or New York City selected by the Exchange Agent for such purchase. All costs of any such conversion into U.S. dollars will be borne by the relevant DTC Noteholder by deduction from such payments. If no spot rate or bid quotation is available, the Exchange Agent will make payments in the Specified Currency to DTC Noteholders such as you who were expecting to receive U.S. dollars, provided that such payment will only be made to you or other such Noteholders if and when the Exchange Agent has been notified of the Specified Currency account to which such payment should be made.

If you are a DTC Noteholder, you may elect to receive payment of the principal and premium (if any) of, or interest with respect to, the Notes in the Specified Currency (other than U.S. dollars) by notifying DTC prior to 5:00 p.m. Eastern Standard Time ("E.S.T.") on the third DTC Business Day following the applicable record date in the case of interest, and the twelfth calendar day prior to the payment date for the payment of principal, of (i) your election to receive all or a portion of such payment in the Specified Currency for value the relevant due date for interest payment or final redemption, as the case may be, and (ii) wire transfer instructions to an account denominated in the Specified Currency with respect to any payment to be made in the Specified Currency. Such election shall be made by you and any such election in respect of that payment shall be irrevocable. If you are an indirect DTC participant, you must notify the DTC Noteholder through which you are holding your interest in a DTC Note of such election and wire transfer instructions prior to 5:00 p.m. E.S.T. on the first DTC Business Day following the applicable record date. DTC will notify the Exchange Agent of such election and wire transfer instructions and of the amount of the Specified Currency to be converted into U.S. dollars, prior to 5:00 p.m. E.S.T. on the fifth DTC Business Day following the applicable record date in the case of interest and the tenth calendar day prior to the payment date for the payment of principal. If complete instructions are received by the DTC participant and forwarded by the DTC participant to DTC, and by DTC to the Exchange Agent, on or prior to such dates, you will receive payment in the Specified Currency outside DTC. Otherwise, only U.S. dollar payments will be made by the Exchange Agent. Payments in the Specified Currency (other than U.S. dollars) outside DTC will be made by wire transfer of same day funds in accordance with the relevant wire transfer instructions for value the relevant payment date.

Conversion Event (Euro-denominated Notes)

Principal and interest payments in respect of euro-denominated Notes will be payable in euro. If the euro is unavailable to us due to the imposition of exchange controls or other circumstances beyond our control or if the euro is no longer being used by the then member states of the European Monetary Union that have adopted the euro as their currency or for the settlement of transactions by public institutions of or within the international banking community, then all payments in respect of euro-denominated Notes will be made in U.S. dollars until the euro is again available to us or so used. The amount payable on any date in euro will be converted into U.S. dollars on the basis of the market exchange rate for euro most recently available on, or prior to, the second business day before the relevant payment date. Any payment in respect of the Notes so made in U.S. dollars will not constitute an event of default under the euro-denominated Notes or the Fiscal and Paying Agency Agreement.

TRANSFER RESTRICTIONS

Because of the following restrictions, you are advised to consult legal counsel prior to making any offer, resale, pledge or other transfer of the Notes offered hereby.

The Notes have not been registered, and will not be registered, under the Securities Act or any other applicable securities laws, and the securities may not be offered or sold except pursuant to an effective registration statement or pursuant to transactions exempt from, or not subject to, registration under the Securities Act. Accordingly, the Notes are being offered and sold only:

- to Qualified Institutional Buyers in reliance on Rule 144A under the Securities Act who are, in the case of U.S. persons, also Qualified Purchasers; and

- to non-U.S. persons, in offshore transactions meeting the requirements of Rule 903 of Regulation S under the Securities Act.

Investment Company Act

In reliance on Section 3(c)(7) under the Investment Company Act ("Section 3(c)(7)"), the Issuer has not registered and does not intend to register as an investment company pursuant to the Investment Company Act. To rely on Section 3(c)(7), the Issuer must have a "reasonable belief" that all purchasers of the Notes which are U.S. persons (including any Initial Purchaser and subsequent transferees) are Qualified Purchasers at the time of their purchase of the related Notes. The Issuer will establish a reasonable belief for purposes of Section 3(c)(7) based upon the representations deemed made by the purchasers of the Notes as set forth under "—Representations of Purchasers" and the covenants and undertakings of the Issuer referred to below.

1. Each of the Issuer and the Guarantor has the right under this Offering Memorandum to require any holder of a Note (or beneficial interest therein) that is a U.S. person and is determined not to have been both (i) a Qualified Institutional Buyer and (ii) a Qualified Purchaser at the time of acquisition of such Note or is otherwise determined to be in breach, at the time given, of any of the representations and agreements contained in the section herein captioned "Transfer Restrictions" to transfer such Note (or beneficial interest therein) to a transferee acceptable to the Issuer and the Guarantor who is able to and who does make all of the representations and agreements set forth in the section herein captioned "Transfer Restrictions" or redeem such Note (or beneficial interest therein) on specified terms. Pending such transfer or redemption, such holder will be deemed not to be the holder of such Notes for any purpose, including but not limited to receipt of interest and principal payments on such Notes, and such holder will be deemed to have no interest whatsoever in such Notes except as otherwise required to sell or redeem its interest therein.

2. Neither the Issuer nor the Guarantor will offer the Notes in its own or any affiliated participant directed employee plan.

DTC Actions with Respect to the Notes

If the Notes will be issued in global form ("Book-Entry Notes") registered in the name of a nominee for DTC, the Issuer will direct DTC to take the following steps in connection with the Book-Entry Notes:

1. to include the "3c7" marker and, in lieu of the "GABS" marker or otherwise, the "GRLS" marker in the DTC 20-character security descriptors and the 48 character additional descriptor for the Book-Entry Notes in order to indicate that sales are limited to, with respect to U.S. Persons, Qualified Institutional Buyers that are Qualified Purchasers.

2. to cause (i) each physical DTC delivery order ticket delivered by DTC to purchasers to contain the 20-character security descriptors and (ii) each DTC delivery order ticket delivered by DTC to purchasers in electronic form to contain the "3c7" and "GRLS" indicators and the related user manual for DTC Participants which will contain a description of the relevant transfer restrictions.

3. to send on or prior to the settlement date of the relevant series of Notes, an “Important Notice” to all DTC Participants in connection with the Offering of the Notes. The “Important Notice” will be in substantially the form of an exhibit to the Fiscal and Paying Agency Agreement and will notify DTC Participants that the Notes are Section 3(c)(7) securities and risk-linked securities. The Issuer may instruct DTC from time to time (but not less than annually) to reissue the Important Notice.

4. the Issuer will from time to time (upon the request of the Fiscal and Paying Agent) make a request to DTC to deliver to the Issuer a list of all DTC Participants holding an interest in the Notes.

Euroclear Actions with Respect to the Notes

If the Notes are Book-Entry Notes deposited with the common depositary or the common safekeeper for Euroclear and Clearstream, as the case may be, the Issuer will, as applicable, direct Euroclear to take the following steps in connection with the Book-Entry Notes:

1. to cause the security name to reference “144A/3(c)(7)” in the Euroclear securities database. All Euroclear participants who settle 3(c)(7) securities in the Euroclear System will see that descriptor in the name field of the Notes in order to indicate that sales are limited to, with respect to U.S. Persons, Qualified Institutional Buyers that are Qualified Purchasers.

2. to cause participants to receive a daily securities balances report listing their positions in all securities held through Euroclear and a daily securities transaction report confirming settlement in all trades executed by the participant that day; in each report, the relevant series of Notes will be listed by name, which will include “144A/3(c)(7).” The 3(c)(7) restrictions will be further explained in the New Issues Acceptance Guide, Euroclear’s user manual for participants.

3. to send on or prior to the settlement date of the relevant series of Notes, an “Important Notice” to all Euroclear participants in connection with the Offering of the Notes. The “Important Notice” will be in substantially the form of an exhibit to the Fiscal and Paying Agency Agreement and will notify Euroclear’s participants that the Notes are Section 3(c)(7) securities and risk-linked securities. The Issuer may instruct Euroclear from time to time (but not less than annually) to reissue the Important Notice.

4. the Issuer will from time to time (upon the request of the Fiscal and Paying Agent) make a request to Euroclear to deliver to the Issuer a list of all Euroclear participants holding an interest in the Notes.

Clearstream Banking Actions with Respect to the Notes

If the Notes are Book-Entry Notes deposited with the common depositary or the common safekeeper for Euroclear and Clearstream, as the case may be, the Issuer will, as applicable, direct Clearstream Banking to take the following steps in connection with the Book-Entry Notes:

1. to cause the security name to reference “144A/3(c)(7)” in the Clearstream Banking securities database. All Clearstream Banking participants who settle 3(c)(7) securities through Clearstream Banking will see that descriptor in the name field of the Notes in order to indicate that sales are limited to, with respect to U.S. Persons, Qualified Institutional Buyers that are Qualified Purchasers.

2. to cause participants to receive a daily securities balances report listing their positions in all securities held through Clearstream Banking and a daily securities transaction report confirming settlement in all trades executed by the participant that day; in each report, the relevant series of Notes will be listed by name, which will include “144A/3(c)(7).” The 3(c)(7) restrictions will be further explained in the Clearstream Banking Customer Handbook, Clearstream Banking’s user manual for participants.

3. to send on or prior to the settlement date of the relevant series of Notes, an “Important Notice” to all Clearstream Banking participants in connection with the Offering of the Notes. The “Important Notice” will be in substantially the form of an exhibit to the Fiscal and Paying Agency Agreement and will notify

Clearstream Banking's participants that the Notes are Section 3(c)(7) securities and risk-linked securities. The Issuer may instruct Clearstream Banking from time to time (but not less than annually) to reissue the Important Notice.

4. the Issuer will from time to time (upon the request of the Fiscal and Paying Agent) make a request to Clearstream Banking to deliver to the Issuer a list of all Clearstream Banking participants holding an interest in the Notes.

Bloomberg Screens, etc.

The Issuer and the Guarantor will ensure that any Bloomberg screen containing information about any Note includes the following (or substantially similar) language:

1. The "Note Box" on the bottom of the "Security Display" page describing the Notes states "Iss'd Under 144A/3c7."

2. The "Security Display" page has a red indicator that states "Additional Note Pg."

3. The indicator referred to in clause (2) above links to the "Additional Security Information" page, which states that the Notes and the Guarantee "are being offered in reliance on the exemption from registration under Rule 144A of the Securities Act to persons who are both (A) qualified institutional buyers (as defined in Rule 144A under the Securities Act) and (B) qualified purchasers (as defined in Section 2(a)(51) of the Investment Company Act and the rules thereunder)."

4. The Notes contain terms to the effect that the Notes and the Guarantee "will not be and have not been registered under the Securities Act and the Issuer and the Guarantor have not been registered under the Investment Company Act, and these securities may not be offered or sold to U.S. persons absent an applicable exemption from the registration requirements and any such offer or sale of these securities to U.S. persons must be in accordance with Section 3(c)(7) of the Investment Company Act."

CUSIPs

The Issuer and the Guarantor will verify with the CUSIP Bureau that the confirmations relating to trades of the Notes transferred in reliance on Rule 144A under the Securities Act contain a CUSIP number which has a fixed field attached thereto containing "Section 3(c)(7)" and "Rule 144A" indicators.

Legends

The Issuer and the Guarantor will not remove the legends or portion thereof relating to Section 3(c)(7) of the Investment Company Act described in the section herein captioned "Transfer Restrictions" from the Notes sold in reliance on Rule 144A under the Securities Act so long as each of the Issuer and the Guarantor is relying on the exemption from registration under the Investment Company Act provided by Section 3(c)(7) thereof.

Representations of Purchasers

Each purchaser of Notes (other than the Agents in connection with the initial issuance and sale of Notes) and each owner of any beneficial interest therein will be deemed, by its acceptance or purchase thereof, to have represented and agreed as follows:

1. Either:

   (A) It is a non-U.S. person that is acquiring Notes or a beneficial interest therein in an offshore transaction in accordance with Rule 903 or 904 of Regulation S under the Securities Act; or

(B) It is a qualified institutional buyer who is also a Qualified Purchaser; is aware the resales of the Notes to it is being made in reliance on Rule 144A under the Securities Act; is acquiring such Notes for its own account or the account of a Qualified Institutional Buyer who is also a Qualified Purchaser as to which the purchaser exercises sole investment discretion; and it and each such account:

a. is not a broker-dealer which owns and invests on a discretionary basis less than U.S.$25,000,000 in securities of unaffiliated issuers;

b. is not formed for the purpose of investing in the Issuer or the Guarantor;

c. will provide notice of the transfer restrictions described in this section captioned "Transfer Restrictions" to any subsequent transferees, who will be deemed to make the same representations contained in this section captioned "Transfer Restrictions;"

d. acknowledges that the Issuer and the Guarantor may receive a list of participants holding positions in the Notes from one or more book-entry depositaries; and

e. if it is a Section 3(c)(1) or Section 3(c)(7) investment company, or a Section 7(d) foreign investment company relying on Section 3(c)(1) or Section 3(c)(7) of the Investment Company Act with respect to its U.S. holders and was formed on or before April 30, 1996, it has received the necessary consent from its beneficial owners as required by the Investment Company Act.

2. It understands that if at any time the Issuer or the Guarantor determines in good faith that a holder of the Notes (or of any beneficial interest therein) is in breach, at the time given, of any of the representations and agreements contained in this section captioned "Transfer Restrictions," each of the Issuer and the Guarantor has the right to require such holder to (a) transfer such Notes (or beneficial interest therein) to a transferee acceptable to the Issuer and the Guarantor who is able to and who does make all of the representations and agreements set forth in this section captioned "Transfer Restrictions", or (b) redeem such Notes (or beneficial interest therein) on specified terms. Pending such transfer or redemption, such holder will be deemed not to be the holder of such Notes for any purpose, including but not limited to receipt of principal and interest payments on such Notes, and such holder will be deemed to have no interest whatsoever in such Notes except as otherwise required to sell or redeem its interest therein as described in this paragraph.

3. It understands that each of the Issuer and the Guarantor is not and will not be required to be registered as an "investment company" under the Investment Company Act.

4. It understands and acknowledges that the Notes and the Guarantee are being offered only in a transaction not involving any public offering in the United States, within the meaning of the Securities Act, and the Notes and the Guarantee offered hereby have not been and will not be registered under the Securities Act and may not be offered, resold, pledged or otherwise transferred in the United States or to a U.S. person, except to a person who the seller reasonably believes is both a Qualified Institutional Buyer and a Qualified Purchaser in a transaction meeting the requirements of Rule 144A under the Securities Act, in accordance with all applicable securities laws of the states of the United States.

5. It understands and acknowledges that Notes (or any interest therein) may be held, purchased, sold, pledged or otherwise transferred only in minimum principal amounts of U.S.$250,000 (or the equivalent thereof in another currency) and integral multiples of U.S.$1,000 (or, in the case of Notes not denominated in U.S. dollars, 1,000 units of such currency) in excess thereof.

6. It acknowledges that prior to any proposed transfer of Notes (other than pursuant to an effective registration statement) the holder of such Notes may be required to provide certifications relating to the manner of such transfer as provided in the Fiscal and Paying Agency Agreement.

7. It acknowledges that neither the Fiscal and Paying Agent nor DTC (or other applicable clearing system, if any) will be required to accept for registration of transfer any Notes except upon presentation of evidence satisfactory to the Issuer and the Guarantor that the restrictions set forth herein have been complied with.

8. It understands that no representation can be made as to the availability of the exemption provided by Rule 144 under the Securities Act for resales of the Notes offered hereby.

9. It (and its fiduciary, as applicable) (a) represents and warrants that either (i) it is not acquiring any Notes (or interest therein) with the assets of an "employee benefit plan" as defined in Section 3(3) of the U.S. Employee Retirement Income Security Act of 1974, as amended ("ERISA") that is subject to Title I of ERISA, a "plan" as defined in and subject to Section 4975 of the Code or an entity deemed to hold plan assets of the foregoing (each, a "Benefit Plan Investor"), or governmental plans (as defined in Section 3(32) of ERISA), church plans (as defined in Section 3(33) of ERISA), or entities deemed to hold plan assets of the foregoing (collectively, with Benefit Plan Investors, referred to as "Plans"); or (ii) the acquisition and holding of the Notes (or interest therein) will not give rise to a nonexempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code, or result in a violation of any applicable law that is similar to Title I of ERISA or Section 4975 of the Code ("Similar Law") and (b) acknowledges and agrees that the Notes (or interest therein) are not eligible for acquisition by Benefit Plan Investors or Plans that are subject to Similar Law at any time that such Note is not rated investment grade by a nationally recognized statistical rating organization in the United States. Please see "*Certain Considerations for ERISA and Other U.S. Benefit Plans*" in this Offering Memorandum for additional deemed representations.

10. It acknowledges that we, the Issuer, the Agents and other persons will rely upon the truth and accuracy of the foregoing acknowledgements, representations and agreements and agrees that if any of the acknowledgements, representations and agreements deemed to have been made by its purchase of the Notes are no longer accurate, it will promptly notify us and the Agents. If it is acquiring the Notes as a fiduciary or agent for one or more investor accounts, it represents that it has sole investment discretion with respect to each such account and it has full power to make the foregoing acknowledgements, representations, and agreements on behalf of each account.

11. The following is the form of restrictive legend which will appear on the face of each Global Note, and which will be used to notify transferees of the foregoing restrictions on transfer. This legend can only be removed with our and the Issuer's consent:

    "THIS NOTE HAS NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER SECURITIES LAWS. THE HOLDER HEREOF, BY PURCHASING THIS NOTE, AGREES THAT THIS NOTE OR ANY INTEREST OR PARTICIPATION HEREIN MAY BE OFFERED, RESOLD, PLEDGED OR OTHERWISE TRANSFERRED ONLY (I) TO CPPIB CAPITAL INC. (THE "ISSUER"), (II) SO LONG AS THIS NOTE IS ELIGIBLE FOR RESALE PURSUANT TO RULE 144A UNDER THE SECURITIES ACT ("RULE 144A"), TO A PERSON WHO THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER (AS DEFINED IN RULE 144A) IN ACCORDANCE WITH RULE 144A AND, WITH RESPECT TO U.S. PERSONS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT, IS ALSO A QUALIFIED PURCHASER (AS DEFINED IN SECTION 2(a)(51)(A) OF THE INVESTMENT COMPANY ACT OF 1940, AS AMENDED (THE "INVESTMENT COMPANY ACT") AND THE RULES THEREUNDER), (III) IN AN OFFSHORE TRANSACTION TO A NON-U.S. PERSON IN ACCORDANCE WITH RULE 903 OR 904 OF REGULATION S UNDER THE SECURITIES ACT, (IV) PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT (IF AVAILABLE) AND IN COMPLIANCE WITH THE INVESTMENT COMPANY ACT OR (V) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, AND IN EACH OF SUCH CASES IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR OTHER APPLICABLE JURISDICTION. THE HOLDER HEREOF, BY PURCHASING THIS NOTE, REPRESENTS AND AGREES THAT IT WILL NOTIFY ANY PURCHASER OF THIS NOTE FROM IT OF THE RESALE RESTRICTIONS REFERRED TO

ABOVE. THE FOREGOING LEGEND MAY BE REMOVED FROM THIS NOTE ONLY WITH THE CONSENT OF THE ISSUER."

12. The following is the form of restrictive legend which will appear on the face of the Regulation S Global Note and which will be used to notify transferees of the foregoing restrictions on transfer:

    "THIS NOTE HAS NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY OTHER SECURITIES LAWS. THE HOLDER HEREOF, BY PURCHASING THIS NOTE, AGREES THAT NEITHER THIS NOTE NOR ANY INTEREST OR PARTICIPATION HEREIN MAY BE OFFERED, RESOLD, PLEDGED OR OTHERWISE TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION UNLESS SUCH TRANSACTION IS EXEMPT FROM, OR NOT SUBJECT TO, SUCH REGISTRATION. THE FOREGOING LEGEND MAY BE REMOVED FROM THIS NOTE AFTER 40 DAYS BEGINNING ON AND INCLUDING THE LATER OF (A) THE DAY ON WHICH THE NOTES ARE OFFERED TO PERSONS OTHER THAN DISTRIBUTORS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT) AND (B) THE ORIGINAL ISSUE DATE OF THIS NOTE."

13. It acknowledges that there are restrictions on resale of the Notes in Canada and that it has been advised to consult its own Canadian legal counsel for full particulars of the resale restrictions applicable to it and has reviewed and acknowledges the terms referred to below under the heading "Resale Restrictions in Canada."

For further discussion of the requirements (including the presentation of transfer certificates) under the Fiscal and Paying Agency Agreement to effect exchanges or transfers of interest in Global Notes and definitive Notes, see "Description of the Notes and the Guarantee — Form, exchange and transfer of Notes."

Additional Representations of Purchasers in Canada

The distribution of Notes in Canada is being made on a private placement basis. By purchasing Notes and accepting a purchase confirmation in respect thereof, a purchaser in Canada is agreeing with and representing to the Issuer and any Agent participating in the trade that as at the closing of the offering of Notes:

(a) it is resident in one of the provinces of Canada (the "Private Placement Provinces") and is entitled under applicable securities laws to purchase the Notes without the benefit of a prospectus qualified under those securities laws;

(b) it is basing its investment decision solely on this Offering Memorandum and not on any other information concerning the Issuer or the offering of Notes and it has not become aware of any advertisement in printed media of general and regular paid circulation (or other printed public media), radio, television or telecommunications or other form of advertisement (including electronic display) with respect to the distribution of the Notes;

(c) it has been independently advised as to restrictions with respect to trading in the Notes imposed by applicable securities laws in the jurisdiction in which it resides, confirms that no representation (written or oral) has been made to it by or on behalf of the Issuer or any Agent with respect thereto, acknowledges that it is aware of the characteristics of the Notes, the risks relating to an investment therein and of the fact that it may not be able to resell the Notes except in accordance with limited exemptions under applicable securities legislation and regulatory policy until expiry of the applicable restricted period and compliance with the other requirements of applicable law; and it agrees that any certificates representing the Notes may bear a legend indicating that the resale of such Notes is restricted; the purchaser further acknowledges that it has been advised to consult its own legal counsel in its jurisdiction of residence for full particulars of the resale restrictions applicable to it and has reviewed and acknowledges the terms referred to below under the heading "Resale Restrictions in Canada;" and the purchaser further acknowledges that if it resells the Notes in compliance with applicable law it will give notice to the subsequent transferee during the restricted period noted under the heading "Resale Restrictions in Canada" of such restrictions;

(d) it (i) is an "accredited investor" (as such term is defined in National Instrument 45-106 – *Prospectus Exemptions* of the Canadian securities administrators ("NI 45-106") or Section 73.3(1) of the *Securities Act* (Ontario), as applicable) that is not an individual, unless such individual is also a "permitted client" (as such term is defined in National Instrument 31-103 – *Registration Requirements, Exemptions and Ongoing Registrant Obligations* of the Canadian Securities Administrators ("NI 31-103")); (ii) is either (A) purchasing the Notes as principal, (B) a trust company or trust corporation registered or authorized to carry on business under the *Trust and Loan Companies Act* (Canada) or under comparable legislation of a jurisdiction of Canada (other than a trust company or trust corporation registered solely under the laws of the Province of Prince Edward Island) or a foreign jurisdiction acting on behalf of a fully managed account managed by the trust company or trust corporation, as the case may be, or (C) a person acting on behalf of a fully managed account managed by that person, if that person is registered or authorized to carry on business as an adviser or the equivalent under the securities legislation of a jurisdiction of Canada or foreign jurisdiction; (iii) was not created or used solely to purchase or hold securities as an accredited investor as described in paragraph (m) of the definition of "accredited investor" in NI 45-106; and (iv) will, if requested by the Issuer or the dealer, provide evidence of the basis of its above representations;

(e) the purchaser is either purchasing the Notes from or through a person or company (i) registered as an investment dealer or exempt market dealer (that is not relying on the international dealer exemption found in NI 31-103) under the securities legislation of the Private Placement Province in which it resides or (ii) relying on the international dealer exemption found in NI 31-103 in which case, the purchaser is a "permitted client" as defined in NI 31-103, or as otherwise interpreted and applied by the Canadian Securities Administrators; and

(f) where required by applicable securities laws, regulations or rules, such purchasers will execute, deliver and file such reports, undertakings and other documents relating to the purchase of the Notes by the purchaser as may be required by such laws, regulations or rules, or assist the Issuer and the Agents, as applicable, in obtaining and filing such reports, undertakings and other documents or provide to the Agents or the Issuer such information about the purchasers as may be required by such laws, regulations or rules. Furthermore, by purchasing the Notes, the purchaser acknowledges that it may be required to certify as to its status as an "accredited investor" or "permitted client" and that such information and other information that the purchaser may have provided to any dealer involved in the trade of the Notes may be required to be delivered by such dealer to the Issuer under the terms of the Distribution Agreement. By purchasing the Notes, the purchaser consents to the disclosure of such information.

In addition, each individual purchaser of Notes resident in one of the Private Placement Provinces who receives a purchase confirmation, by such purchaser's receipt thereof, will be deemed to have represented to the Issuer and the Agents that the purchaser:

(a) has been notified by the Issuer that:

(i) there will be a delivery to the securities regulatory authority or regulator of personal information pertaining to any individual purchasers of the Notes, including its name and other specified information such as the number of Notes it has purchased, (the "information") that may be required to be disclosed in Schedule 1 of Form 45-106F1 under NI 45-106, which Form 45-106F1 the Issuer is required to file under NI 45-106;

(ii) the information is being collected by the securities regulatory authority or regulator under the authority granted in securities legislation;

(iii) such information may become available to the public in accordance with the requirements of applicable securities and freedom of information laws;

(iv) the information is being collected for the purposes of the administration and enforcement of the securities legislation of the applicable province where such individual is a resident; and

(v) the purchaser may contact the following public official in the applicable province with respect to questions about the regulator's indirect collection of such information at the following address and telephone number:

British Columbia Securities Commission

P.O. Box 10142, Pacific Centre
701 West Georgia Street
Vancouver, British Columbia
V7Y 1L2
Inquiries: (604) 899-6854
Toll free in Canada: 1 800 373-6393
Facsimile: (604) 899-6581
Email: FOI-privacy@bcsc.bc.ca
Public official contact regarding indirect collection of information: FOI Inquiries

Nova Scotia Securities Commission

Suite 400, 5251 Duke Street
Duke Tower
P.O. Box 458
Halifax, Nova Scotia B3J 2P8
Telephone: (902) 424-7768
Facsimile: (902) 424-4625
Public official contact regarding indirect collection of information: Executive Director

Alberta Securities Commission

Suite 600, 250 – 5th Street SW
Calgary, Alberta T2P 0R4
Telephone: (403) 297-6454
Toll free in Canada: 1-877-355-0585
Facsimile: (403) 297-2082
Public official contact regarding indirect collection of information: FOIP Coordinator

Ontario Securities Commission

20 Queen Street West, 22nd Floor
Toronto, Ontario M5H 3S8
Telephone: (416) 593- 8314
Toll free in Canada: 1-877-785-1555
Facsimile: (416) 593-8122
Email: exemptmarketfilings@osc.gov.on.ca
Public official contact regarding indirect collection of information: Inquiries Officer

The Manitoba Securities Commission

500 – 400 St. Mary Avenue
Winnipeg, Manitoba R3C 4K5
Telephone: (204) 945-2561
Toll free in Manitoba 1-800-655-5244
Facsimile: (204) 945-0330
Public official contact regarding indirect collection of information: Director

Prince Edward Island Securities Office

95 Rochford Street, 4th Floor Shaw Building
P.O. Box 2000
Charlottetown, Prince Edward Island C1A 7N8
Telephone: (902) 368-4569
Facsimile: (902) 368-5283
Public official contact regarding indirect collection of information: Superintendent of Securities

Financial and Consumer Services Commission (New Brunswick)

85 Charlotte Street, Suite 300
Saint John, New Brunswick E2L 2J2
Telephone: (506) 658-3060
Toll free in Canada: 1 866 933-2222
Facsimile: (506) 658-3059
Email: info@fcnb.ca
Public official contact regarding indirect collection of information: Chief Executive Officer and Privacy Officer

Autorité des marchés financiers

800, Square Victoria, 22e étage
C.P. 246, Tour de la Bourse
Montréal, Québec H4Z 1G3
Telephone: (514) 395-0337 or 1-877-525-0337
Facsimile: (514) 873-6155 (For filing purposes only)
Facsimile: (514) 864-6381 (For privacy requests only)
Email:
financementdessocietes@lautorite.qc.ca (For corporate finance issuers);
fonds_dinvestissement@lautorite.qc.ca (For investment fund issuers)
Public official contact regarding indirect collection of information: Secrétaire générale

Government of Newfoundland and Labrador Financial Services Regulation Division

P.O. Box 8700
Confederation Building
2nd Floor, West Block
Prince Philip Drive
St. John’s, Newfoundland and Labrador A1B 4J6
Attention: Director of Securities
Telephone: (709) 729-4189
Facsimile: (709) 729-6187
Public official contact regarding indirect collection of information: Superintendent of Securities

Financial and Consumer Affairs Authority of Saskatchewan

Suite 601 - 1919 Saskatchewan Drive
Regina, Saskatchewan S4P 4H2
Telephone: (306) 787-5842
Facsimile: (306) 787-5899
Public official contact regarding indirect collection of information: Director

(b) and has authorized the indirect collection of the information by the securities regulatory authority or regulator.

Upon receipt of this Offering Memorandum, each purchaser hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the Notes described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. *En recevant le présent document, chaque acquéreur confirme par les présentes qu’il a expressément demandé que tous les documents qui attestent la vente des débentures décrites dans les présentes ou qui s’y rapportent de quelque manière que ce soit (y compris, plus particulièrement, une confirmation d’achat ou un avis) soient rédigés en anglais seulement.*

Resale Restrictions in Canada

The distribution of the Notes in the Private Placement Provinces is being made on a private placement basis and is therefore exempt from the requirement that the Issuer prepare and file a prospectus with the relevant Canadian securities regulatory authorities. Accordingly, any resale of the Notes in Canada must be made: (a) through an appropriately registered dealer or pursuant to an exemption from the dealer registration requirements of applicable provincial securities laws; and (b) in accordance with, or pursuant to an exemption from, the prospectus requirements of applicable provincial securities laws. These resale restrictions may in some circumstances apply to resales made outside of Canada. Purchasers are advised to seek independent legal advice prior to any resale of the Notes.

In the Province of Manitoba, purchasers of Notes may not resell such securities unless such further sale is made:

(a) with the prior written consent of the Manitoba Securities Commission (the "MSC");

(b) not earlier than twelve (12) months plus a day after the date on which the purchaser acquired such Notes;

(c) after the Issuer has filed a prospectus with the MSC with respect to the Notes and has obtained a receipt therefor; or

(d) pursuant to and in compliance with an exemption from the (i) dealer registration requirements contained in applicable Manitoba securities laws, and (ii) prospectus requirements contained in applicable Manitoba securities laws or in a transaction that is not subject to such prospectus requirements.

Each purchaser of Notes acknowledges that the certificate representing the Notes will contain a legend reflecting the foregoing resale restriction, substantially in the form set out below or that pursuant to this document it has received notice that:

"EXCEPT IN THE PROVINCE OF MANITOBA, IN ACCORDANCE WITH NATIONAL INSTRUMENT 45-102 RESALE OF SECURITIES, UNLESS OTHERWISE PERMITTED UNDER CANADIAN SECURITIES LEGISLATION, THE HOLDER OF THIS SECURITY MUST NOT TRADE THE SECURITY BEFORE THE DATE THAT IS FOUR MONTHS AND A DAY AFTER THE LATER OF (I) THE DATE ON WHICH THE SECURITY IS ISSUED, AND (II) THE DATE THE ISSUER BECOMES A REPORTING ISSUER IN ANY PROVINCE OR TERRITORY OF CANADA.

IN THE PROVINCE OF MANITOBA, UNLESS OTHERWISE PERMITTED UNDER APPLICABLE CANADIAN SECURITIES LAWS OR WITH THE PRIOR WRITTEN CONSENT OF THE APPLICABLE REGULATORS, THE HOLDER OF THIS SECURITY MUST NOT TRADE THE SECURITY BEFORE THE DATE THAT IS TWELVE MONTHS AND A DAY AFTER THE DATE THE PURCHASER ACQUIRED THE SECURITY."

Neither the Issuer nor the Guarantor is a reporting issuer in the Province of Ontario or any other jurisdiction in Canada and neither has any current intention of becoming so. Purchasers are advised that the Issuer currently does not intend to file a prospectus or similar document with any securities regulatory authority in Canada qualifying the resale of the Notes to the public in any province or territory of Canada in connection with any offering of Notes under this Offering Memorandum.

There is currently no secondary market for the Notes. There can be no assurance that a secondary market will develop or, if a secondary market does develop, that it will provide holders of the Notes with liquidity for their investment or that it will continue for the life of the Notes. Accordingly, purchasers of the Notes may be required to bear the financial risk of investing in the Notes until they mature.

TAX CONSIDERATIONS

Material United States Federal Income Tax Considerations

General

The following summary describes certain U.S. federal income tax consequences relevant to the purchase, ownership and disposition of the Notes, based upon the Code, regulations promulgated under the Code, rulings and decisions now in effect, all of which are subject to change, including changes in effective dates and other retroactive changes, or possible differing interpretations. It deals only with Notes held as capital assets within the meaning of Section 1221 of the Code and does not purport to deal with persons in special tax situations, such as financial institutions, insurance companies, regulated investment companies, real estate investment trusts, flow-through entities, tax-exempt entities or persons holding the Notes in a tax-deferred or tax-advantaged account, dealers in securities or currencies, traders in securities that elect to mark to market, entities classified as partnerships for U.S. tax purposes, persons holding Notes as a hedge against currency risks, as a position in a "straddle" or as part of a "hedging", "conversion" or other "integrated" transaction for tax purposes, a person that purchases or sells Notes as part of a wash sale for tax purposes, or U.S. Holders (as defined below) whose functional currency is not the U.S. dollar. It only deals with holders that purchase the Notes upon initial offering at the "issue price", as defined below, except where otherwise specifically noted. If a partnership (or an entity treated as a partnership for U.S. federal income tax purposes) holds the Notes, the tax treatment of a partner in the partnership will generally depend upon the status of the partner and the activities of the partnership. Thus, persons who are partners in a partnership holding the Notes should consult their own tax advisors. Moreover, all persons considering the purchase of the Notes should consult their own tax advisors concerning the application of U.S. federal income tax laws to their particular situations as well as any consequences of the purchase, ownership and disposition of the Notes arising under the laws of any state, locality or taxing jurisdiction other than the U.S. federal government. This discussion does not address the effects of any applicable state, local or non-U.S. tax laws, any alternative minimum tax consequences, or the consequences to taxpayers subject to special tax accounting rules under Section 451(b) of the Code. If the tax consequences associated with a particular form of Note are different than those described below, they will be described in the applicable supplement.

This section deals only with Notes that are treated as debt for U.S. federal income tax purposes and that are due to mature 30 years or less from the date on which they are issued. An applicable Pricing Supplement may include a summary of additional or alternative U.S. federal income tax considerations that are not described herein and that may be relevant to a particular series of Notes.

As used in this Offering Memorandum, the term "*U.S. Holder*" means a beneficial owner of a Note that is for U.S. federal income tax purposes:

(1) a citizen or resident of the United States;

(2) a corporation (including an entity treated as a corporation for U.S. federal income tax purposes) that is created or organized in or under the laws of the United States, any state thereof or the District of Columbia;

(3) an estate the income of which is subject to U.S. federal income tax regardless of its source; or

(4) a trust if a court within the United States is able to exercise primary supervision over the administration of the trust and one or more United States persons have the authority to control all substantial decisions of the trust.

Certain trusts not described in clause (4) above in existence on August 20, 1996 that elect to be treated as a United States person will also be a U.S. Holder for purposes of the following discussion. As used herein, the term "*Non-U.S. Holder*" means a beneficial owner of a Note that is (1) a nonresident alien individual, (2) a foreign corporation, or (3) an estate or trust that in either case is not subject to U.S. federal income tax on a net income basis on income or gain from a Note.

U.S. Holders

Payments of Interest. Except as provided below, payments of interest on a Note generally will be taxable to a U.S. Holder as ordinary interest income at the time such payments are accrued or are received (in accordance with the U.S. Holder's regular method of tax accounting). A U.S. Holder will also be required to include in gross income as interest any withholding tax and any additional amounts, if any, paid with respect to Notes, including any withholding tax on payments of such additional amounts. Interest received or accrued on Notes will generally be from foreign sources for U.S. federal income tax purposes and will generally be "*passive category income*" for U.S. foreign tax credit purposes. The U.S. foreign tax credit rules are extremely complex. U.S. Holders should consult their own tax advisors regarding the availability of U.S. foreign tax credits in their particular circumstances.

Original Issue Discount. The following summary is a general discussion of the U.S. federal income tax consequences to U.S. Holders of the purchase, ownership and disposition of Notes, other than Short-Term Notes (defined below) issued with original issue discount ("*Discount Notes*"). The following summary is based upon final Treasury regulations (the "*OID Regulations*") released by the Internal Revenue Service ("*IRS*") under the original issue discount provisions of the Code.

For U.S. federal income tax purposes, original issue discount is the excess of the stated redemption price at maturity of a Note over its issue price, if such excess equals or exceeds a *de minimis* amount (generally 1/4 of 1% of the Note's stated redemption price at maturity multiplied by the number of complete years to its maturity from its issue date or, in the case of a Note providing for the payment of any amount other than qualified stated interest (as defined below) prior to maturity, multiplied by the weighted average maturity of the Note). A Note's weighted average maturity is the sum of the following amounts determined for each payment on a Note (other than a payment of qualified stated interest): (i) the number of complete years from the issue date until the payment is made multiplied by (ii) a fraction, the numerator of which is the amount of the payment and the denominator of which is the Note's stated redemption price at maturity. The issue price of each Note in an issue of Notes equals the first price at which a substantial amount of the Notes has been sold (ignoring sales to bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents, or wholesalers). The stated redemption price at maturity of a Note is the sum of all payments provided by the Note other than "*qualified stated interest*" payments. The term "*qualified stated interest*" generally means stated interest that is unconditionally payable in cash or property (other than debt instruments of the issuer) at least annually at a single fixed rate or, subject to certain conditions, based on a variable rate. Interest is payable at a single fixed rate only if the rate appropriately takes into account the length of the interval between payments. In addition, under the OID Regulations, if a Note bears interest for one or more accrual periods at a rate below the rate applicable for the remaining term of the Note (*e.g.*, Notes with teaser rates or interest holidays), and if the greater of either the resulting foregone interest on the Note or any "*true*" discount on the Note (*i.e.,* the excess of the Note's stated principal amount over its issue price) equals or exceeds a specified *de minimis* amount, then the stated interest on the Note would be treated as original issue discount rather than qualified stated interest.

In the case of a Note issued with *de minimis* original issue discount, as described above, the U.S. Holder generally must include such *de minimis* original issue discount in income as stated principal payments on the Notes are made in proportion to the stated principal amount of the Note (unless such holder makes the election to treat such de minimis original issue discount as original issue discount as described below). Any amount of *de minimis* original issue discount that has been included in income will be treated as capital gain. Payments of qualified stated interest on a Note are taxable to a U.S. Holder as ordinary interest income at the time such payments are accrued or are received (in accordance with the U.S. Holder's regular method of tax accounting). A U.S. Holder of a Discount Note must include original issue discount in income as ordinary interest for U.S. federal income tax purposes as it accrues under a constant yield method in advance of receipt of the cash payments attributable to such income, regardless of the U.S. Holder's regular method of tax accounting. In general, the amount of original issue discount included in income by the initial U.S. Holder of a Discount Note is the sum of the daily portions of original issue discount with respect to the Discount Note for each day during the taxable year (or portion of the taxable year) on which the U.S. Holder held the Discount Note. The "*daily portion*" of original issue discount on any Discount Note is determined by allocating to each day in any accrual period a ratable portion of the original issue discount allocable to that accrual period. An "*accrual period*" may be of any length and the accrual periods may vary in length over the term of the Discount Note, provided that each accrual period is no longer than one year and each scheduled payment of principal or interest occurs either on the final day of an accrual period or on the first day of an accrual period. The amount of original issue discount allocable to each accrual period is generally equal to the difference between:

- the product of the Discount Note's adjusted issue price at the beginning of such accrual period and its yield to maturity (determined on the basis of compounding at the close of each accrual period and appropriately adjusted to take into account the length of the particular accrual period); and

- the amount of any qualified stated interest payments allocable to such accrual period.

Original issue discount allocable to a final accrual period is the difference between the amount payable at maturity (other than a payment of qualified stated interest) and the adjusted issue price at the beginning of the final accrual period. The "*adjusted issue price*" of a Discount Note at the beginning of any accrual period is the sum of the issue price of the Discount Note plus the amount of original issue discount allocable to all prior accrual periods minus the amount of any prior payments on the Discount Note that were not qualified stated interest payments. Under these rules, U.S. Holders generally will have to include in income increasingly greater amounts of original issue discount in successive accrual periods.

If a Note contains pre-issuance accrued interest, U.S. Holders may elect to decrease the issue price of the Note. Such election may be made if (i) a portion of the Note's initial purchase price is attributable to the pre-issuance accrued interest, (ii) the first stated interest payment on the Note is to be made within one year of the Note's issue date, and (iii) the payment will equal or exceed the amount of pre-issuance accrued interest. If this election is made, a portion of the first stated interest payment will be treated as a return of the excluded pre-issuance accrued interest and not as an amount payable on the Note.

A U.S. Holder who purchases a Discount Note for an amount that is greater than its adjusted issue price as of the purchase date and less than or equal to the sum of all amounts payable on the Discount Note after the purchase date other than payments of qualified stated interest, will be considered to have purchased the Discount Note at an "*acquisition premium.*" Under the acquisition premium rules, unless the election to treat all interest as original issue discount is made as discussed below, the amount of original issue discount which such U.S. Holder must include in its gross income with respect to such Discount Note for any taxable year (or portion thereof in which the U.S. Holder holds the Discount Note) will be reduced (but not below zero) by the portion of the acquisition premium properly allocable to the period.

Under the OID Regulations, Floating Rate Notes (hereinafter "*Variable Notes*") are subject to special rules whereby a Variable Note will qualify as a "*variable rate debt instrument*" if:

- its issue price does not exceed the total noncontingent principal payments due under the Variable Note by more than a specified *de minimis* amount; and

- it provides for stated interest, paid or compounded at least annually, at current values of:

    - one or more qualified floating rates;
    - a single fixed rate and one or more qualified floating rates;
    - a single objective rate; or
    - a single fixed rate and a single objective rate that is a qualified inverse floating rate.

A "*qualified floating rate*" is any variable rate where variations in the value of such rate can reasonably be expected to measure contemporaneous variations in the cost of newly borrowed funds in the currency in which the Variable Note is denominated. Although a multiple of a qualified floating rate will generally not itself constitute a qualified floating rate, a variable rate equal to the product of a qualified floating rate and a fixed multiple that is greater than .65 but not more than 1.35 will constitute a qualified floating rate. A variable rate equal to the product of a qualified floating rate and a fixed multiple that is greater than .65 but not more than 1.35, increased or decreased by a fixed rate, will also constitute a qualified floating rate. In addition, under the OID Regulations, two or more qualified floating rates that can reasonably be expected to have approximately the same values throughout the term of the

Variable Note (*e.g.*, two or more qualified floating rates with values within 25 basis points of each other as determined on the Variable Note's issue date) will be treated as a single qualified floating rate. Notwithstanding the foregoing, a variable rate that would otherwise constitute a qualified floating rate but which is subject to one or more restrictions such as a maximum numerical limitation (*i.e.*, a cap) or a minimum numerical limitation (*i.e.*, a floor) may, under certain circumstances, fail to be treated as a qualified floating rate under the OID Regulations unless such cap or floor is fixed throughout the term of the Variable Note or such cap or floor is not reasonably expected as of the issue date to cause the yield on the Variable Note to be significantly less than or greater than the expected yield determined without the cap or floor. An "*objective rate*" is a rate that is not itself a qualified floating rate but which is determined using a single fixed formula that is based on objective financial or economic information. A rate will not qualify as an objective rate if (i) it is based on information that is within the control of the issuer (or a related party) or that is unique to the circumstances of the issuer (or a related party), such as dividends, profits, or the value of the issuer's stock (although a rate does not fail to be an objective rate merely because it is based on the credit quality of the issuer), or (ii) it is reasonably expected that the average value of the rate during the first half of the Variable Note's term would be either significantly less than or significantly greater than the average value of the rate during the final half of such Variable Note's term. A "*qualified inverse floating rate*" is any objective rate which is equal to a fixed rate minus a qualified floating rate, as long as variations in the rate can reasonably be expected to inversely reflect contemporaneous variations in the qualified floating rate. The OID Regulations also provide that if a Variable Note provides for stated interest at a fixed rate for an initial period of one year or less followed by a variable rate that is either a qualified floating rate or an objective rate and if the variable rate on the Variable Note's issue date is intended to approximate the fixed rate (*e.g.*, the value of the variable rate on the issue date does not differ from the value of the fixed rate by more than 25 basis points), then the fixed rate and the variable rate together will constitute either a single qualified floating rate or objective rate, as the case may be.

If a Variable Note that provides for stated interest at either a single qualified floating rate or a single objective rate throughout the term thereof qualifies as a "*variable rate debt instrument*" under the OID Regulations, and if the stated interest on such Variable Note is unconditionally payable in cash or property (other than debt instruments of the issuer) at least annually, then all stated interest on the Variable Note will constitute qualified stated interest and will be taxed accordingly. Thus, a Variable Note that provides for stated interest at either a single qualified floating rate or a single objective rate throughout the term thereof and that qualifies as a "*variable rate debt instrument*" under the OID Regulations will generally not be treated as having been issued with original issue discount unless the Variable Note is issued at a "*true*" discount (*i.e.*, at a price below the Variable Note's stated principal amount) in excess of a specified *de minimis* amount. The amount of qualified stated interest and the amount of original issue discount, if any, that accrues during an accrual period on such a Variable Note is determined under the rules applicable to fixed rate debt instruments by assuming that the variable rate is a fixed rate equal to:

- in the case of a qualified floating rate or qualified inverse floating rate, the value, as of the issue date, of the qualified floating rate or qualified inverse floating rate; or

- in the case of an objective rate (other than a qualified inverse floating rate), a fixed rate that reflects the yield that is reasonably expected for the Variable Note.

The qualified stated interest allocable to an accrual period is increased (or decreased) if the interest actually paid during an accrual period exceeds (or is less than) the interest assumed to be paid during the accrual period pursuant to the foregoing rules.

In general, any other Variable Note that qualifies as a "*variable rate debt instrument*" will be converted into an "*equivalent*" fixed rate debt instrument for purposes of determining the amount and accrual of original issue discount and qualified stated interest on the Variable Note. The OID Regulations generally require that such a Variable Note be converted into an "*equivalent*" fixed rate debt instrument by substituting any qualified floating rate or qualified inverse floating rate provided for under the terms of the Variable Note with a fixed rate equal to the value of the qualified floating rate or qualified inverse floating rate, as the case may be, as of the Variable Note's issue date. Any objective rate (other than a qualified inverse floating rate) provided for under the terms of the Variable Note is converted into a fixed rate that reflects the yield that is reasonably expected for the Variable Note. In the case of a Variable Note that qualifies as a "*variable rate debt instrument*" and provides for stated interest at a fixed rate in addition to either one or more qualified floating rates or a qualified inverse floating rate, the fixed rate is initially converted into a qualified floating rate (or a qualified inverse floating rate, if the Variable Note provides for a qualified inverse floating rate). Under such circumstances, the qualified floating rate or qualified inverse floating rate that replaces the fixed rate must be such that the fair market value of the Variable Note as of the Variable Note's issue date is approximately the same as the fair market value of an otherwise identical debt instrument that provides for either the qualified floating rate or qualified inverse floating rate rather than the fixed rate. Subsequent to converting the fixed rate into either a qualified floating rate or a qualified inverse floating rate, the Variable Note is then converted into an "*equivalent*" fixed rate debt instrument in the manner described above.

Once the Variable Note is converted into an "*equivalent*" fixed rate debt instrument pursuant to the foregoing rules, the amount of original issue discount and qualified stated interest, if any, are determined for the "*equivalent*" fixed rate debt instrument by applying the general original issue discount rules to the "*equivalent*" fixed rate debt instrument and a U.S. Holder of the Variable Note will account for such original issue discount and qualified stated interest as if the U.S. Holder held the "*equivalent*" fixed rate debt instrument. Each accrual period appropriate adjustments will be made to the amount of qualified stated interest or original issue discount assumed to have been accrued or paid with respect to the "*equivalent*" fixed rate debt instrument in the event that such amounts differ from the actual amount of interest accrued or paid on the Variable Note during the accrual period.

If a Note provides for certain contingencies that affect the timing and amount of payments (including Notes with a variable rate or rates that do not qualify as "*variable rate debt instruments*" under the OID Regulations) then the Variable Note would be treated as a contingent payment debt instrument under regulations issued by the Treasury Department (the "*CPDI Regulations*") concerning the proper U.S. federal income tax treatment of contingent payment debt instruments. Under the rules that govern the treatment of contingent payment debt instruments, no payment on such Notes qualifies as qualified stated interest. Rather, a U.S. Holder must account for interest for U.S. federal income tax purposes based on a "comparable yield" and the differences between actual payments on the Note and the Note's "projected payment schedule" as described below. The comparable yield is determined by the issuer at the time of issuance of the Notes. The comparable yield may be greater than or less than the stated interest, if any, with respect to the Notes. Solely for the purpose of determining the amount of interest income that a U.S. Holder will be required to accrue on a contingent payment debt instrument, the issuer will be required to construct a "projected payment schedule" that represents a series of payments the amount and timing of which would produce a yield to maturity on the contingent payment debt instrument equal to the comparable yield. The applicable Pricing Supplement will either set forth the comparable yield and projected payment schedule or it will provide instructions as to how and where a U.S. Holder may obtain such information.

Neither the comparable yield nor the projected payment schedule constitutes a representation by the Issuer, the Guarantor or any Agent regarding the actual amount, if any, that the contingent payment debt instrument will pay.

For U.S. federal income tax purposes, a U.S. Holder will be required to use the comparable yield and the projected payment schedule established by the Issuer in determining interest accruals and adjustments in respect of a Note treated as a contingent payment debt instrument, unless the U.S. Holder timely discloses and justifies the use of a different comparable yield and projected payment schedule to the IRS.

A U.S. Holder, regardless of the U.S. Holder's method of accounting for U.S. federal income tax purposes, will be required to accrue interest income on a contingent payment debt instrument at the comparable yield, adjusted upward or downward to reflect the difference, if any, between the actual and the projected amount of any contingent payments on the contingent payment instrument (as set forth below).

A U.S. Holder will be required to recognize interest income equal to the amount of any net positive adjustment, i.e., the excess of actual payments over projected payments, in respect of a contingent payment debt instrument for a taxable year. A net negative adjustment, i.e., the excess of projected payments over actual payments, in respect of a contingent payment debt instrument for a taxable year:

(1) will first reduce the amount of interest in respect of the contingent payment debt instrument that a U.S. Holder would otherwise be required to include in income in the taxable year; and

(2) to the extent of any excess, will give rise to an ordinary loss equal to so much of this excess as does not exceed the excess of:

(a) the amount of all previous interest inclusions under the contingent payment debt instrument over

(b) the total amount of the U.S. Holder's net negative adjustments treated as ordinary loss on the contingent payment debt instrument in prior taxable years.

A net negative adjustment is not subject to the limitations imposed on miscellaneous deductions. Any net negative adjustment in excess of the amounts described above will be carried forward to offset future interest income in respect of the contingent payment debt instrument or to reduce the amount realized on a sale, exchange or retirement of the contingent payment debt instrument. Where a U.S. Holder purchases a contingent payment debt instrument for a price other than its adjusted issue price, the difference between the purchase price and the adjusted issue price must be reasonably allocated to the daily portions of interest or projected payments with respect to the contingent payment debt instrument over its remaining term and treated as a positive or negative adjustment, as the case may be, with respect to each period to which it is allocated.

Upon a sale, exchange or retirement of a contingent payment debt instrument, a U.S. Holder generally will recognize taxable gain or loss equal to the difference between the amount realized on the sale, exchange or retirement and the U.S. Holder's adjusted basis in the contingent payment debt instrument. A U.S. Holder's adjusted basis in a Note that is a contingent payment debt instrument generally will be the acquisition cost of the Note, increased by the interest previously accrued by the U.S. Holder on the Note under these rules, disregarding any net positive and net negative adjustments (other than adjustments made because a U.S. Holder's basis in a contingent payment debt instrument is different from the adjusted issue price of the instrument), and decreased by the amount of any noncontingent payments and the projected amount of any contingent payments previously made on the Note to the U.S. Holder. A U.S. Holder generally will treat any gain as interest income, and any loss as ordinary loss to the extent of the excess of previous interest inclusions in excess of the total net negative adjustments previously taken into account as ordinary losses, and the balance as capital loss. The deductibility of capital losses is subject to limitations. In addition, if a U.S. Holder recognizes loss above certain thresholds, the U.S. Holder may be required to file a disclosure statement with the IRS (as described under "—Tax Return Disclosure Regulations").

A U.S. Holder should generally have a tax basis in any property, other than cash, received upon the retirement of a contingent payment debt instrument including in satisfaction of a conversion right or a call right equal to the fair market value of the property, determined at the time of retirement. The U.S. Holder's holding period for the property will commence on the day immediately following its receipt.

The Issuer may issue Notes which may be redeemable at the option of the Issuer prior to their stated maturity (a "*call option*"). Notes containing such features may be subject to rules that differ from the general rules discussed above. Investors intending to purchase Notes with such features should consult their own tax advisors, since the original issue discount consequences will depend, in part, on the particular terms and features of the purchased Notes.

U.S. Holders may generally, upon election revocable only with consent of the IRS, include in income all interest (including stated interest, acquisition discount, original issue discount, *de minimis* original issue discount, market discount, *de minimis* market discount, and unstated interest, as adjusted by any amortizable bond premium or acquisition premium) that accrues on a debt instrument by using the constant yield method applicable to original issue discount, subject to certain limitations and exceptions. Generally, this election will apply only to the Note for which it is made; however, if the Note has amortizable bond premium, a U.S. Holder making this election will be deemed to have made an election to apply amortizable bond premium against interest for all debt instruments with amortizable bond premium, other than debt instruments the interest on which is excludible from gross income, that the U.S. Holder beneficially owns as of the beginning of the taxable year for which the election applies or any taxable years thereafter.

Foreign-Currency Notes. The following discussion summarizes the principal U.S. federal income tax consequences to a U.S. Holder of the ownership and disposition of Notes that are denominated in a specified currency other than the U.S. dollar or the payments of interest or principal on which are payable in a currency other than the U.S. dollar ("*foreign currency Notes*").

The rules applicable to foreign currency Notes could require some or all gain or loss on the sale, exchange or other disposition of a foreign currency Note to be recharacterized as ordinary income or loss. The rules applicable to foreign currency Notes are complex and may depend on the U.S. Holder's particular U.S. federal income tax situation. For example, various elections are available under these rules, and whether a U.S. Holder should make any of these elections may depend on the U.S. Holder's particular U.S. federal income tax situation. U.S. Holders are urged to consult their own tax advisers regarding the U.S. federal income tax consequences of the ownership and disposition of foreign currency Notes.

A U.S. Holder who uses the cash method of accounting and who receives a payment of qualified stated interest in a foreign currency with respect to a foreign currency Note will be required to include in income the U.S. dollar value of the foreign currency payment (determined on the date the payment is received) regardless of whether the payment is in fact converted to U.S. dollars at the time, and this U.S. dollar value will be the U.S. Holder's tax basis in the foreign currency. A cash method U.S. Holder who receives a payment of qualified stated interest in U.S. dollars pursuant to an option available under such foreign currency Note will be required to include the amount of this payment in income upon receipt.

An accrual method U.S. Holder will be required to include in income the U.S. dollar value of the amount of interest income (including original issue discount or market discount, but reduced by acquisition premium and amortizable bond premium, to the extent applicable) that has accrued and is otherwise required to be taken into account with respect to a foreign currency Note during an accrual period. The U.S. dollar value of the accrued income will be determined by translating the income at the average rate of exchange for the accrual period or, with respect to an accrual period that spans two taxable years, at the average rate for the partial period within the taxable year. The U.S. Holder will recognize ordinary income or loss with respect to accrued interest income on the date the income is actually received, regardless of whether the payment is in fact converted to U.S. dollars at the time. The amount of ordinary income or loss recognized will equal the difference between the U.S. dollar value of the foreign currency payment received (determined on the date the payment is received) in respect of the accrual period (or, where a U.S. Holder receives U.S. dollars, the amount of the payment in respect of the accrual period) and the U.S. dollar value of interest income that has accrued during the accrual period (as determined above). Rules similar to these rules apply in the case of a cash method taxpayer required to currently accrue original issue discount or market discount.

An accrual method U.S. Holder may elect to translate interest income (including original issue discount) into U.S. dollars at the spot rate on the last day of the interest accrual period (or, in the case of a partial accrual period, the spot rate on the last day of the taxable year) or, if the date of receipt is within five business days of the last day of the interest accrual period, the spot rate on the date of receipt. A U.S. Holder that makes this election must apply it consistently to all debt instruments from year to year and cannot change the election without the consent of the IRS.

Original issue discount, market discount, acquisition premium and amortizable bond premium on a foreign currency Note are to be determined in the relevant foreign currency. Where a U.S. Holder elects to include market discount in income currently, the amount of market discount will be determined for any accrual period in the relevant foreign currency and then translated into U.S. dollars on the basis of the average rate in effect during the accrual period. Exchange gain or loss realized with respect to such accrued market discount shall be determined in accordance with the rules relating to accrued interest described above.

If an election to amortize bond premium is made, amortizable bond premium taken into account on a current basis shall reduce interest income in units of the relevant foreign currency. Exchange gain or loss is realized on amortized bond premium with respect to any period by treating the bond premium amortized in the period in the same manner as on the sale, exchange or retirement of the foreign currency Note as described below. Any exchange gain or loss will be ordinary income or loss as described below. If the election is not made, any loss realized on the sale, exchange or retirement of a foreign currency Note with amortizable bond premium by a U.S. Holder will be a capital loss to the extent of the bond premium.

A U.S. Holder's tax basis in a foreign currency Note, and the amount of any subsequent adjustment to the U.S. Holder's tax basis, will be the U.S. dollar value amount of the foreign currency amount paid for such foreign currency Note, or of the foreign currency amount of the adjustment, determined on the date of the purchase or adjustment. A U.S. Holder who purchases a foreign currency Note with previously owned foreign currency will recognize ordinary income or loss in an amount equal to the difference, if any, between such U.S. Holder's tax basis in the foreign currency and the U.S. dollar fair market value of the foreign currency Note on the date of purchase.

Gain or loss realized upon the sale, exchange or retirement of a foreign currency Note that is attributable to fluctuation in currency exchange rates will be ordinary income or loss which will not be treated as interest income or expense. Gain or loss attributable to fluctuations in exchange rates will equal the difference between (i) the U.S. dollar value of the foreign currency principal amount of the Note, determined on the date the payment is received or the Note is disposed of, and (ii) the U.S. dollar value of the foreign currency principal amount of the Note, determined on the date the U.S. Holder acquired the Note. Payments received attributable to accrued interest will be treated in accordance with the rules applicable to payments of interest on foreign currency Notes described above. The foreign currency gain or loss will be recognized only to the extent of the total gain or loss realized by the U.S. Holder on the sale, exchange or retirement of the foreign currency Note. The source of the foreign currency gain or loss will be determined by reference to the residence of the U.S. Holder or the "qualified business unit" of the U.S. Holder on whose books the foreign currency Note is properly reflected. Any gain or loss realized by these U.S. Holders in excess of the foreign currency gain or loss will be capital gain or loss except to the extent of any accrued market discount or, in the case of a short-term foreign currency Note, to the extent of any discount not previously included in the U.S. Holder's income. The deductibility of capital losses is subject to limitations. In addition, if a U.S. Holder recognizes loss above certain thresholds, the U.S. Holder may be required to file a disclosure statement with the IRS (as described under "—Tax Return Disclosure Regulations"). Holders should consult their own tax advisor with respect to the tax consequences of receiving payments in a currency different from the currency in which payments with respect to such foreign currency Note accrue.

A U.S. Holder will have a tax basis in any foreign currency received on the sale, exchange or retirement of a foreign currency Note equal to the U.S. dollar value of the foreign currency, determined at the time of sale, exchange or retirement. A cash method U.S. Holder who buys or sells a foreign currency Note is required to translate units of foreign currency paid or received into U.S. dollars at the spot rate on the settlement date of the purchase or sale. Accordingly, no exchange gain or loss will result from currency fluctuations between the trade date and the settlement date of the purchase or sale. An accrual method U.S. Holder may elect the same treatment for all purchases and sales of foreign currency obligations provided that the foreign currency Notes are traded on an established securities market. This election cannot be changed without the consent of the IRS. Any gain or loss realized by a U.S. Holder on a sale or other disposition of foreign currency (including its exchange for U.S. dollars or its use to purchase foreign currency Notes) will be ordinary income or loss.

Short-Term Notes. Notes that have a fixed maturity of one year or less ("Short-Term Notes") will be treated as having been issued with original issue discount. In general, an individual or other cash method U.S. Holder is not required to accrue such original issue discount unless the U.S. Holder elects to do so. If such an election is not made, any gain recognized by the U.S. Holder on the sale, exchange, redemption, retirement or maturity of the Short-Term Note will generally be ordinary income to the extent of the original issue discount accrued on a straight-line basis, or upon election under the constant yield method (based on daily compounding), through the date of sale, exchange, redemption, retirement or maturity, and a portion of the deductions otherwise allowable to the U.S. Holder for interest on borrowings allocable to the Short-Term Note will be deferred until a corresponding amount of income is realized. U.S. Holders who report income for U.S. federal income tax purposes under the accrual method, and certain other holders including banks and dealers in securities, are generally required to accrue original issue discount on a Short-Term Note on a straight-line basis unless an election is made to accrue the original issue discount under a constant yield method (based on daily compounding). When the amount of OID is determined subject to these rules, all interest payments on the short-term note, including stated interest, must be included in the short-term note's stated redemption price at maturity.

Market Discount. If a U.S. Holder purchases a Note, other than a Discount Note, for an amount that is less than its issue price (or, in the case of a subsequent purchaser, its stated redemption price at maturity) or, in the case of a Discount Note, for an amount that is less than its adjusted issue price as of the purchase date, such U.S. Holder will be treated as having purchased the Note at a "*market discount*", unless such market discount is less than a specified *de minimis* amount.

Under the market discount rules, a U.S. Holder will be required to treat any partial principal payment (or, in the case of a Discount Note, any payment that does not constitute qualified stated interest) on, or any gain realized on the sale, exchange, redemption, retirement or other disposition of, a Note as ordinary income to the extent of the lesser of:

- the amount of such payment or realized gain; or
- the market discount which has not previously been included in income and is treated as having accrued on the Note at the time of such payment or disposition.

Market discount will be considered to accrue ratably during the period from the date of acquisition to the maturity date of the Note, unless the U.S. Holder elects to accrue market discount on a constant yield basis.

A U.S. Holder may be required to defer the deduction of all or a portion of the interest paid or accrued on any indebtedness incurred or maintained to purchase or carry a Note with market discount until the maturity of the Note or certain earlier dispositions, because a current deduction is only allowed to the extent the interest expense exceeds an allocable portion of market discount. A U.S. Holder may elect to include market discount in income currently as it accrues (on either a ratable or a constant yield basis), in which case the rules described above regarding the treatment as ordinary income of gain upon the disposition of the Note and upon the receipt of certain cash payments and regarding the deferral of interest deductions will not apply. Generally, such currently included market discount is treated as ordinary interest for U.S. federal income tax purposes. Such an election will apply to all market discount debt instruments acquired by the U.S. Holder on or after the first day of the taxable year to which such election applies and may be revoked only with the consent of the IRS.

Premium. If a U.S. Holder purchases a Note for an amount that is greater than the sum of all amounts payable on the Note after the purchase date other than payments of qualified stated interest, the U.S. Holder will be considered to have purchased the Note with "*amortizable bond premium*" equal in amount to such excess. A U.S. Holder may elect to amortize such premium using a constant yield method over the remaining term of the Note and may offset interest otherwise required to be included in respect of the Note during any taxable year by the amortized amount of such excess for the taxable year. Bond premium on a Note held by a U.S. Holder that does not make such an election will decrease the amount of gain or increase the amount of loss otherwise recognized on the disposition of the Notes. However, if the Note may be optionally redeemed after the U.S. Holder acquires it at a price in excess of its stated redemption price at maturity, special rules would apply which could result in a deferral of the amortization of some bond premium until later in the term of the Note. Any election to amortize bond premium applies to all taxable debt obligations owned and acquired by the U.S. Holder on or after the first day of the first taxable year to which such election applies and may be revoked only with the consent of the IRS.

Disposition of a Note. Except as discussed above, upon the sale, exchange, redemption, retirement or other disposition of a Note, a U.S. Holder generally will recognize taxable gain or loss equal to the difference between the amount realized on the sale, exchange, redemption, retirement or other disposition (other than amounts representing accrued and unpaid interest) and the U.S. Holder's adjusted tax basis in the Note. A U.S. Holder's adjusted tax basis in a Note generally will equal the U.S. Holder's initial investment in the Note increased by any original issue discount previously included in income (and accrued market discount, if any, if the U.S. Holder has included such market discount in income) and decreased by the amount of any payments, other than qualified stated interest payments, received and amortizable bond premium taken with respect to the Note. Subject to the market discount rules and CPDI Regulations discussed above, such gain or loss generally will be long-term capital gain or loss if the Note was held for more than one year. Long-term capital gains of individuals are subject to reduced capital gain rates while short-term capital gains are subject to ordinary income rates. The deductibility of capital losses is subject to certain limitations. Prospective investors should consult their own tax advisors concerning these tax law provisions.

Medicare Tax. A U.S. Holder that is an individual or estate, or a trust that does not fall into a special class of trusts that is exempt from such tax, is subject to a 3.8% tax on the lesser of (1) the U.S. Holder's "*net investment income*" (or "undistributed net investment income" in the case of an estate of trust) for the relevant taxable year and (2) the excess of the U.S. Holder's modified adjusted gross income for the taxable year over a certain threshold (which in the case of individuals is between U.S.$125,000 and U.S.$250,000, depending on the individual's circumstances). A holder's net investment income generally includes its interest income and its net gains from the disposition of debt instruments, unless such interest income or net gains are derived in the ordinary course of the conduct of a trade or business (other than a trade or business that consists of certain passive or trading activities). U.S. Holders that are individuals, estates or trusts should consult their own tax advisors regarding the applicability of the Medicare tax to income and gains in respect of their investment in Notes.

Base Rate Modifications. The Issuer may in certain circumstances modify a Floating Rate Note to change the relevant Base Rate to a successor base rate (such change, a "*Base Rate Modification*"). It is possible that a Base Rate Modification will be treated as a deemed exchange of old Notes for new Notes, which may be taxable to U.S. holders. However, a Base Rate Modification that occurs automatically pursuant to the terms of the Floating Rate Note or pursuant to a unilateral option of the Issuer will not generally be treated as a deemed exchange of the Floating Rate Note for tax purposes. In addition, proposed United States Treasury regulations describe circumstances under which a Base Rate Modification (or other related adjustments to the calculation of the interest rate on the Notes) would not be treated as a deemed exchange of old Notes for new Notes. Under the proposed regulations, generally, an alteration of the terms of a debt instrument to replace a rate referencing an interbank offered rate (such as LIBOR or EURIBOR) with a "qualified rate" as defined in the proposed regulations, and associated alterations reasonably necessary to adopt or implement that replacement, would not be treated as a deemed exchange. It cannot be determined at this time whether the final regulations on this issue will contain the same standards as the proposed regulations. U.S. holders should consult with their own tax advisors regarding the potential consequences of a Base Rate Modification.

Non-U.S. Holders

Payments of Interest. Under U.S. federal income tax law as currently in effect, Non-U.S. Holders of Notes will generally not be subject to U.S. federal income taxes, including withholding taxes (other than backup withholding under certain circumstances, as described below), on payments of interest (including original issue discount) on the Notes, unless such interest is effectively connected with the conduct by the Non-U.S. Holder of a U.S. trade or business, or, if an income tax treaty applies, is attributable to such Non-U.S. Holder's permanent establishment in the United States, in which case such interest would be taxed as described below under "Non-U.S. Holders — Effectively Connected Income."

Disposition of the Notes. A Non-U.S. Holder will generally not be subject to U.S. federal income or withholding tax (other than backup withholding under certain circumstances, as discussed below) on gain recognized on the sale, exchange, redemption, retirement or other disposition of a Note, unless (i) such gain is effectively connected with the Non-U.S. Holder's conduct of a U.S. trade or business, or, if an income tax treaty applies, is attributable to such Non-U.S. Holder's permanent establishment in the United States, in which case such gain would be taxed as described below under "Non-U.S. Holders — Effectively Connected Income", or (ii) such Non-U.S. Holder is an individual who was present in the United States for 183 days or more in the taxable year of the sale and certain other conditions are met, in which case such Non-U.S. Holder may have to pay a U.S. federal income tax at a rate of 30% (or, if applicable, a lower treaty rate) on such gain.

Effectively Connected Income. If any gain recognized on the sale, exchange, redemption, retirement or other disposition of the Notes or any interest paid with respect to the Notes is effectively connected with a Non-U.S. Holder's conduct of a U.S. trade or business, or, if an income tax treaty applies, the Non-U.S. Holder maintains a U.S. "*permanent establishment*" to which the gain or interest is generally attributable, the Non-U.S. Holder generally will be subject to U.S. federal income tax on the gain or interest on a net income basis in the same manner as if it were a U.S. Holder. A foreign corporation that is a holder of a Note also may be subject to a "*branch profits tax*" equal to 30% of its effectively connected earnings and profits for the taxable year, subject to certain adjustments, unless it qualifies for a lower rate under an applicable income tax treaty. For this purpose, such gain or interest will be included in earnings and profits if the gain or interest is effectively connected with the conduct by the foreign corporation of a U.S. trade or business.

Information Reporting and Backup Withholding

Payments of interest (including original issue discount) made to a U.S. Holder and proceeds to a U.S. Holder from the sale of a Note that are made within the United States or through certain U.S.-related financial intermediaries may be subject to information reporting and to backup withholding unless the U.S. Holder is an exempt recipient or, in the case of backup withholding, the U.S. Holder provides a correct taxpayer identification number and certifies that no loss of exemption from backup withholding has occurred. The amount of any backup withholding from a payment to a U.S. Holder will be allowed as a credit against such holder's U.S. federal income tax liability and may entitle such holder to a refund, provided that the required information is timely furnished to the IRS.

In addition, a Non-U.S. Holder may be subject to information reporting and backup withholding with respect to payments received on the Notes, unless such Non-U.S. Holder is an exempt recipient or otherwise establishes an exemption. A Non-U.S. Holder generally will not be subject to information reporting or backup withholding, however, if it certifies as to its nonresident status (generally, by filing an IRS Form W-8 or such other applicable form). Amounts withheld under the backup withholding rules may be credited against a Non-U.S. Holder's U.S. federal income tax, and a Non-U.S. Holder may obtain a refund of any excess amounts withheld under the backup withholding rules by filing the appropriate claim for refund with the IRS in a timely manner.

Tax Return Disclosure Regulations

Pursuant to United States Treasury regulations (the "Disclosure Regulations"), any taxpayer that has participated in a "*reportable transaction*" and who is required to file a U.S. federal income tax return must generally attach a disclosure statement disclosing such taxpayer's participation in the reportable transaction to the taxpayer's tax return for each taxable year in which the taxpayer participates in the reportable transaction. A penalty in the amount of U.S.$10,000 in the case of a natural person and U.S.$50,000 in any other case is imposed on any taxpayer that fails to timely disclose its participation in a reportable transaction. The Disclosure Regulations provide that, in addition to certain other transactions, a "*loss transaction*" constitutes a "*reportable transaction.*" A "*loss transaction*" is any transaction resulting in the taxpayer claiming a loss under Section 165 of the Code in an amount equal to or in excess of certain threshold amounts. The Disclosure Regulations specifically provide that a loss resulting from a "*Section 988 transaction*", such as an investment in Notes denominated in a foreign currency, will constitute a Section 165 loss. In the case of individuals or trusts, whether or not the loss flows through from an S corporation or partnership, if the loss arises with respect to a Section 988 transaction (as defined in Section 988(c)(1) of the Code relating to foreign currency transactions), the applicable threshold amount is U.S.$50,000 in any single taxable year. Higher threshold amounts apply depending upon the taxpayer's status as a corporation, partnership, or S corporation, as well as certain other factors. It is important to note, however, that the Disclosure Regulations provide that the fact that a transaction is a reportable transaction shall not affect the legal determination of whether the taxpayer's treatment of the transaction is proper.

Information with Respect to Foreign Financial Assets

Certain owners of "*specified foreign financial assets*" with an aggregate value in excess of U.S.$50,000 (and in some circumstances, a higher threshold), will generally be required to file an information report on IRS Form 8938 with respect to such assets with their U.S. federal tax returns. "*Specified foreign financial assets*" include any financial accounts maintained by foreign financial institutions, as well as any of the following, but only if they are held for investment and not held in accounts maintained by financial institutions: (i) stocks and securities issued by non-United States persons, (ii) financial instruments and contracts that have non-United States issuers or counterparties, and (iii) interests in foreign entities. Such reporting requirement may also apply to certain non-individual holders. Holders are urged to consult their tax advisors regarding the application of this reporting requirement to their ownership of Notes.

Material Canadian Federal Income Tax Considerations

The following is, as of the date hereof, a summary of the principal Canadian federal income tax considerations under the Income Tax Act (Canada) (the "Canadian Tax Act") generally applicable to a holder who acquires beneficial ownership of a Note pursuant to this Offering Memorandum, and the relevant Pricing Supplement, and who, for purposes of the Canadian Tax Act and any applicable income tax convention, at all relevant times, is not resident and is not deemed to be resident in Canada, and who, for purposes of the Canadian Tax Act, at all relevant times, (i) deals at arm's length with the Issuer, the Guarantor, and any Canadian resident (or deemed Canadian resident) to whom the holder disposes of the Note, (ii) is entitled to receive all payments (including any interest, principal or premium) made on the Note, and (ii) does not use or hold and is not deemed to use or hold the Note in or in the course of carrying on a business in Canada (a "Non-resident Holder").

Special rules, which are not discussed in this summary, may apply to a holder of Notes that is an authorized foreign bank or an insurer that carries on an insurance business in Canada and elsewhere. Such holders should consult their own tax advisors. This summary assumes that no interest in respect of a Note will be "participating debt interest" within the meaning of the Canadian Tax Act.

This summary is based upon the provisions of the Canadian Tax Act and the regulations thereunder (the "Regulations") in force on the date hereof and the current administrative policies and assessing practices of the Canada Revenue Agency ("CRA") published in writing by it prior to the date hereof. This summary takes into account all specific proposals to amend the Canadian Tax Act and Regulations publicly announced by or on behalf of the Minister of Finance (Canada) prior to the date hereof (the "Proposed Amendments") and assumes that all Proposed Amendments will be enacted in the form proposed. However, no assurances can be given that the Proposed Amendments will be enacted as proposed, or at all. This summary does not otherwise take into account or anticipate any changes in law, or administrative policies or assessing practices, whether by legislative, regulatory, administrative or judicial decision or action, nor does it take into account or consider other federal or any provincial, territorial or foreign income tax legislation, which may be different from those discussed herein.

The following is only a general summary of certain Canadian non-resident withholding and other tax provisions which may affect a Non-resident Holder of the Notes. This summary is not, and is not intended to be, and should not be construed to be, legal or tax advice to any particular Non-resident Holder or any other person and no representation with respect to the income tax consequences is made. Accordingly, prospective purchasers of Notes should consult their own tax advisors with respect to the tax consequences of acquiring, holding and disposing of Notes having regard to their own particular circumstances.

Holders other than Non-resident Holders should consult their own tax advisors concerning the tax implications to them of acquiring, holding or disposing of Notes.

Notes of a Series

The Canadian federal income tax considerations applicable to Notes of a particular series may be described more specifically in the Pricing Supplement applicable to that series when such Notes are offered. In the event the Canadian federal income tax considerations are described in a Pricing Supplement for a series, the summary herein will be superseded by the description in the Pricing Supplement to the extent indicated therein.

Non-resident Holders

No withholding tax will apply under the Canadian Tax Act to interest, principal or premium, if any, paid or credited, or deemed to be paid or credited, to a Non-resident Holder on a Note or to proceeds received by a Non-resident Holder on the disposition of a Note, including on a redemption, payment on maturity, repurchase or purchase for cancellation.

Generally, there are no other Canadian taxes on income (including taxable capital gains) payable by a Non-resident Holder under the Canadian Tax Act solely as a consequence of the acquisition, ownership or disposition of a Note.

The Proposed Financial Transactions Tax

On February 14, 2013, the European Commission published a proposal (the "Commission's Proposal") for a directive for a common financial transactions tax ("FTT") in Belgium, Germany, Estonia, Greece, Spain, France, Italy, Austria, Portugal, Slovenia and Slovakia (the "participating member states"). However, Estonia has since stated that it will not participate.

The Commission's Proposal has very broad scope and could, if introduced, apply to certain dealings in Notes (including secondary market transactions) in certain circumstances.

Under the Commission's Proposal, the FTT could apply in certain circumstances to persons both within and outside of the participating member states. Generally, it would apply to certain dealings in Notes where at least one party is a financial institution, and at least one party is established in a participating member state. A financial institution may be, or be deemed to be, "established" in a participating member state in a broad range of circumstances, including (a) by transacting with a person established in a participating member state or (b) where the financial instrument which is subject to the dealings is issued in a participating member state.

However, the FTT proposal remains subject to negotiation between the participating member states. It may therefore be altered prior to any implementation, the timing of which remains unclear. Additional member states may decide to participate. Prospective holders of Notes are advised to seek their own professional advice in relation to the FTT.

CERTAIN CONSIDERATIONS FOR ERISA AND OTHER U.S. BENEFIT PLANS

Subject to the following discussion, the Notes may be acquired with the assets of Plans. Section 406 of ERISA and Section 4975 of the Code prohibit Benefit Plan Investors from engaging in certain transactions with persons that are "parties in interest" under ERISA or "disqualified persons" under the Code with respect to such Benefit Plan Investor. A violation of these "prohibited transaction" rules may result in an excise tax or other penalties and liabilities under ERISA and the Code for such persons or the fiduciaries of such Benefit Plan Investor. In addition, Title I of ERISA requires fiduciaries of a Benefit Plan Investor subject to ERISA to make investments that are prudent, diversified and in accordance with the governing plan documents. Governmental plans are not subject to the fiduciary and prohibited transaction provisions of ERISA or Section 4975 of the Code. However, such plans may be subject to similar restrictions under applicable Similar Law. Governmental and certain church plans are also subject to the prohibited transaction rules in Section 503(b) of the Code.

Certain transactions involving the Issuer might be deemed to constitute prohibited transactions under ERISA and the Code with respect to a Benefit Plan Investor that acquired Notes if assets of the Issuer were deemed to be assets of the Benefit Plan Investor. Under a regulation issued by the U.S. Department of Labor, as modified by Section 3(42) of ERISA (the "Regulation"), the assets of the Issuer would be treated as plan assets of a Benefit Plan Investor for the purposes of ERISA and the Code only if the Benefit Plan Investor acquired an "equity interest" in the Issuer and none of the exceptions to plan assets contained in the Regulation were applicable. An equity interest is defined under the Regulation as an interest other than an instrument which is treated as indebtedness under applicable local law and which has no substantial equity features. Although there is little guidance on the subject, it is anticipated that, at the time of their issuance, the Notes should be treated as indebtedness of the Issuer without substantial equity features for purposes of the Regulation. This determination is based upon the traditional debt features of the Notes, including the reasonable expectation of purchasers of Notes that the Notes will be repaid when due, traditional default remedies, as well as on the absence of conversion rights, warrants and other typical equity features. The debt treatment of the Notes for ERISA purposes could change subsequent to their issuance if the Issuer incurs losses. In the event of a withdrawal or downgrade to below investment grade of the rating of the Notes, the subsequent acquisition of the Notes or interest therein by a Benefit Plan Investor or a Plan that is subject to Similar Law is prohibited.

However, without regard to whether the Notes are treated as an equity interest in the Issuer for purposes of the Regulation, the acquisition or holding of Notes by or on behalf of a Benefit Plan Investor could be considered to give rise to a prohibited transaction if the Issuer, CPP Investments, the Agents, or any of their affiliates is or becomes a party in interest or a disqualified person with respect to such Benefit Plan Investor. Certain exemptions from the prohibited transaction rules could be applicable to the acquisition and holding of the Notes by a Benefit Plan Investor depending on the type and circumstances of the plan fiduciary making the decision to acquire such Notes and the relationship of the party in interest or disqualified person to the Benefit Plan Investor. Included among these exemptions are: Section 408(b)(17) of ERISA and Section 4975(d)(20) of the Code for certain transactions between a Benefit Plan Investor and persons who are parties in interest or disqualified persons solely by reason of providing services to the Benefit Plan Investor or being affiliated with such service providers; Prohibited Transaction Class Exemption ("PTCE") 96-23, regarding transactions effected by "in-house asset managers;" PTCE 95-60, regarding investments by insurance company general accounts; PTCE 91-38, regarding investments by bank collective investment funds; PTCE 90-1, regarding investments by insurance company pooled separate accounts; and PTCE 84-14, regarding transactions effected by "qualified professional asset managers." Even if the conditions specified in one or more of these exemptions are met, the scope of the relief provided by these exemptions might or might not cover all acts which might be construed as prohibited transactions. There can be no assurance that any of these, or any other exemption, will be available with respect to any particular transaction involving the Notes, and prospective purchasers that are Benefit Plan Investors should consult with their legal advisors regarding the applicability of any such exemption.

By acquiring a Note (or interest therein), each purchaser and transferee (and its fiduciary, as applicable) is deemed to (a) represent and warrant that either (i) it is not acquiring the Note (or interest therein) with the assets of a Plan; or (ii) the acquisition and holding of the Note (or interest therein) will not give rise to a nonexempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or result in a violation of Similar Law and (b) acknowledge and agree that the Note (or interest therein) is not eligible for acquisition by Benefit Plan Investors or

Plans that are subject to Similar Law at any time that such Note is not rated investment grade by a nationally recognized statistical rating organization in the United States.

A Plan fiduciary considering the acquisition of Notes should consult its legal advisors regarding the matters discussed above and other applicable legal requirements.

PLAN OF DISTRIBUTION

The Issuer and the Guarantor, on the one hand, and Goldman Sachs International, BofA Securities, Inc., Barclays Bank PLC, BMO Capital Markets Corp., BNP Paribas, CIBC World Markets Corp., Citigroup Global Markets Limited, Deutsche Bank AG, London Branch, HSBC Bank plc, J.P. Morgan Securities plc, Merrill Lynch International, Morgan Stanley & Co. International plc, National Bank of Canada Financial Inc., NatWest Markets Plc, RBC Capital Markets, LLC, Scotia Capital (USA) Inc. and TD Securities (USA) LLC, on the other hand, have entered into an amended and restated distribution agreement, dated as of June 10, 2020 (the "Distribution Agreement"), with respect to the Notes. Subject to certain conditions, each of Goldman Sachs International, BofA Securities, Inc., Barclays Bank PLC, BMO Capital Markets Corp., BNP Paribas, CIBC World Markets Corp., Citigroup Global Markets Limited, Deutsche Bank AG, London Branch, HSBC Bank PLC, J.P. Morgan Securities Plc, Merrill Lynch International, Morgan Stanley & Co. International plc, National Bank of Canada Financial Inc., NatWest Markets Plc, RBC Capital Markets, LLC, Scotia Capital (USA) Inc. and TD Securities (USA) LLC and any agents appointed from time to time by the Issuer and the Guarantor (collectively, the "Agents") has agreed, or will be deemed to agree in the case of further Agents appointed by the Issuer and the Guarantor, to use its reasonable efforts to solicit purchases of Notes. The Issuer and the Guarantor have the right to accept offers to purchase Notes and may reject any proposed purchase of Notes. Each Agent may also, in its discretion reasonably exercised, reject any offer received by it in whole or in part.

The Issuer may also sell Notes to an Agent who will purchase the Notes as principal for its own account. In that case, either the Agent will purchase the Notes at a price equal to the issue price specified in the applicable Pricing Supplement and the Issuer will pay such Agent a commission, or the Agent will purchase the Notes at a price equal to the issue price specified in the applicable Pricing Supplement, less a discount. The discount will equal the applicable commission on an agency sale of the Notes with the same stated maturity.

An Agent may resell any Notes it purchases as principal to other brokers or dealers at a discount, which may include all or part of the discount the Agent received from the Issuer. If all the Notes are not sold at the initial offering price, the Agent may change the offering price and the other selling terms.

The Issuer may also sell Notes directly to investors. The Issuer will not pay commissions on Notes that it sells directly.

The Agents may from time to time purchase and sell Notes in the open market. These transactions may include over-allotment, syndicate covering transactions and stabilizing transactions. Over-allotment involves syndicate sales of Notes in an aggregate principal amount exceeding that set forth in the relevant Pricing Supplement, which creates a syndicate short position. Syndicate covering transactions involve purchases of the Notes in the open market after a distribution has been completed in order to cover syndicate short positions. Stabilizing transactions consist of certain bids or purchases of Notes made for the purpose of preventing or retarding a decline in the market price of the Notes while an offering is in progress.

The Agents also may impose a penalty bid. Penalty bids permit the Agents to reclaim a selling concession from a syndicate member when the Agent responsible for stabilizing activities on behalf of the syndicate, in covering syndicate short positions or making stabilizing purchases, repurchases Notes originally sold by that syndicate member.

Any of these activities may have the effect of preventing or retarding a decline in the market price of the Notes. They may also cause the price of the Notes to be higher than the price that otherwise would exist in the open market in the absence of these transactions. The Agents may conduct these transactions in the over-the-counter market or otherwise. If the Agents commence any of these transactions, they may discontinue them at any time.

The Agents and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities.

Certain of the Agents and their respective affiliates may have performed, and may in the future perform, investment banking, commercial banking and advisory services for the Issuer or the Guarantor from time to time for which they have received customary fees and expenses. The Agents and their respective affiliates may, from time to time, engage in transactions with and perform services for the Issuer or the Guarantor in the ordinary course of their business with the Issuer, the Guarantor or their affiliates. They have received or may in the future receive, customary fees and commissions for these transactions.

In addition, in the ordinary course of their business activities, the Agents and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of the Issuer, the Guarantor or their affiliates. If any of the Agents or their affiliates have a lending relationship with the Issuer or the Guarantor, certain of those Agents or their affiliates may routinely hedge their credit exposure to the Issuer or the Guarantor, as applicable, consistent with their customary risk management policies. Typically, such Agents and their affiliates would hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in the securities of the Issuer or the Guarantor, as applicable, including potentially the Notes. Any such credit default swaps or short positions could adversely affect future trading prices of the Notes. The Agents and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

CPP Investments may from time to time purchase debt securities issued under this debt issuance program in the open market, in privately negotiated transactions or any combination thereof.

The Issuer and the Guarantor have agreed to indemnify each Agent against certain liabilities, including certain liabilities under the Securities Act, or to contribute to payments the Agents may be required to make because of any of those liabilities.

Each Agent has agreed it will not offer, sell or deliver any of the Notes in any jurisdiction except under circumstances that will result in compliance with the applicable laws thereof, and that it will take at its own expense whatever action is required to permit its offer and sale of the Notes.

Persons into whose hands this Offering Memorandum, any Pricing Supplement or other offering materials in respect of the Notes comes are, and each holder of Notes is, required by the Issuer, the Guarantor and the Agents to comply with all applicable laws and regulations in each country or jurisdiction in or from which they purchase, offer, sell or deliver Notes or have in their possession or distribute such offering material, in all cases at their own expense.

United States

Neither the Notes nor the Guarantee have been registered under the Securities Act or the securities laws of any other jurisdiction, and the Issuer is not registered and does not intend to register as an investment company under the Investment Company Act. Unless they are registered, the Notes and the Guarantee, respectively, may be offered only in transactions that are exempt from registration under the Securities Act or the securities laws of any other jurisdiction. Accordingly, the Notes and the Guarantee are being initially offered in the United States only to Qualified Institutional Buyers who are also Qualified Purchasers and outside the United States to non-U.S. persons in compliance with Regulation S of the Securities Act. The minimum principal amount of Notes which may be purchased for any account is U.S.$250,000 or such larger principal amounts as shall be specified in the relevant Pricing Supplement as the minimum denomination for the Notes to which such Pricing Supplement relates (or, in either case, the equivalent thereof in another currency or composite currency). Prior to any issuance of Notes in reliance on Regulation S, each relevant Agent will be deemed to represent and agree that it will send to each distributor, dealer or person receiving a selling concession, fee or other remuneration that purchases Notes from them during the distribution compliance period (as defined in Regulation S) a confirmation or notice substantially to the following effect:

"Neither the Notes nor the Guarantee have been registered under the U.S. Securities Act of 1933, as amended (the "Securities Act") or the securities laws of any other jurisdiction, and the Issuer is not registered and does not intend to register as an investment company under the Investment Company Act of 1940, as amended (the "Investment Company Act"). Unless they are registered, the Notes and the Guarantee, respectively, may be offered only in transactions that are exempt from registration under the Securities Act or the securities laws of any other jurisdiction.

Accordingly, the Notes and the Guarantee are being initially offered in the United States only to "qualified institutional buyers" (as defined in Rule 144A under the Securities Act) ("Qualified Institutional Buyers") who are also "qualified purchasers" (as defined in Section 2(a)(51)(A) of the Investment Company Act and the rules thereunder) ("Qualified Purchasers") and outside the United States to non-U.S. persons in compliance with Regulation S of the Securities Act."

Until the expiration of the period ending 40 days after the later of the date on which the completion of the distribution of the Notes has occurred and the issue date of the Notes, an offer or sale of the Notes within the United States by a dealer (whether or not participating in the offering) may violate the registration requirements of the Securities Act if such offer or sale is made otherwise than in accordance with Rule 144A under the Securities Act or pursuant to another exemption from registration under the Securities Act.

There is no undertaking to register the Notes hereafter and they cannot be resold except pursuant to an effective registration statement or an exemption from the registration requirements of the Securities Act. Each purchaser of the Notes offered hereby in making its purchase shall be deemed to have made the acknowledgments, representations and agreements as set forth under "Transfer Restrictions."

Canada

Each Agent has represented and agreed that the Notes have not been, and will not be, qualified for sale under the securities laws of Canada or any province or territory thereof. Each Agent has represented and agreed that it has not offered, sold or distributed and will not offer, sell or distribute any Notes, directly or indirectly, in Canada or to or for the benefit of any resident of Canada, other than in compliance with applicable securities laws. Each Agent has also represented and agreed that it has not and will not distribute or deliver this Offering Memorandum, or any other offering material in connection with any offering of Notes, in Canada other than in compliance with applicable securities laws.

Australia

No prospectus or other disclosure document, as defined in the Corporations Act 2001 of Australia (the "Corporations Act") in relation to the Notes, including this Offering Memorandum, has been or will be lodged with or registered by the Australian Securities and Investments Commission ("ASIC") or the Australian Securities Exchange Limited or any other stock exchange licensed under the Corporations Act. Accordingly,

(a) no offer of the Notes for issue or sale in Australia (including an offer or invitation which is received by a person in Australia) may be made or invited; and

(b) no draft, preliminary or final form offering memorandum (including this Offering Memorandum), advertisement or other offering material relating to the Notes may be distributed or published in Australia, unless:

    (i) the minimum aggregate consideration payable by each offeree is at least AUD$500,000 or its equivalent in an alternate currency (disregarding money lent by the offeror or its associates (as described in Division 2 of part 1.2 in Chapter 1 of the Corporations Act)) or the offer otherwise does not require disclosure to investors in accordance with Part 6D.2 and Chapter 7 of the Corporations Act and does not constitute an offer to a "retail client" as defined for the purposes of section 761G of the Corporations Act; and

    (ii) such action complies with all applicable laws, directives and regulations and does not require any document to be lodged with, or registered by, ASIC.

The Agents may not sell any Note in circumstances where employees of the Agent aware of, or involved in, the sale know, or have reasonable grounds to suspect, that the Note or an interest in or right in respect of the Note, was being or would later be, acquired either directly or indirectly by an Offshore Associate (as defined below) of us acting other than in the capacity of a dealer, manager or underwriter in relation to the placement of the Notes or a clearing house, custodian, funds manager or responsible entity of a registered scheme within the meaning of the Corporations Act.

"Offshore Associate" means an associate (as defined in section 128F of the Income Tax Assessment Act 1936 of Australia and successor legislation) of us that is either a non-resident of Australia which does not acquire the Notes in carrying on a business at or through a permanent establishment in Australia or, alternatively, a resident of Australia that acquires the Notes in carrying on business at or through a permanent establishment outside Australia. For the avoidance of doubt, the selling restrictions covered by the preceding two paragraphs shall apply regardless of the jurisdiction in which the Notes are being offered or sold.

United Kingdom

In the United Kingdom, this Offering Memorandum is only being distributed to and is only directed at (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "Order") or (ii) high net worth entities, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). In the United Kingdom, any Notes will only be available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such Notes will be engaged in only with, relevant persons. Any person in the United Kingdom who is not a relevant person should not act or rely on this offering circular or any of its contents.

Each Agent has represented and agreed, and each further Agent appointed under the Program will be required to represent and agree, that:

(i) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act of 2000 (as amended, the "FSMA")) received by it in connection with the issue or sale of any Notes in circumstances in which Section 21(1) of the FSMA does not apply to the Guarantor and does not apply to the Issuer; and

(ii) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to any Notes in, from or otherwise involving the United Kingdom.

Japan

Each Agent will be deemed to represent and agree that the Notes have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended, the "FIEL"), and the Notes have not been offered or sold, directly or indirectly, and may not be offered or sold, directly or indirectly, in Japan or to, or for the account or benefit of, any Japanese Person or to, or for the account or benefit of, others for re-offering or resale, directly or indirectly, in Japan or to, or for the account or benefit of, a Japanese Person, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEL and any other applicable laws, regulations and ministerial guidelines promulgated by the relevant Japanese governmental or regulatory authorities in effect at the relevant time. For purposes of this paragraph "Japanese Person" means any person resident in Japan, including any corporation or other entity incorporated or organized under the laws of Japan.

Hong Kong

The Notes may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong), or (ii) to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" within the meaning of the Companies Ordinance (Cap. 32, Laws of Hong Kong) and no advertisement, invitation or document relating to the Notes may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong S-44 5 6 (except if permitted to do so under the laws of Hong Kong) other than with respect to Notes which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571, Laws of Hong Kong) and any rules made thereunder.

Singapore

This Offering Memorandum has not been and will not be registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this Offering Memorandum and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Notes may not be circulated or distributed, nor may the Notes be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"), (ii) to a relevant person, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions, specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the Notes are subscribed or purchased under Section 275 of the SFA by a relevant person which is: (a) a corporation (which is not an accredited investor) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor, shares, debentures and units of shares and debentures of that corporation or the beneficiaries' rights and interest in that trust shall not be transferable for 6 months after that corporation or that trust has acquired the notes under Section 275 except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions, specified in Section 275 of the SFA; (2) where no consideration is given for the transfer; or (3) by operation of law.

Solely for the purposes of its obligations pursuant to sections 309B(1)(a) and 309B(1)(c) of the SFA, we have determined, and hereby notify all relevant persons (as defined in Section 309A of the SFA) that the Notes are "prescribed capital markets products" (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

European Economic Area and United Kingdom

This Offering Memorandum is not a prospectus for the purposes of the Prospectus Regulation (as defined below).

1. Unless the Pricing Supplement in respect of any Notes specifies the "Prohibition of sales to EEA and UK Retail Investors" as "Not Applicable," each Agent has represented and agreed, and each further Agent appointed under the Program will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Notes that are the subject of the offering contemplated by this Offering Memorandum as completed by the Pricing Supplement in relation thereto to any retail investor in the EEA or the UK.

For the purposes of this paragraph 1:

(a) the expression "retail investor" means a person who is one (or more) of the following:

(i) a retail client as defined in point (11) of Article 4(1) of MiFID II;

(ii) a customer within the meaning of the Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or

(iii) not a qualified investor as defined in the Prospectus Regulation; and

(b) the expression an “offer” includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes.

2. If the Pricing Supplement in respect of any Notes specifies “Prohibition of sales to EEA and UK Retail Investors” as “Not Applicable,” then, in relation to each member state of the EEA and the UK (each, a “Relevant State”), each Agent has represented and agreed, and each further Agent appointed under the Program will be required to represent and agree, that such Agent has not made and will not make an offer of the Notes to the public in that Relevant State, except that it may make an offer of the Notes to the public in that Relevant State at any time:

(i) to any person or legal entity which is a qualified investor as defined in the Prospectus Regulation;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation), subject to obtaining the prior consent of the relevant Agent nominated by us for any such offer; or

(iii) in other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of the Notes referred to in clauses (i) to (iii) of this paragraph 2 shall require the Issuer or any Agent to publish a prospectus pursuant to Article 3 of the Prospectus Regulation.

For the purposes of this paragraph 2, the expression “offer of the Notes to the public” in relation to any Notes in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes, and the expression “Prospectus Regulation” means Regulation (EU) 2017/1129.

People’s Republic of China

The Notes may not be offered or sold directly or indirectly in the People’s Republic of China (for the purpose of this Offering Memorandum, not including the Hong Kong Special Administrative Region, the Macao Special Administrative Region and Taiwan, “PRC”) and neither this Offering Memorandum, which has not been submitted to China Securities Regulatory Commission or any other governmental authorities in the PRC, nor any offering material or information contained herein relating to the Notes, may be circulated or distributed in the PRC or used in connection with any offer for the subscription or sale of Notes in the PRC, except to the extent consistent with applicable laws and regulations of the PRC.

RIGHTS OF ACTION FOR DAMAGES OR RESCISSION IN CANADA

Securities legislation in certain of the provinces of Canada provides purchasers in Canada, in addition to any other rights they may have at law, with a remedy for rescission or damages where an offering memorandum or any amendment to it, and in some cases, advertising and sales literature used in connection therewith, contains a misrepresentation. These remedies, or notice with respect thereto, must be exercised or delivered, as the case may be, by the purchaser within the time limit prescribed, and are subject to the defences contained, in the applicable securities legislation. Purchasers should refer to the applicable provisions of the securities legislation of their province, as applicable, for the particulars of these rights or consult with a legal adviser. The following is a summary of the rights of rescission or rights to damages available to purchasers of Notes, in certain of the provinces of Canada.

Rights for Purchasers in Ontario

Section 5.2 of OSC Rule 45-501 – *Ontario Prospectus and Registration Exemptions* provides that when an offering memorandum, such as this Offering Memorandum, is delivered to an investor to whom securities are distributed in reliance upon the "accredited investor" prospectus exemption in Section 73.3 of the *Securities Act* (Ontario), the right of action referred to in Section 130.1 of the *Securities Act* (Ontario) ("**Section 130.1**") is applicable, unless the prospective purchaser is:

(a) a Canadian financial institution or a Schedule III bank, meaning an authorized foreign bank named in Schedule III of the *Bank Act* (Canada);

(b) the Business Development Bank of Canada incorporated under the *Business Development Bank of Canada Act* (Canada); or

(c) a subsidiary of any person referred to in paragraphs (a) or (b), if the person owns all of the voting securities of the subsidiary, except the voting securities required by law to be owned by the directors of the subsidiary.

Section 130.1 provides such investors who purchase securities offered by an offering memorandum with a statutory right of action against the issuer of securities for rescission or damages in the event that the offering memorandum and any amendment to it contains a "misrepresentation." "Misrepresentation" means an untrue statement of a material fact or an omission to state a material fact that is required to be stated or that is necessary to make any statement not misleading or false in the light of the circumstances in which it was made. These remedies, or notice with respect to these remedies, must be exercised or delivered, as the case may be, by the purchaser within the time limits prescribed by applicable securities laws.

Where this Offering Memorandum is delivered to a prospective purchaser of Notes in connection with a trade made in reliance on Section 73.3 of the *Securities Act* (Ontario), and this document contains a misrepresentation, the purchaser will have, without regard to whether the purchaser relied on the misrepresentation, a statutory right of action against the Issuer for damages or, while still the owner of Notes, for rescission, in which case, if the purchaser elects to exercise the right of rescission, the purchaser will have no right of action for damages, provided that the right of action for rescission will be exercisable by the purchaser only if the purchaser gives notice to the Issuer, not more than 180 days after the date of the transaction that gave rise to the cause of action, that the purchaser is exercising such right; or, in the case of any action other than an action for rescission, the earlier of: (i) 180 days after the purchaser first had knowledge of the facts giving rise to the cause of action, or (ii) three years after the date of the transaction that gave rise to the cause of action.

The Issuer will not be liable for a misrepresentation if it proves that the purchaser purchased the Notes with knowledge of the misrepresentation.

In an action for damages, the Issuer will not be liable for all or any portion of the damages that the Issuer proves do not represent the depreciation in value of the Notes as a result of the misrepresentation relied upon.

In no case will the amount recoverable for the misrepresentation exceed the price at which the Notes were offered.

The foregoing statutory right of action for rescission or damages conferred is in addition to and without derogation from any other right the purchaser may have at law.

This summary is subject to the express provisions of the *Securities Act* (Ontario) and the regulations and rules made under it, and prospective purchasers should refer to the complete text of those provisions.

Rights for Purchasers in Saskatchewan

Section 138 of *The Securities Act, 1988* (Saskatchewan), as amended (the "Saskatchewan Act") provides that where an offering memorandum (such as this Offering Memorandum) or any amendment to it is sent or delivered to a purchaser and it contains a misrepresentation (as defined in the Saskatchewan Act), a purchaser who purchases a security covered by the offering memorandum or any amendment to it has, without regard to whether the purchaser relied on the misrepresentation, a right of action for rescission against the issuer or a selling security holder on whose behalf the distribution is made or has a right of action for damages against:

(a) the issuer or a selling security holder on whose behalf the distribution is made;

(b) every promoter and director of the issuer or the selling security holder, as the case may be, at the time the offering memorandum or any amendment to it was sent or delivered;

(c) every person or company whose consent has been filed respecting the offering, but only with respect to reports, opinions or statements that have been made by them;

(d) every person who or company that, in addition to the persons or companies mentioned in (a) to (c) above, signed the offering memorandum or the amendment to the offering memorandum; and

(e) every person who or company that sells securities on behalf of the issuer or selling security holder under the offering memorandum or amendment to the offering memorandum.

Such rights of rescission and damages are subject to certain limitations including the following:

(a) if the purchaser elects to exercise its right of rescission against the issuer or selling security holder, it will have no right of action for damages against that party;

(b) in an action for damages, a defendant will not be liable for all or any portion of the damages that he, she or it proves do not represent the depreciation in value of the securities resulting from the misrepresentation relied on;

(c) no person or company, other than the issuer or a selling security holder, will be liable for any part of the offering memorandum or any amendment to it not purporting to be made on the authority of an expert and not purporting to be a copy of, or an extract from, a report, opinion or statement of an expert, unless the person or company failed to conduct a reasonable investigation sufficient to provide reasonable grounds for a belief that there had been no misrepresentation or believed that there had been a misrepresentation;

(d) no person or company is liable in an action for rescission or damages if that person or company proves that the purchaser purchased the securities with knowledge of the misrepresentation.

In addition, no person or company, other than the issuer or selling security holder, will be liable if the person or company proves that:

(a) the offering memorandum or any amendment to it was sent or delivered without the person's or company's knowledge or consent and that, on becoming aware of it being sent or delivered, that person or company immediately gave reasonable general notice that it was so sent or delivered; or

(b) with respect to any part of the offering memorandum or any amendment to it purporting to be made on the authority of an expert, or purporting to be a copy of, or an extract from, a report, an opinion or a statement of an expert, that person or company had no reasonable grounds to believe and did not believe that there had been a misrepresentation, the part of the offering memorandum or any amendment to it did not fairly represent the report, opinion or statement of the expert, or was not a fair copy of, or an extract from, the report, opinion or statement of the expert.

Not all defences upon which the Issuer or others may rely are described herein. Please refer to the full text of the Saskatchewan Act for a complete listing.

Similar rights of action for damages and rescission are provided in section 138.1 of the Saskatchewan Act in respect of a misrepresentation in advertising and sales literature disseminated in connection with an offering of securities.

Section 138.2 of the Saskatchewan Act also provides that where an individual makes a verbal statement to a prospective purchaser that contains a misrepresentation relating to the security purchased and the verbal statement is made either before or contemporaneously with the purchase of the security, the purchaser has, without regard to whether the purchaser relied on the misrepresentation, a right of action for damages against the individual who made the verbal statement.

Section 141(1) of the Saskatchewan Act provides a purchaser with the right to void the purchase agreement and to recover all money and other consideration paid by the purchaser for the securities if the securities are sold by a vendor who is trading in Saskatchewan in contravention of the Saskatchewan Act, the regulations to the Saskatchewan Act or a decision of the Financial and Consumer Affairs Authority of Saskatchewan.

Section 141(2) of the Saskatchewan Act also provides a right of action for rescission or damages to a purchaser of securities to whom an offering memorandum or any amendment to it was not sent or delivered prior to or at the same time as the purchaser enters into an agreement to purchase the securities, as required by Section 80.1 of the Saskatchewan Act.

The rights of action for damages or rescission under the Saskatchewan Act are in addition to and do not derogate from any other right which a purchaser may have at law.

Section 147 of the Saskatchewan Act provides that no action will be commenced to enforce any of the foregoing rights more than:

(a) in the case of an action for rescission, 180 days after the date of the transaction that gave rise to the cause of action; or

(b) in the case of any other action, other than an action for rescission, the earlier of:

  (i) one year after the plaintiff first had knowledge of the facts giving rise to the cause of action; or

  (ii) six years after the date of the transaction that gave rise to the cause of action.

The Saskatchewan Act also provides a purchaser who has received an amended offering memorandum delivered in accordance with subsection 80.1(3) of the Saskatchewan Act has a right to withdraw from the agreement to purchase the securities by delivering a notice to the person who or company that is selling the securities, indicating the purchaser's intention not to be bound by the purchase agreement, provided such notice is delivered by the purchaser within two business days of receiving the amended offering memorandum.

This summary is subject to the express provisions of the Saskatchewan Act and the regulations and rules made under it, and prospective investors should refer to the complete text of those provisions.

Rights for Purchasers in Nova Scotia

The right of action for rescission or damages described herein is conferred by section 138 of the *Securities Act* (Nova Scotia). Section 138 provides, in the relevant part, that in the event that this Offering Memorandum, together with any amendments hereto, or any advertising or sales literature (as defined in the *Securities Act* (Nova Scotia)) contains an untrue statement of material fact or omits to state a material fact that is required to be stated or that is necessary in order to make any statements contained herein or therein not misleading in light of the circumstances in which it was made (a "misrepresentation"), a purchaser of Notes is deemed to have relied upon such misrepresentation if it was a misrepresentation at the time of purchase and has, subject to certain limitations and defences, a statutory right of action for damages against the seller of such Notes, the directors of the seller at the date of this Offering Memorandum and the persons who have signed the Offering Memorandum or, alternatively, while still the owner of the Notes, may elect instead to exercise a statutory right of rescission against the seller, in which case the purchaser will have no right of action for damages against the seller, the directors of the seller at the date of this Offering Memorandum or the persons who have signed the Offering Memorandum, provided that, among other limitations:

(a) no action will be commenced to enforce the right of action for rescission or damages by a purchaser resident in Nova Scotia later than 120 days after the date payment was made for the Notes (or after the date on which initial payment was made for the Notes where payments subsequent to the initial payment are made pursuant to a contractual commitment assumed prior to, or concurrently with, the initial payment);

(b) no person will be liable if it proves that the purchaser purchased the Notes with knowledge of the misrepresentation;

(c) no person or company, other than the Issuer, is liable under Section 138 if the person or company proves that:

a. this Offering Memorandum, or any amendment hereto, was sent or delivered to the purchaser without the person's or company's knowledge or consent and that, on becoming aware of its delivery, the person or company gave reasonable general notice that it was delivered without the person's or company's knowledge or consent;

b. after delivery of this Offering Memorandum, or the amendment hereto, and before the purchase of the Notes by the purchaser, on becoming aware of any misrepresentation in this Offering Memorandum, or the amendment hereto, or any record incorporated or deemed incorporated by reference therein, the person or company withdrew the person's or company's consent to this Offering Memorandum, or amendment hereto, or such record, and gave reasonable general notice of the withdrawal and the reason for it; or

c. with respect to any part of this Offering Memorandum, or amendment hereto, or any record incorporated or deemed to be incorporated by reference therein, purporting to be made on the authority of an expert, or to be a copy of, or an extract from a report, an opinion or a statement of an expert, the person or company had no reasonable grounds to believe and did not believe that there had been a misrepresentation, or that the relevant part of this Offering Memorandum, or amendment hereto, or such record, did not fairly represent the report, opinion or statement of the expert, or was not a fair copy of, or extract from, the report, opinion or statement of the expert;

(d) no person or company, other than the Issuer, is liable under Section 138 with respect to any part of this Offering Memorandum, or amendment hereto, or any record incorporated or deemed incorporated by reference therein, not purporting to be made on the authority of an expert, or to be a copy of or an extract from, a report, opinion or statement of an expert, unless the person or company failed to conduct a reasonable investigation to provide reasonable grounds for a belief that there had been no misrepresentation, or believed that there had been a misrepresentation;

(e) in the case of an action for damages, no person will be liable for all or any portion of the damages that it proves do not represent the depreciation in value of the Notes resulting from the misrepresentation; and

(f) in no case will the amount recoverable in any action exceed the price at which the Notes were offered to the purchaser.

The liability of all persons or companies referred to above is joint and several with respect to the same cause of action. A defendant who is found liable to pay a sum in damages may recover a contribution, in whole or in part, from a person or company who is jointly and severally liable to make the same payment in the same cause of action unless, in all the circumstances of the case, the court is satisfied that it would not be just and equitable.

This summary is subject to the express provisions of the *Securities Act* (Nova Scotia) and the regulations and rules made under it, and prospective investors should refer to the complete text of those provisions.

Rights for Purchasers in New Brunswick

Section 2.1 of New Brunswick Securities Commission Rule 45-802 provides that the statutory rights of action in rescission or damages referred to in Section 150 of the *Securities Act* (New Brunswick) ("Section 150") apply to information relating to an offering memorandum, such as this Offering Memorandum, that is provided to a purchaser of securities in connection with a distribution made in reliance on the "accredited investor" prospectus exemption in Section 2.3 of NI 45-106. Section 150 provides, in the relevant part, that in the event that this Offering Memorandum contains a "misrepresentation", a purchaser of Notes is deemed to have relied upon such misrepresentation if it was a misrepresentation at the time of purchase and has, subject to certain limitations and defences, a statutory right of action for damages against the Issuer, the selling security holder on whose behalf the distribution is made, every person who is a director of the Issuer at the date of this Offering Memorandum and every person who signed this Offering Memorandum, or, alternatively, while still the owner of the Notes, may elect instead to exercise a statutory right of rescission against the Issuer or the selling security holder on whose behalf the distribution is made, in which case the purchaser will have no right of action for damages against the Issuer or the selling security holder on whose behalf the distribution is made, every person who is a director of the Issuer at the date of this Offering Memorandum or every person who signed this Offering Memorandum. "Misrepresentation" means an untrue statement of a material fact or an omission to state a material fact that is required to be stated or that is necessary to make a statement not misleading in the light of the circumstances in which it was made.

Where this Offering Memorandum is delivered to a prospective purchaser of Notes in connection with a trade made in reliance on Section 2.3 of NI 45-106, and this document contains a misrepresentation, a purchaser who purchases the securities will be deemed to have relied on the misrepresentation if it was a misrepresentation at the time of the purchase and will have, subject to certain limitations and defences, a statutory right of action for damages against the Issuer, the selling security holder on whose behalf the distribution is made, every director of the Issuer at the date of this Offering Memorandum, and every person who signed this Offering Memorandum. Alternatively, the purchaser while still the owner of the Notes may elect to exercise a statutory right of action for rescission against the Issuer, or the selling security holder on whose behalf the distribution is made. If the purchaser elects to exercise the right of rescission, the purchaser will have no right of action for damages. The right of action for rescission will be exercisable by the purchaser only if the purchaser commences the action against the defendant, not more than 180 days after the date of the transaction that gave rise to the cause of action; or, in the case of any action other than an action for rescission, the earlier of: (i) one year after the plaintiff first had knowledge of the facts giving rise to the cause of action, or (ii) six years after the date of the transaction that gave rise to the cause of action.

The defendant will not be liable for a misrepresentation if it proves that the purchaser purchased the Notes with knowledge of the misrepresentation.

In an action for damages, the defendant will not be liable for all or any portion of the damages that the defendant proves do not represent the depreciation in value of the Notes as a result of the misrepresentation relied upon.

In no case will the amount recoverable for the misrepresentation exceed the price at which the Notes were offered.

The liability of all persons and companies referred to above is joint and several.

The foregoing statutory right of action for rescission or damages conferred is in addition to and without derogation from any other right the purchaser may have at law.

This summary is subject to the express provisions of the *Securities Act* (New Brunswick) and the regulations and rules made under it, and prospective investors should refer to the complete text of those provisions.

Rights for Purchasers in Prince Edward Island

The right of action for rescission or damages described herein is conferred by Section 112 of the *Securities Act* (Prince Edward Island). Section 112 provides, that in the event that this Offering Memorandum contains a "misrepresentation", a purchaser who purchased the Notes during the period of distribution, without regard to whether the purchaser relied upon such misrepresentation, has a statutory right of action for damages against the issuer, the selling security holder on whose behalf the distribution is made, every director of the issuer at the date of the Offering Memorandum, and every person who signed the Offering Memorandum. Alternatively, the purchaser while still the owner of the Notes may elect to exercise a statutory right of action for rescission against the issuer, or the selling security holder on whose behalf the distribution is made. "Misrepresentation" means an untrue statement of material fact, or an omission to state a material fact that is required to be stated by the *Securities Act* (Prince Edward Island), or an omission to state a material fact that needs to be stated so that a statement is not false or misleading in light of the circumstances in which it is made. Statutory rights of action for rescission or damages by a purchaser are subject to the following limitations:

(a) no action will be commenced to enforce the right of action for rescission by a purchaser, resident in Prince Edward Island, later than 180 days after the date of the transaction that gave rise to the cause of action;

(b) in the case of any action other than an action for rescission, no action will be commenced later than:

    (i) 180 days after the purchaser first had knowledge of the facts given rise to the cause of action; or

    (ii) three years after the date of the transaction giving rise to the cause of action or whichever period expires first;

(c) no person will be liable if the person proves that the purchaser purchased the security with knowledge of the misrepresentation;

(d) no person (other than the Issuer and selling security holder) will be liable if the person proves that:

    (i) the Offering Memorandum was sent to the purchaser without the person's knowledge or consent and that, on becoming aware of it being sent, the person had promptly given reasonable notice to the issuer that it had been sent without the knowledge and consent of the person;

    (ii) the person, on becoming aware of the misrepresentation in the Offering Memorandum, had withdrawn the person's consent to the Offering Memorandum and had given reasonable notice to the issuer of the withdrawal and the reason for it; or

(iii) with respect to any part of the Offering Memorandum purporting to be made on the authority of an expert or purporting to be a copy of, or an extract from, a report, statement or opinion of an expert, the person had no reasonable grounds to believe, and did not believe that;

(I) there had been a misrepresentation; or

(II) the relevant part of the Offering Memorandum:

i) did not fairly represent the report, statement or opinion of the expert, or

ii) was not a fair copy of, or an extract from, the report, statement, or opinion of the expert.

If the purchaser elects to exercise a right of action for rescission, the purchaser will have no right of action for damages.

In no case will the amount recoverable in any action exceed the price at which the Notes were offered to the purchaser.

In an action for damages, the defendant will not be liable for any damages that the defendant proves do not represent the depreciation in value of the Notes as a result of the misrepresentation.

The foregoing statutory right of action for rescission or damages conferred is in addition to and without derogation from any other right the purchaser may have at law.

This summary is subject to the express conditions of the *Securities Act* (Prince Edward Island) and the regulations and rules made under it, and prospective investors should refer to the complete text of those provisions.

Rights for Purchasers in Manitoba

Pursuant to section 141.1(1) of *The Securities Act* (Manitoba) (the "Manitoba Act"), where this Offering Memorandum, or any amendment to this Offering Memorandum, is sent or delivered to a purchaser in the Province of Manitoba and such document contains a misrepresentation, a purchaser who purchases Notes offered by this Offering Memorandum or any amendment to this Offering Memorandum is deemed to have relied on that misrepresentation, if it was a misrepresentation at the time of purchase and, subject to the defenses described in the Manitoba Act, has:

(a) a right of action for damages against:

(i) the Issuer;

(ii) every director of the Issuer at the date of this Offering Memorandum or any amendment to this Offering Memorandum; and

(iii) every person or company who signed this Offering Memorandum or any amendment to this Offering Memorandum; and

(b) a right of rescission against the Issuer;

provided that:

(c) no person or company is liable if the person or company proves that the purchaser purchased the Notes with knowledge of the misrepresentation;

(d) in an action for damages, the defendant is not liable for all or any portion of the damages that he, she or it proves do not represent the depreciation in value of the Notes resulting from the misrepresentation relied on; and

(e) in no case will the amount recovered exceed the price at which the Notes were offered to the public.

Where a purchaser elects to exercise a right of rescission against the Issuer, the purchaser will have no right of action for damages against the Issuer or against a person or company referred to in (a)(ii) or (iii) above.

No person or company is liable:

(a) if the person or company proves that this Offering Memorandum or any amendment to this Offering Memorandum was sent without the person's or company's knowledge or consent and that, after becoming aware of its being sent, the person or company promptly gave reasonable notice to the Issuer that it was so sent;

(b) if the person or company proves that after becoming aware of any misrepresentation in this Offering Memorandum or any amendment to this Offering Memorandum, the person or company withdrew the person's or company's consent to it and gave reasonable notice to the Issuer of the person's or company's withdrawal and the reason for it;

(c) if the person or company proves that with respect to any part of this Offering Memorandum or of any amendment to this Offering Memorandum purporting to be made on the authority of an expert or purporting to be a copy of or an extract from a report, opinion or statement of an expert, the person or company had no reasonable grounds to believe and did not believe that:

(i) there had been a misrepresentation; or

(ii) the relevant part of this Offering Memorandum or of the amendment to this Offering Memorandum:

(I) did not fairly represent the report, opinion or statement of the expert; or

(II) was not a fair copy of or extract from the report, opinion or statement of the expert; or

(d) with respect to any part of this Offering Memorandum or of the amendment to this Offering Memorandum not purporting to be made on an expert's authority and not purporting to be a copy of, or an extract from, the expert's report, opinion or statement, unless the person or company:

(i) did not conduct an investigation, sufficient to provide reasonable grounds for a belief that there had been no misrepresentation; or

(ii) believed that there had been a misrepresentation.

Pursuant to section 141.4 of the Manitoba Act, but subject to the other provisions thereof, no action shall be commenced to enforce any of the foregoing rights more than:

(a) in the case of an action for rescission, 180 days from the date that the plaintiff received this Offering Memorandum or the date that the plaintiff acquired the Notes, whichever occurred later, or

(b) in the case of an action for damages, the earlier of:

(i) 180 days after the date that the plaintiff first had knowledge of the facts giving rise to the cause of action, or

(ii) two years after the date of the transaction that gave rise to the cause of action.

In an action for damages, the Issuer will not be liable for all or any part of the damages that the Issuer proves do not represent the depreciation in value of the Notes as a result of the misrepresentation relied upon.

The rights of action for rescission or damages under the Manitoba Act are in addition to and do not derogate from any other right that the purchaser may have at law.

This summary is subject to the express provisions of the Manitoba Act and the regulations and rules made under it, and prospective investors should refer to the complete text of those provisions.

Rights for Purchasers in Newfoundland and Labrador

By purchasing Notes hereunder, purchasers in Newfoundland and Labrador will be deemed to have been granted by the Issuer and will be entitled to the same rights of action for damages or rescission provided to residents of Ontario who purchase Notes.

General

The foregoing summaries are subject to the express provisions of the applicable securities law of each jurisdiction, and the regulations, rules and policy statements thereunder and reference is made thereto for the complete text of such provisions.

The rights of action described in this Offering Memorandum are in addition to and without derogation from any other right or remedy that the purchaser may have at law.

DOCUMENTS INCORPORATED BY REFERENCE

We "incorporate by reference" into this Offering Memorandum certain information contained in documents that are available on our website. By doing so, we are disclosing important information to you by referring you to those documents. The information incorporated by reference is an important part of this Offering Memorandum. The following documents related to us referred to below are incorporated herein by reference:

- our audited consolidated financial statements, including the notes thereto and the independent auditor's report thereon, contained in our 2020 Annual Report (on pages 133 to 180 (inclusive)), attached as Annex A-2 to this Offering Memorandum;

- the 2020 MD&A, attached as Annex A-3 to this Offering Memorandum;

- our audited consolidated financial statements, including the notes thereto and the independent auditor's report thereon, contained in our 2019 Annual Report (on pages 116 to 152 (inclusive)), attached as Annex A-4 to this Offering Memorandum; and

- the 2019 MD&A, attached as Annex A-5 to this Offering Memorandum.

"Incorporation by reference" means that the incorporated documents are considered part of this Offering Memorandum and that we can disclose important information to you by referring you to those documents.

Copies of documents incorporated by reference into this Offering Memorandum are available on our website at: www.cppib.com/en/our-performance/financial-results.html. The information contained on or accessible from our website (other than those sections of the Annual Reports specifically incorporated by reference herein), including any references to such website in this Offering Memorandum or any documents incorporated herein, does not constitute a part of this Offering Memorandum or any other document incorporated by reference and is not incorporated by reference herein. As a general matter, no information other than the information specifically designated in a supplement to this Offering Memorandum is incorporated by reference in or otherwise deemed to be a part of this Offering Memorandum.

Any statement contained in this Offering Memorandum or in a document incorporated by reference in this Offering Memorandum will be deemed to be modified or superseded for purposes of this Offering Memorandum to the extent that a statement contained in any subsequent document modifies or supersedes that statement. Any statement that is modified or superseded in this manner will no longer be a part of this Offering Memorandum, except as modified or superseded.

LIMITATIONS ON ENFORCEMENT OF U.S. LAWS AGAINST US, THE ISSUER, OUR MANAGEMENT AND OTHERS

Both we and the Issuer are incorporated under the laws of Canada. Substantially all of our and the Issuer's directors and executive officers and some of the experts named in this Offering Memorandum, reside outside the United States, and all or a substantial portion of our assets and the assets of such persons are located outside the United States. As a result, it may be difficult for you to effect service of process within the United States upon such persons, or to realize upon judgments rendered against us, the Issuer or such persons by the courts of the United States predicated upon, among other things, the civil liability provisions of the federal securities laws of the United States. In addition, it may be difficult for you to enforce, in original actions brought in courts in jurisdictions located outside the United States, among other things, civil liabilities predicated upon such securities laws. In addition, there is doubt as to the enforceability in Canada against us, the Issuer or against our respective directors and officers who are not residents of the United States, in original actions or in actions for enforcement of judgments of United States courts, of liabilities predicated solely upon U.S. federal securities laws.

LEGAL MATTERS

The validity of the Notes and Guarantee offered hereby will be passed upon for us by Mayer Brown LLP, New York, New York and for the Agents by Sullivan & Cromwell LLP, New York, New York and Washington, D.C. Certain Canadian legal matters in connection with the offering of the Notes and Guarantee will be passed upon for us by McCarthy Tétrault LLP, Toronto, Ontario. Certain Canadian legal matters will be passed upon for the Agents by Stikeman Elliott (London) LLP.

INDEPENDENT AUDITORS

The consolidated financial statements of Canada Pension Plan Investment Board as at and for the year ended March 31, 2020, and the consolidated financial statements as at and for the year ended March 31, 2019, included and incorporated by reference in this Offering Memorandum have been audited by Deloitte LLP, independent auditors, as stated in their reports appearing herein.

GENERAL INFORMATION

Authorization

The establishment of the program and the issue of Notes have been duly authorized by a resolution of the board of the Issuer dated February 9, 2016 and the update of the program and the issue of the Notes have been duly authorized by resolution of the board of the Issuer dated June 10, 2020.

The issue of the Guarantee by us was duly authorized by resolutions of our board dated February 9, 2016, May 10, 2018 and December 10, 2018.

Listing of Notes

Application has been made for the Notes issued under the Program within 12 months from the date of this Offering Memorandum to be admitted to the Official List and admitted to trading on its GEM in accordance with the rules of that exchange. This Offering Memorandum constitutes base listing particulars for the purposes of such application. Notification of any optional redemption, change of control or any change in the rate of interest payable on the Notes will be provided by us to Euronext Dublin. If a series of Notes is to be listed on Euronext Dublin or any other stock exchange, then the appropriate information will be specified in the applicable Pricing Supplement.

Listing Agent

Arthur Cox Listing Services Limited is acting solely in its capacity as Irish listing agent for the Issuer in connection with the Program and is not itself seeking admission of Notes issued under the Program to the Official List or to trading on the GEM.

Documents Available

For as long as the Notes are listed on the Official List and admitted to trading on the GEM, copies of the following documents will be available in physical form for inspection from the registered office of the Issuer and from the specified office of the Fiscal and Paying Agent for the time being in New York City:

- the articles of incorporation and By-laws of the Issuer and the CPPIB Act;

- the independent auditors' audit reports on our consolidated IFRS financial statements as at and for the year ended March 31, 2020, and the consolidated IFRS financial statements as at and for the year ended March 31, 2019;

- when published, our most recently published audited annual financial statements and the most recently published unaudited interim financial statements, in each case together with any audit reports prepared in connection therewith; we currently prepare unaudited condensed interim consolidated financial statements in accordance with IFRS on a quarterly basis;

- the Fiscal and Paying Agency Agreement, the forms of the Global Notes, the Notes in definitive form and the Guarantee;

- a copy of this Offering Memorandum; and

- any future offering memoranda, base prospectuses, prospectuses, information memoranda, supplements, and Pricing Supplement (save that Pricing Supplements which relate to series of Notes which are not admitted to trading on GEM will only be made available to holders of the relevant series of Notes on the production of evidence satisfactory to the Issuer and the Fiscal and Paying Agent as to the identity and holdings of such holders of Notes) to this Offering Memorandum and any other documents incorporated herein or therein by reference.

Clearing Systems

The Notes have been accepted for clearance through Euroclear and Clearstream, Luxembourg, which are the entities in charge of keeping the records. The appropriate Common Code and ISIN (if any) for each series of Notes allocated by Euroclear and Clearstream, Luxembourg will be specified in the applicable Pricing Supplement. In addition, the Issuer may make an application for any Notes in registered form to be accepted for trading in book-entry form by DTC. The CUSIP and/or CINS numbers (if applicable) for each series of such Notes, together with the relevant ISIN and (if applicable) Common Code, will be specified in the applicable Pricing Supplement. If the Notes are to clear through an additional or alternative clearing system, then the appropriate information will be specified in the applicable Pricing Supplement.

Through DTC's accounting and payment procedures, DTC will, in accordance with its customary procedures, credit interest payments received by DTC on any Interest Payment Date based upon DTC Participants' holdings of the Notes on the close of business on the New York Business Day immediately preceding each such Interest Payment Date. A "New York Business Day" is a day other than a Saturday, a Sunday or any other day on which banking institutions in New York, New York are authorized or required by law or executive order to close.

The address of Euroclear is Euroclear Bank SA/NV, 1 Boulevard du Roi Albert II, B-1210 Brussels. The address of Clearstream, Luxembourg is Clearstream Banking, 42 Avenue JF Kennedy, L-1855 Luxembourg. The address of DTC is 55 Water Street, New York, New York 10041, United States of America.

Conditions for Determining Price

The price and amount of Notes to be issued under the Program will be determined by the Issuer and the relevant Agent(s) or investor(s) at the time of issue in accordance with prevailing market conditions.

Significant or Material Change

Since March 31, 2020 (a) there has been no significant change in the financial performance or financial position of either us or the Issuer and (b) there has been no material adverse change in the financial position or prospects of us or the Issuer.

Litigation

Neither we nor the Issuer, nor any of our consolidated subsidiaries is or has been involved in any governmental, legal or arbitration proceedings (including any such proceedings which are pending or threatened of which the Issuer or the Guarantor is aware), during a period covering at least the previous 12 months, which may have, or have had in the recent past, significant effects on the Issuer's or the Guarantor's financial position or profitability.

Interests of Natural and Legal Persons Involved in the Issue

Except with respect to the fees to be paid to the Agents, so far as we are aware, no natural or legal person involved in the issue of the Notes has an interest, including a conflicting interest, material to the issue of the Notes.

Board Conflicts of Interest

Pursuant to the internal policies of the Guarantor, each Director and board member of the Issuer or the Guarantor must avoid any actual conflict of interest or the appearance of a conflict of interest between his/her private interests and his/her duties to the Issuer or the Guarantor, as the case may be, and must recuse himself/herself from any deliberations and decisions which may give rise to a conflict of interest. As at the date of this Offering Memorandum, neither the Issuer nor the Guarantor is aware of any unaddressed or systemic conflict of interest between any private interest of any Director or board member and such Director's or board member's duties to the Issuer or the Guarantor, as the case may be, including any actual or potential conflicts of interest that relate to the fact that certain of the directors may, from time to time, hold board positions with certain of the Agents or their affiliates.

Issuer and Guarantor

We are domiciled in Toronto, Ontario. We were established as a Canadian federal Crown corporation in 1997 under the CPPIB Act, which was enacted on December 18, 1997. The address of our registered office is One Queen Street East, Suite 2500, Toronto, Ontario, Canada, M5C 2W5, and the telephone number of our registered office is +1 416-868-4075. All of our shares are owned by Her Majesty the Queen in right of Canada. Shares of CPP Investments owned by the federal Crown are not transferable, carry no right to vote, carry no right to receive dividends and carry no other rights.

The Issuer is a corporation incorporated under the Canada Business Corporations Act, Toronto, Ontario (registration no. 711721-3). The address of its registered office is One Queen Street East, Suite 2500, Toronto, Ontario, Canada, M5C 2W5, and the telephone number of its registered office is +1 416-868-4075. The members of the Issuer's board of directors are Kristina Fanjoy and Ryan Barry and their business address is One Queen Street East, Suite 2500, Toronto, Ontario, Canada, M5C 2W5.

Auditors

Deloitte LLP is the independent auditor of the Guarantor. Deloitte LLP is located at Bay Adelaide East; 8 Adelaide Street West, Suite 200; Toronto, ON, M5H 0A9 and is regulated by the Canadian Public Accountability Board.

Calculation Agent and Paying Agent

The Bank of New York Mellon will act as Calculation Agent where indicated in the applicable Pricing Supplement. The Bank of New York Mellon's address is 240 Greenwich Street, Floor 7 East, New York, New York 10286.

The Bank of New York Mellon will act as Paying Agent with respect to Notes held through DTC. The Bank of New York Mellon's address is 240 Greenwich Street, Floor 7 East, New York, New York 10286.

The Bank of New York Mellon, London Branch will act as Paying Agent with respect to Notes held through Euroclear/Clearstream. The Bank of New York Mellon, London Branch's address is One Canada Square, London E14 5AL, United Kingdom.

ANNEX A-1: FORM OF PRICING SUPPLEMENT

[PROHIBITION OF SALES TO EEA AND UK RETAIL INVESTORS

The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("EEA") or the United Kingdom ("UK"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "MiFID II"); (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (the "Prospectus Regulation"). Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the "PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the EEA or the UK has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.][1]

[MiFID II Product Governance / Eligible Counterparties and Professional Clients Only Target Market

Solely for the purposes of [each][the] manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (a) the target market for the Notes is eligible counterparties and professional clients only, each as defined in [Directive 2014/65/EU (as amended, "MiFID II")] [MiFID II]), and (b) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration the manufacturer['s][s'] target market assessment; *however*, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Notes (by either adopting or refining the manufacturer['s][s'] target market assessment) and determining appropriate distribution channels.][2]

[FOR SINGAPORE RESIDENTS ONLY

The Notes may not be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (as amended or modified from time to time, the "SFA") or (ii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provisions of the SFA.][3]

Pricing Supplement No.

Pricing Supplement Dated []

US$[ ]
CPPIB Capital Inc.

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[1] Only applicable where paragraph 27 of Part B of the Final Terms is marked as "Applicable."

[2] Delete where none of the Agents are MiFID II investment firms that are manufacturers pursuant to MiFID II for the purposes of the offering of the relevant series of Notes, or revise where the relevant manufacturers have determined that an alternative target market is appropriate for the offering of the relevant series of Notes (or beneficial interests therein). If this paragraph is included but the paragraph regarding the PRIIPs Regulation is not included, then include the MiFID II definition in this paragraph.

[3] Only applicable where sales in Singapore are contemplated.

Legal Entity Identifier (LEI): 549300KW9NB55HTDK075
[Title of Notes] under the
Debt Issuance Programme

[Agent Name(s)]

This Pricing Supplement supplements the Offering Memorandum, dated June 10, 2020, relating to CPPIB Capital Inc.'s Debt Issuance Programme, unconditionally and irrevocably guaranteed by Canada Pension Plan Investment Board ([together,] the "Offering Memorandum"), and should be read in conjunction with the Offering Memorandum. Terms used but not defined herein have the same meaning as in the Offering Memorandum.

[Include whichever of the following apply:]

1.	Series number:	[ ]
2.	(a) Aggregate principal amount:	[ ]
	(b) Stated maturity:	[ ]
3.	(a) Issue date:	[ ]
	(b) Issue price:	[*generally, % of principal amount*]
	(c) Price to Agent(s):	[*generally, % of principal amount*]
	(d) Trade date:	[ ]
	(e) Settlement date:	[ ]
4.	Authorized denomination(s):	[ ]
5.	Specified Currency:	[ ]
6.	Interest/payment basis:	[Fixed Rate Notes/Floating Rate Notes/Zero Coupon Notes/[Currency Indexed Notes/Indexed Notes/]Foreign Currency Notes/Original Issue Discount Notes] [Other] (further particulars specified below)
7.	Fixed Rate Notes:	[Applicable]
	(a) Fixed rate of interest:	[[ ]% per annum] [Not Applicable]
	(b) Interest payment date(s):	[ ][Not Applicable]
	(c) Other terms for computing interest:	[ ]
	(d) Day count fraction:	[ ][Not Applicable]
	(e) Determination Date(s):	[ ][Not Applicable]
	(f) Regular Record Date(s):	[ ]
8.	Floating Rate Notes:	[ ]
	(a) Base Rate:	[Commercial Paper Rate/Prime Rate/LIBOR/SOFR/EURIBOR/SONIA/Treasury Rate/CMT Rate/Federal Funds Rate/Other interest rate formula (*provide details*) (*if SOFR, specify whether weighted average or compounding and if Compounded SOFR Notes, specify whether with Lookback, Observation Period Shift, Payment Delay or if Compounded SOFR Index Notes with Observation Period Shift or Compounded SOFR Index Notes with Payment Delay*)]
	(b) Spread:	[+/-] [__ basis points] [ ]% per annum
	(c) Spread Multiplier:	[ ]
	(d) Index currency:	[ ] [*Include if Base Rate is LIBOR or CMT Rate.*]
	(e) Designated LIBOR Page:	[ ] [*Include if Base Rate is LIBOR.*]

(f) Designated CMT Reuters Page:	[ ] [*Include if Base Rate is LIBOR.*] [*If Designated CMT Reuters Page is Reuters Page FEDCMT, specify weekly or monthly average.*]
(g) ISDA Designation:	
- Floating Rate Option:	[ ]
- Designated Maturity:	[ ]
- Reset Date:	[ ]
(h) Index Maturity:	[ ]
(i) Interest Determination Date(s):	[ ]
(j) Minimum rate of interest:	[ ]% per annum
(k) Maximum rate of interest:	[ ]% per annum
(l) Calculation Agent:	[ ]
(m) Initial Base Rate:	[ ]
(n) Initial interest rate:	[ ]
(o) Interest Payment Date(s):	[ ]
(p) Regular Record Date(s):	[ ]
(q) Calculation Date(s):	[ ]
(r) Interest period(s):	[ ]
(s) Interest period date(s):	[ ]
(t) Initial Interest Reset Date:	[ ]
(u) Interest Reset Period:	[ ]
(v) Interest Reset Dates:	[ ]
(w) Day count fraction:	[ ] [Actual/360 [*If Base Rate is SOFR*]]
(x) Rate Cut-Off Date:	[ ] [The [ ] U.S. Government Securities Business Day prior to the relevant Interest Payment Date] [*Include for Compounded SOFR Notes with Payment Delay, Compounded SOFR Index Notes with Payment Delay or for Simple Average SOFR Notes*][N/A]
(y) Method of averaging:	[ ] [Weighted Average (as defined in the ISDA Definitions)] [Compound Average] [*Include if Base Rate is SOFR*][N/A]
(z) Observation Lookback Period:	[N/A]
(aa) SOFR Interest Determination Date:	[[ ] U.S. Government Securities Business Days prior to the Interest Payment Date [*Include for Compounded SOFR Notes with Lookback, Observation Period Shift or Payment Delay*]
(bb) Look Back Number of U.S. Government Securities Business Days:	[ ] [*Include for Compounded SOFR Notes with Lookback*]
(cc) Observation Period:	[ ] U.S. Government Securities Business Days prior to the first date of the relevant Interest Period or the related Interest Payment Date [*Include for Compounded SOFR Notes with Observation Period Shift or Compounded SOFR Index Notes with Observation Period Shift*]
(dd) Interest Accrual Period:	[quarterly, monthly, other] [*Include for Compounded SOFR Notes with Payment Delay or Compounded SOFR Index Notes with Payment Delay*]
(ee) Interest Accrual Period End Dates:	[ ] [*Include for Compounded SOFR Notes with Payment Delay*]
(ff) Interest Payment Dates:	The [ ] Business Day following each Interest Accrual Period End Date [*Include for Compounded SOFR Notes with Payment Delay or Compounded SOFR Index Notes with Payment Delay*]
(gg) SOFR Index Start and End Dates:	[ ] U.S. Government Securities Business Days [*Include for Compounded SOFR Index Notes with Observation Period Shift or Compounded SOFR Index Notes with*

		Payment Delay of other than two U.S. Government Securities Business Days]
	(hh) Lag Period:	[ ] U.S. Government Securities Business Days prior to the Interest Reset Date [*Include if Base Rate is Simple Average SOFR*] [N/A]
	(ii) Additional provisions for calculating interest on Floating Rate Notes:	[ ]
9.	Zero Coupon Notes:	[ ]
	(a) Formula/basis of determining amount:	[ ] payable at maturity:
10.	Foreign Currency Notes:	
	(a) Exchange Agent:	[ ]
11.	Original Issue Discount Notes:	[Yes/No]
	(a) Total amount of OID:	[__ per [$] 1,000 principal amount]
	(b) Yield to maturity:	[ ]
	(c) Method used to determine yield:	[ ]
	(d) Initial accrual period of OID:	[__ per [$] 1,000 principal amount]
	(e) Formula/basis for determining amount payable upon redemption or acceleration of maturity:	[ ]
12.	Redemption at CPPIB Capital Inc.'s and/or Noteholders' option — [Yes/No], if yes:	[*specify*]
	(a) Redemption commencement date:	[ ]
	(b) Redemption price(s):	[*% of principal amount*]
	(c) Redemption period(s):	[ ]
	(d) Redemption date(s):	[ ]
	(e) Repayment date(s):	[ ]
	(f) Repayment price(s):	[ ]
13.	Additional selling restrictions:	[*give details*]
14.	Other terms or special conditions or modifications:	[ ]
15.	Applicable definition of Business Day:	[ ]
16.	As applicable:	[ ]
	Euroclear and Clearstream, Luxembourg common code:	[ ]
	CUSIP number:	[ ]
	ISIN number:	[ ]
17.	Notes to be listed and admitted to trading on the Global Exchange Market of Euronext Dublin:	[Yes/No] [*If "Yes", then this Pricing Supplement should complete (but not modify) the terms and conditions of the Notes, as described in the Offering Memorandum, by the application or disapplication of such terms (but not their modification)*]
18.	Form of Notes:	Registered Notes [Represented by: Temporary Global Note/Permanent Global Note/ U.S. Global Note/Regulation S Global Note/International Global Note] [*Specify any alternative form of Notes in case of Exempt Notes.*] [*Specify any circumstances under which the holder may request Notes in non-global form.*]

		[*Specify any circumstances under which the Notes may be exchanged.*] [*Specify any rules governing conversion, exercise or exchange of Notes*]
19.	Depositary:	[DTC/Common Depositary/Common Safekeeper]
20.	Intended to be held in a manner which would allow Eurosystem eligibility:	[Yes/No] [[*If "Yes," include the following:*] Note that the designation "yes" simply means that the Notes are intended upon issue to be deposited with one of the ICSDs as common safekeeper (and registered in the name of a nominee of one of the ICSDs acting as common safekeeper) and does not necessarily mean that the Notes will be recognized as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem either upon issue or at any or all times during their life. Such recognition will depend upon the European Central Bank being satisfied that Eurosystem eligibility criteria have been met.] [If *"No." include the following:*] Whilst the designation is specified as "no" at the date of this Pricing Supplement, should the Eurosystem eligibility criteria be amended in the future such that the Notes are capable of meeting them the Notes may then be deposited with one of the ICSDs as common safekeeper (and registered in the name of a nominee of one of the ICSDs acting as common safekeeper). Note that this does not necessarily mean that the Notes will then be recognized as eligible collateral for Eurosystem monetary policy and intra-day credit operations by the Eurosystem at any time during their life. Such recognition will depend upon the ECB being satisfied that Eurosystem eligibility criteria have been met.]
21.	Net proceeds:	[ ]
22.	Selling commission or discount:	[ ]
23.	Registrar, transfer agent, paying agent(s), co-agents and depositaries (if any):	[ ]
24.	Intended use of proceeds of the Notes (if other than general purposes):	[ ]
25.	Method of distribution (syndicated/non-syndicated):	[ ]
26.	Prohibition of sales to EEA and UK Retail Investors:	[Applicable/Not Applicable][4]
27.	Name(s) of the Agent(s) or syndicates of dealer(s) that are to offer and sell the Notes to be issued:	[ ]
28.	Stabilization Manager(s) (if any):	[Not Applicable][Yes: [*Provide name(s)*]]
29.	Ratings covenant of the Issuer:	[Not Applicable][Yes: [*Specify ratings agencies*]]

[4] If the offer of the Notes clearly do not constitute "packaged" products, "Not Applicable" should be specified. If the offer of the Notes may constitute "packaged" products and no key information document will be prepared, "Applicable" should be specified.

Responsibility

Each of CPPIB Capital Inc. and Canada Pension Plan Investment Board accepts responsibility for the information contained in this Pricing Supplement, which, when read together with the Offering Memorandum referred to above, contains all information that is material in the context of the issue of the Notes.

Signed on behalf of CPPIB Capital Inc.:

By: ____ Duly authorized signatory

By: ____ Duly authorized signatory

Signed on behalf of Canada Pension Plan Investment Board:

By: ____ Duly authorized signatory

By: ____ Duly authorized signatory

ANNEX A-2: 2020 FINANCIAL STATEMENTS

Management's Responsibility for Financial Reporting

The Consolidated Financial Statements of Canada Pension Plan Investment Board (CPP Investments) have been prepared by Management and approved by the Board of Directors. Management is responsible for the integrity and reliability of the Consolidated Financial Statements and the financial information contained within the Annual Report.

The Consolidated Financial Statements have been prepared in accordance with International Financial Reporting Standards. The Consolidated Financial Statements include certain amounts based on Management's judgments and best estimates where deemed appropriate. The significant accounting policies used are disclosed in Note 1 to the Consolidated Financial Statements or in the Notes to which the accounting policies relate. The financial information presented throughout the Annual Report is consistent with the Consolidated Financial Statements.

CPP Investments develops and maintains systems of internal control and supporting procedures. The systems of internal control are designed to provide reasonable assurance that assets are safeguarded; that transactions are properly recorded, authorized and are in accordance with the *Canada Pension Plan Investment Board Act*, the accompanying regulations, the by-laws and investment policies of CPP Investments; and that there are no material misstatements in the Consolidated Financial Statements or the financial information contained within the Annual Report. The internal control over financial reporting and disclosure controls and procedures are tested for both design and operational effectiveness as part of our CEO/CFRO certification process as described on page 101 of Management's Discussion and Analysis in the 2020 Annual Report.

The internal control framework includes a strong corporate governance structure, an enterprise risk management framework that identifies, monitors and reports on key risks facing the organization, a Code of Conduct, conflict of interest procedures and other policies, as well as management authorities and procedures that guide decision-making. The controls also include the establishment of an organizational structure that provides a well-defined division of responsibilities and accountability, the selection and training of qualified staff and the communication of policies, management authorities and procedures throughout the organization. The systems of internal control are further supported by a compliance management system to monitor CPP Investments' compliance with legislation, policies, management authorities and procedures and by internal and external auditors who review and evaluate internal controls in accordance with their respective annual audit plans approved by the Audit Committee.

The Audit Committee assists the Board of Directors in discharging its responsibility to approve the Consolidated Financial Statements. The Audit Committee, consisting of independent directors, meets regularly with Management and the internal and external auditors to discuss the scope and findings of audits and other work they may be requested to perform from time to time, to review financial information and to discuss the adequacy of internal controls. The Audit Committee reviews the Consolidated Financial Statements and recommends them to the Board of Directors for approval.

CPP Investments' external auditor, Deloitte LLP, has conducted an independent audit of the Consolidated Financial Statements in accordance with Canadian generally accepted auditing standards, performing such tests and other procedures as it considers necessary to express an opinion in its Independent Auditor's Report. The external auditor has full and unrestricted access to Management and the Audit Committee to discuss any findings related to the integrity and reliability of CPP Investments' financial reporting and the adequacy of internal control systems.

Mark G. Machin
President & Chief Executive Officer

Neil Beaumont
Senior Managing Director & Chief Financial and Risk Officer

Toronto, Ontario
May 18, 2020

Investment Certificate

The *Canada Pension Plan Investment Board Act* (CPPIB Act) requires that a certificate be signed by a director on behalf of the Board of Directors, stating that the investments of CPP Investments held during the year were in accordance with the CPPIB Act and CPP Investments' investment policies, standards and procedures. Accordingly, the Investment Certificate follows.

The investments of CPP Investments, held during the year ended March 31, 2020, were in accordance with the CPPIB Act and CPP Investments' investment policies, standards and procedures.

Mary Phibbs
Chair of the Audit Committee on behalf of the Board of Directors

Toronto, Ontario
May 15, 2020

Independent Auditor's Report

To the Board of Directors of Canada Pension Plan Investment Board

Opinion

We have audited the consolidated financial statements of Canada Pension Plan Investment Board ("CPP Investments"), which comprise the consolidated balance sheet as at March 31, 2020, and the consolidated statements of comprehensive income, changes in net assets and cash flows for the year then ended, and Notes to the Consolidated Financial Statements, including a summary of significant accounting policies (collectively referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of CPP Investments as at March 31, 2020, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards ("IFRS").

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards ("Canadian GAAS"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of CPP Investments in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

Management is responsible for the other information. The other information comprises the information, other than the financial statements and our auditor's report thereon, in the Annual Report.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon. In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

We obtained the Annual Report prior to the date of this auditor's report. If, based on the work we have performed on this other information, we conclude that there is a material misstatement of this other information, we are required to report that fact in this auditor's report. We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRS, and for such internal control as Management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

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

Those charged with governance are responsible for overseeing CPP Investments' financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian GAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian GAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of CPP Investments' internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management.
- Conclude on the appropriateness of Management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on CPP Investments' ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause CPP Investments to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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

Report on Other Legal and Regulatory Requirements

Further, in our opinion, the transactions of CPP Investments that have come to our attention during our audit of the financial statements have, in all material respects, been in accordance with the *Canada Pension Plan Investment Board Act* ("CPPIB Act") and the by-laws, as the case may be.

Further, in our opinion, the record of investments kept by CPP Investments Management, pursuant to paragraph 39(1)(c) of the CPPIB Act fairly presents, in all material respects, the information required by the CPPIB Act.

Deloitte LLP

Chartered Professional Accountants
Licensed Public Accountants

Toronto, Ontario
May 18, 2020

Consolidated Financial Statements and Notes

Consolidated Balance Sheet

(CAD millions)	As at March 31, 2020	As at March 31, 2019[1]
Assets		
Investments (Note 2)	$ **535,464**	$ 495,449
Pending trades receivable	**6,944**	4,467
Premises and equipment	**474**	387
Other assets	**262**	244
Total assets	**543,144**	500,547
Liabilities		
Investment liabilities (Note 2)	**127,062**	104,219
Pending trades payable	**5,702**	3,703
Accounts payable and accrued liabilities	**792**	645
Total liabilities	**133,556**	108,567
Net assets	$ **409,588**	$ 391,980
Net assets, represented by:		
Share capital	$ **–**	$ –
Accumulated net income from operations	**259,721**	247,624
Accumulated net transfers from the Canada Pension Plan	**149,867**	144,356
Net assets	$ **409,588**	$ 391,980

1. Certain comparatives have been reclassified to conform to the current year's presentation.

The accompanying Notes are an integral part of these Consolidated Financial Statements.

On behalf of the Board of Directors

Heather Munroe-Blum
Chairperson

Mary Phibbs
Chair of the Audit Committee

Consolidated Statement of Comprehensive Income

(CAD millions)	For the years ended March 31, 2020	For the years ended March 31, 2019[1]
Investment income (Note 5)	$ 15,721	$ 35,095
Investment-related expenses (Note 6)	(2,370)	(1,882)
Net investment income	**13,351**	33,213
Operating expenses (Note 14)	**1,254**	1,203
Net income from operations and comprehensive income	**$ 12,097**	$ 32,010

1. Certain comparatives have been reclassified to conform to the current year's presentation.

The accompanying Notes are an integral part of these Consolidated Financial Statements.

Consolidated Statement of Changes in Net Assets

(CAD millions)	Number of shares outstanding	Share capital	Accumulated net transfers from the Canada Pension Plan	Accumulated net income from operations	Total net assets
As at April 1, 2018	10	$ –	$ 140,520	$ 215,614	$ 356,134
Total net income for the year		–	–	32,010	32,010
Canada Pension Plan transfers:					
Transfers from the Canada Pension Plan		–	38,581	–	38,581
Transfers to the Canada Pension Plan		–	(34,745)	–	(34,745)
Balance at March 31, 2019	10	$ –	$ 144,356	$ 247,624	$ 391,980
As at April 1, 2019	**10**	**$ –**	**$ 144,356**	**$ 247,624**	**$ 391,980**
Total net income for the year		**–**	**–**	**12,097**	**12,097**
Canada Pension Plan transfers:					
Transfers from the Canada Pension Plan		**–**	**44,521**	**–**	**44,521**
Transfers to the Canada Pension Plan		**–**	**(39,010)**	**–**	**(39,010)**
Balance at March 31, 2020	**10**	**$ –**	**$ 149,867**	**$ 259,721**	**$ 409,588**

The accompanying Notes are an integral part of these Consolidated Financial Statements.

Consolidated Statement of Cash Flows

(CAD millions)	For the years ended March 31, 2020	March 31, 2019[3]
Cash flows from operating activities		
Net income from operations	$ 12,097	$ 32,010
Adjustments for non-cash items:		
Amortization of premises and equipment	50	20
Losses on debt financing liabilities (Note 12)	2,857	950
Adjustments for net changes in operating assets and liabilities:		
(Increase) in investments	(25,123)	(66,580)
(Increase) in pending trades receivable	(2,477)	(1,854)
Decrease (increase) in other assets	88	(86)
Increase in investment-related liabilities	15,309	24,770
Increase in pending trades payable	1,999	1,610
Increase (decrease) in accounts payable and accrued liabilities	42	(44)
Net cash flows provided by (used in) operating activities	4,842	(9,204)
Cash flows from financing activities		
Transfers from the Canada Pension Plan	44,521	38,581
Transfers to the Canada Pension Plan	(39,010)	(34,745)
Proceeds from debt financing liabilities (Note 12)	29,507	36,784
Repayments of debt financing liabilities (Note 12)	(24,830)	(30,929)
Net cash flows provided by financing activities	10,188	9,691
Cash flows from investing activities		
Acquisitions of premises and equipment	(32)	(59)
Net cash flows (used in) investing activities	(32)	(59)
Net increase in cash and cash equivalents	14,998	428
Effect of exchange rate changes on cash and cash equivalents	45	(18)
Cash and cash equivalents at the beginning of the year	8,706	8,296
Cash and cash equivalents at the end of the year	23,749	8,706
Cash and cash equivalents at the end of the year are comprised of:		
Cash held for operating purposes[1]	194	88
Cash and cash equivalents held for investment purposes[2]	23,555	8,618
Total	$ 23,749	$ 8,706

1. Presented as a component of other assets on the Consolidated Balance Sheet.
2. Presented as a component of investments on the Consolidated Balance Sheet and money market securities on the Consolidated Schedule of Investment Portfolio.
3. Certain comparatives have been reclassified to conform to the current year's presentation.

The accompanying Notes are an integral part of these Consolidated Financial Statements.

Consolidated Schedule of Investment Portfolio

The schedule below provides information on investments and investment liabilities held by Canada Pension Plan Investment Board and its investment holding subsidiaries on a combined basis. The nature of these investments and investment liabilities is further described in Note 2.

(CAD millions)	As at March 31, 2020	As at March 31, 2019[2]
Equities		
Public equities	$ 118,241	$ 141,189
Private equities	105,381	96,659
Total equities	223,622	237,848
Fixed income		
Bonds	103,658	85,604
Other debt	27,214	27,325
Money market securities	24,908	9,829
Total fixed income	155,780	122,758
Absolute return strategies	27,922	25,512
Real assets		
Real estate	43,718	45,846
Infrastructure	34,679	33,131
Power and renewables	8,711	5,075
Energy and resources	7,281	8,002
Total real assets	94,389	92,054
Investment receivables		
Securities purchased under reverse repurchase agreements and cash collateral pledged on securities borrowed	18,658	12,532
Derivative assets	9,730	3,192
Other	6,212	2,029
Total investment receivables	34,600	17,753
Total investments[1]	$ 536,313	$ 495,925
Investment liabilities		
Securities sold under repurchase agreements and cash collateral received on securities lent	(52,347)	(39,491)
Debt financing liabilities	(38,395)	(30,861)
Securities sold short	(20,776)	(29,027)
Derivative liabilities	(10,023)	(2,330)
Short-term secured debt	(1,430)	(1,358)
Other	(4,104)	(1,155)
Total investment liabilities[1]	(127,075)	(104,222)
Pending trades receivable[1]	7,025	4,692
Pending trades payable[1]	(6,619)	(4,401)
Net investments	$ 409,644	$ 391,994

1. Consists of all the financial assets and liabilities held by both Canada Pension Plan Investment Board and its investment holding subsidiaries. In contrast, the Consolidated Balance Sheet presents all financial assets and liabilities held by investment holding subsidiaries as investments. This results in a difference of $849 million (March 31, 2019 – $476 million), $13 million (March 31, 2019 – $3 million), $81 million (March 31, 2019 – $225 million) and $917 million (March 31, 2019 – $698 million) as compared to investments, investment liabilities, pending trades receivable and pending trades payable, respectively, as presented in the Consolidated Balance Sheet. Refer to Note 1.2, and 3.1 and 3.2 for further details.
2. Certain comparatives have been reclassified to conform to the current year's presentation.

The accompanying Notes are an integral part of these Consolidated Financial Statements.

Notes to the Consolidated Financial Statements

Corporate 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 a federal Crown corporation, all of the shares of which are owned by Her Majesty the Queen in right of Canada. The issued and authorized share capital of CPP Investments is $100 divided into 10 shares with a par value of $10 each.

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). It is responsible for managing amounts that are transferred to it under Sections 108.1 and 108.3 of the CPP Act in the best interests of CPP beneficiaries and contributors. CPP Investments received its first funds for investing purposes from the CPP in March 1999. CPP Investments' assets are to be invested in accordance with the CPPIB Act, the regulations and CPP Investments' investment policies with a view to achieving a maximum rate of return without undue risk of loss, having regard to the factors that may affect the funding of the CPP and the ability of the CPP to meet its financial obligations on any given business day.

In December 2016, Royal Assent was given to Bill C-26 titled *An Act to Amend the Canada Pension Plan,* the *Canada Pension Plan Investment Board Act* and the *Income Tax Act*. These legislative amendments increase the amount of CPP contributions and the corresponding retirement pensions and other benefits that are paid on CPP contributions made after 2018. The CPP Act now defines two separate parts of the CPP. The "base CPP" refers to the benefits and contributions established before 2019. The "additional CPP" refers to the additional benefits and additional contributions that began on January 1, 2019. The assets attributable to the CPP's additional CPP account are accounted for separately from those of the base CPP account. Note 19 provides information on the net assets, net investments and net income of the base CPP account and additional CPP account. All references to "CPP" mean base CPP and additional CPP collectively.

CPP Investments is exempt from Part I tax under paragraph 149(1)(d) of the *Income Tax Act (Canada)* on the basis that all of the shares of CPP Investments are owned by Her Majesty the Queen in right of Canada. Further, all of CPP Investments' wholly owned subsidiaries are exempt from Part I tax.

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

CPP Investments' registered office is located at One Queen Street East, Toronto, Ontario, Canada.

The Consolidated Financial Statements were approved by the Board of Directors and authorized for issue on May 15, 2020.

1. Summary of significant accounting policies

At a Glance

This Note describes significant accounting policies that are relevant to the Consolidated Financial Statements as a whole. Where an accounting policy is specific to one financial statement element, the policy is described in the Note to which it relates.

Use of Estimates, Judgments and Assumptions

The preparation of the Consolidated Financial Statements requires Management to make estimates, judgments and assumptions that affect the amounts recognized for assets and liabilities, principally the valuation of financial instruments which are not actively traded. Uncertainty about these estimates, judgments and assumptions may result in outcomes that could require a material adjustment to the carrying amount of the affected assets or liabilities in the future.

COVID-19, the novel coronavirus, has created global economic disruption and uncertainty. Despite the uncertainty as to the outcome and ultimate effects of the pandemic, CPP Investments has used extensive sources of available information in providing its best estimate of the impact that the COVID-19 pandemic has had on the valuations of its investments and investment liabilities as of the date of these financial statements. However, these estimates are sensitive to key assumptions and drivers that are subject to material changes. Please see Note 3.6 for sensitivity analysis and Note 8.2.1 for a discussion of market stress scenarios. We are monitoring developments relating to the global spread of COVID-19 and continuing to assess the ongoing impact on CPP Investments.

1.1 Basis of presentation

These Consolidated Financial Statements present the financial position and the financial performance of CPP Investments in accordance with International Financial Reporting Standards (IFRS).

CPP Investments qualifies as an investment entity as it meets the following definition of an investment entity outlined in IFRS 10, *Consolidated Financial Statements* (IFRS 10):

- Obtains funds from one or more investors for the purpose of providing those investor(s) with investment management services. In the case of CPP Investments, we have one investor (more specifically, we invest amounts transferred from the CPP that are not required to pay current CPP benefits), but the funds are invested in the best interests of a wide group of individuals being the contributors and beneficiaries of the CPP.
- Commits to its investor(s) that its business purpose is to invest funds solely for returns from capital appreciation, investment income or both.
- Measures and evaluates the performance of substantially all of its investments on a fair value basis.

No significant judgments or assumptions were made in determining that CPP Investments meets the definition of an investment entity as defined in IFRS 10.

Statement of compliance

The Consolidated Financial Statements of CPP Investments have been prepared in accordance with IFRS as issued by the International Accounting Standards Board and the requirements of the CPPIB Act and the accompanying regulations.

1.2 Subsidiaries

CPP Investments reports the results of its operations in accordance with IFRS 10. As a consequence, the Consolidated 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 Consolidated 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, investment liabilities and pending trades held by the investment holding subsidiary together with its accumulated net income from operations less dividends paid. The determination of the fair value of the underlying investments and investment liabilities is based on the valuation techniques and related inputs described in Note 2.

1.3 Financial instruments

Classification

CPP Investments classifies its financial assets and financial liabilities, in accordance with IFRS 9, *Financial Instruments*, as follows:

Financial assets

Financial assets are either classified at fair value through profit or loss (FVTPL) or at amortized cost. The classification depends on (a) the business model for managing the financial assets and (b) the cash flow characteristics of the financial assets. Financial assets are classified at FVTPL on the basis that they are part of a portfolio of investments which is managed to maximize returns without undue risk of loss and whose performance is evaluated on a fair value basis in accordance with investment strategies and risk management of CPP Investments. Financial assets classified at FVTPL include investments in equities, fixed income, absolute return strategies, real assets, derivatives, securities purchased under reverse repurchase agreements and cash collateral pledged on securities borrowed. Financial assets carried at amortized cost include pending trades receivable and other assets.

Financial liabilities

Financial liabilities are either classified at FVTPL or at amortized cost. A financial liability is classified at FVTPL if it is classified as held for trading, it is a derivative, or it is designated as such on initial recognition.

Financial liabilities at FVTPL are derivative liabilities and securities sold short. Financial liabilities designated at FVTPL include debt financing liabilities, securities sold under repurchase agreements, cash collateral received on securities lent, short-term secured debt and other investment liabilities. Financial liabilities at amortized cost include pending trades payable and accounts payable and accrued liabilities.

Recognition

CPP Investments recognizes a financial asset or a financial liability when, and only when, it becomes a party to the contractual provisions of the financial instrument. Investments, investment receivables, investment liabilities, pending trades receivable and pending trades payable are recorded on a trade date basis.

Derecognition

A financial asset is derecognized under the following situations: (a) when the contractual rights to receive the cash flows from the financial asset expire, (b) when CPP Investments has transferred the financial asset and substantially all the risks and rewards of the asset, or (c) in cases where CPP Investments has neither retained nor transferred substantially all risks and rewards of the asset, it no longer retains control over the asset.

CPP Investments derecognizes a financial liability when the obligation under the liability is discharged, cancelled or expires.

Initial measurement

Financial assets and financial liabilities are measured on initial recognition at fair value.

Subsequent measurement

After initial measurement, financial assets and financial liabilities continue to be measured at fair value or amortized cost.

Subsequent changes in the fair value of those financial assets and financial liabilities classified at fair value are recorded as a net gain (loss) on investments and included in investment income. Interest income and dividend income from such financial instruments are also included in investment income.

1.4 Functional and presentation currency

CPP Investments' functional and presentation currency is the Canadian dollar, which is the currency of the primary economic environment in which it operates. CPP Investments' performance is evaluated and its liquidity is managed in Canadian dollars. Therefore, the Canadian dollar is considered to be the currency that most faithfully represents the economic effects of the underlying transactions, events and conditions.

1.5 Foreign currency translation

Transactions, including purchases and sales of investments, and income and expenses, are translated at the rate of exchange prevailing on the date of the transaction. Investments and monetary assets and liabilities denominated in foreign currencies are translated at the functional currency exchange rate at each balance sheet date. Non-monetary items in a foreign currency are measured at historical cost using the exchange rates at the dates of the initial transactions.

Foreign currency transaction gains and losses on financial instruments classified at FVTPL are included in investment income in the *Consolidated Statement of Comprehensive Income.*

1.6. Current year adoption and future changes in accounting policies

Developments and changes in accounting standards from the International Accounting Standards Board (IASB) are actively monitored. There were no adoptions of issued IFRS standards, changes in existing standards or new interpretations during the year ended March 31, 2020 that had a material impact on the Consolidated Financial Statements. There are no issued IFRS standards, changes in existing standards or new interpretations with effective dates on or after April 1, 2020 that are expected to have a material impact on the Consolidated Financial Statements.

2. Investments and investment liabilities

At a Glance

All investments and investment liabilities are measured at fair value.

This Note describes the types of investments and investment liabilities held by CPP Investments and its investment holding subsidiaries, and explains how Management determines their fair value.

ACCOUNTING POLICY

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

CPP Investments manages the following types of investments and investment liabilities and determines fair value as described below.

2.1 Equities

Public equities

Public equity investments are made directly or through funds, including hedge funds.

Fair value for publicly traded equities, including equity short positions, is based on quoted market prices. Fair value for fund investments is generally based on the net asset value reported by the external administrators or managers of the funds.

Private equities

Private equity investments are generally made directly or through ownership in limited partnership funds.

Fair value for investments held directly is primarily determined using accepted industry valuation methods such as earnings multiples of comparable publicly traded companies or discounted cash flows. Significant inputs for these valuation methods include company-specific earnings before interest, taxes, depreciation and amortization (EBITDA), earnings multiples of comparable publicly traded companies, projected cash flows and discount rates using current market yields of instruments with similar characteristics. Recent market transactions, where available, are also used. In the case of investments held through a limited partnership fund, fair value is generally based on relevant information reported by the general partner using similar accepted industry valuation methods.

2.2 Fixed income

Bonds

Bonds include non-marketable and marketable bonds.

Fair value for non-marketable Canadian provincial government bonds is calculated using discounted cash flows based on current market yields of instruments with similar characteristics. In the case of marketable bonds, including bond short positions, fair value is based on quoted prices or calculated using discounted cash flows based on benchmark yield curves and credit spreads pertaining to the issuer.

Other debt

Other debt includes investments in direct private debt, asset-backed securities, distressed mortgage funds, private debt funds, hedge funds and investments in royalty-related income streams.

Fair value for direct investments in private debt and asset-backed securities is based on quoted market prices, broker quotes or recent market transactions, if available. Where the market price is not available, fair value is calculated using discounted cash flows based on significant inputs such as projected cash flows and discount rates using current market yields of instruments with similar characteristics.

Fair value for fund investments is generally based on the net asset value as reported by the external administrators or managers of the funds.

In the case of investments in royalty-related income streams, fair value is primarily determined using discounted cash flows based on projected cash flows and discount rates using current market yields of instruments with similar characteristics.

Money market securities

Money market securities include cash, term deposits, treasury bills, commercial paper and floating rate notes. Cash equivalents consist of short-term deposits with a maturity of 90 days or less.

Fair value is determined using cost, which, together with accrued interest income, approximates fair value due to the short-term or floating rate nature of these securities.

2.3 Absolute return strategies

Absolute return strategies include investments in hedge funds whose objective is to generate positive returns regardless of market conditions, that is, returns with a low correlation to broad market indexes. The underlying securities of the funds could include, but are not limited to, equities, fixed income securities and derivatives.

Fair value for these fund investments is generally based on the net asset value as reported by the external administrators or managers of the funds.

2.4 Real assets

Real estate

Real estate investments are generally made through direct private investments, or through ownership of real estate funds. Private real estate investments are managed by investment partners primarily through co-ownership arrangements.

Fair value for private real estate investments is determined using accepted industry valuation methods such as discounted cash flows. Significant inputs include projected cash flows, net operating income, discount and terminal capitalization rates. Fair value is also determined using net asset value provided by the investment partner.

Fair value for real estate funds is generally based on the net asset value reported by the external managers of the funds.

Infrastructure, power and renewables and energy and resources

Infrastructure, power and renewables and energy and resources investments are generally made directly, but can also occur through limited partnership funds.

The fair value of these investments is primarily determined using discounted cash flows based on significant inputs including projected cash flows and discount rates. Earnings multiples of comparable companies may also be used for determining the fair value of certain investments.

Fair value for investments held through limited partnership funds are generally based on the net asset value as reported by the external managers of the funds.

2.5 Securities purchased under reverse repurchase agreements and sold under repurchase agreements

ACCOUNTING POLICY

Securities purchased under reverse repurchase agreements represent the purchase of securities with a simultaneous agreement to sell them back at a specified price at a specified future date and are accounted for as an investment receivable. The purchased securities under these agreements are not recognized on the Consolidated Balance Sheet. The fair value of securities to be resold under reverse repurchase agreements is monitored and additional collateral is obtained, when appropriate, to protect against credit exposure. In the event of counterparty default, CPP Investments has the right to liquidate the collateral held.

Securities sold under repurchase agreements are accounted for as collateralized borrowing because they represent the sale of securities with a simultaneous agreement to buy them back at a specified price at a specified future date. The securities sold under these agreements continue to be recognized on the Consolidated Balance Sheet with any changes in fair value recorded as net gain (loss) on investments and included in investment income.

Interest earned on reverse repurchase agreements is included in interest income within investment income. Interest incurred on repurchase agreements is included in borrowing costs within investment-related expenses.

Reverse repurchase and repurchase agreements are carried at the amounts at which the securities were initially acquired or sold, which, together with accrued interest income or expense, approximates fair value due to the short-term nature of these agreements.

2.6 Securities borrowed and lent

ACCOUNTING POLICY

Securities borrowing and lending agreements are transactions in which CPP Investments borrows securities from or lends securities to third parties.

Borrowed securities are not recognized on the Consolidated Balance Sheet. Lent securities remain on the Consolidated Balance Sheet as CPP Investments retains substantially all of the risks and rewards of ownership of the transferred securities.

Collateral received or pledged is generally in the form of cash, equities or fixed income securities. Cash collateral received is accounted for as an investment liability while equities and fixed income securities received as collateral are not recognized on the Consolidated Balance Sheet. Cash collateral pledged is accounted for as an investment receivable, while securities collateral pledged by CPP Investments in securities borrowing agreements remain on the Consolidated Balance Sheet. Costs relating to securities borrowing and lending are included in borrowing costs within investment-related expenses.

2.7 Securities sold short

Securities sold short represent securities that are sold, but not owned, by CPP Investments. CPP Investments has an obligation to cover these short positions, which are accounted for as an investment liability based on the fair value of the securities sold. Collateral is pledged to the counterparty, as required. Interest and dividends accrued on securities sold short are included in investment income.

2.8 Debt financing liabilities

Debt financing liabilities consist of commercial paper payable and term debt. Commercial paper payable is carried at the amount originally issued, which, together with accrued interest expense, approximates fair value due to the short-term nature of these liabilities. Fair value for term debt is based on quoted market prices. Interest expense and associated costs on debt financing liabilities are included in borrowing costs within investment-related expenses.

2.9 Short-term secured debt

Short-term secured debt consists of cash advances from prime brokers that are fully collateralized by securities. The securities collateral pledged to the counterparty remains on the Consolidated Balance Sheet. Short-term secured debt is carried at the amounts at which the funding was initially transferred, which together with accrued interest, approximates fair value due to the short-term nature of the debt and variable interest rate. Interest expense on short-term secured debt is included in borrowing costs within investment-related expenses.

2.10 Derivative assets and liabilities

A derivative is a financial contract, the value of which is derived from the value of underlying assets, indexes, interest rates, currency exchange rates or other market-based factors. Derivatives are transacted through regulated exchanges, centrally cleared or negotiated in over-the-counter markets.

Fair value for exchange-traded derivatives, which includes futures, options and warrants, is based on quoted market prices. Fair value for over-the-counter derivatives, which includes forwards, swaps, options and warrants, is determined based on valuation techniques that make maximum use of inputs observed from markets such as option pricing models, discounted cash flows and consensus pricing from independent brokers and/or third-party vendors. Inputs used in these valuation techniques can include, but are not limited to, spot prices, price volatilities, currency exchange rates, interest rate curves and credit spreads. In determining fair value, consideration is also given to the credit risk of the counterparty.

CPP Investments uses the types of derivatives described below.

Futures and forwards

Futures are standardized contracts transacted on an exchange, whereas forwards are customized over-the-counter contracts negotiated between counterparties. Futures contracts may be cash-settled or require physical delivery of the underlying asset. Examples of futures and forwards are described below.

Equity futures are contractual obligations to purchase or sell a specified quantity of an equity index, a basket of stocks, or a single stock at a predetermined price and date in the future.

Foreign exchange forwards are contractual obligations negotiated between counterparties to either purchase or sell a specified amount of foreign currencies at a predetermined price and date in the future.

Interest rate futures and forwards, including bond futures, are contractual obligations to purchase or sell a specified amount of an interest-rate-sensitive financial instrument(s) or index at a predetermined price and date in the future.

Commodity futures are contractual obligations to purchase or sell a specified quantity of a commodity, such as precious metals and energy-related products at a predetermined price and date in the future.

Swaps

Swaps are over-the-counter contracts between two parties to exchange a series of cash flows. Examples of swaps are described below.

Equity-based swaps include equity swaps, volatility swaps, variance swaps and dividend swaps. Equity swaps are contracts where one counterparty agrees to pay or receive from the other, cash flows based on changes in the value of an equity index, a basket of stocks, or a single stock in exchange for a return based on a fixed or floating interest rate or the return on another instrument. Volatility and variance swaps are contracts where cash flows are exchanged based on the realized volatility or variance of an equity index, a basket of stocks, or a single stock compared to the fixed strike level specified in the contract. Dividend swaps are contracts where one party pays the other future dividend flows of a single stock or index in exchange for pre-defined fixed amounts at sequential intervals or at termination.

Interest rate-related swaps include bond swaps, interest rate swaps and cross-currency swaps. Bond swaps are contracts in which counterparties exchange the return on a bond, or group of such instruments, for the return on a fixed or floating interest rate or the return on another instrument. Interest rate swaps are contracts where counterparties exchange cash flows based on different interest rates applied to a notional amount in a single currency, with no exchange of a notional amount. Cross-currency swaps involve the exchange of both interest and notional amounts in two different currencies.

Credit default swaps are contracts that provide credit protection against a specified credit event such as the default or bankruptcy of the underlying financial instrument (referenced asset). The purchaser (buyer) pays a premium to the writer (seller) in return for payment, which is contingent on a credit event affecting the referenced asset. Credit default swaps require the writer to compensate counterparties for the decline in value of the referenced asset as a result of the occurrence of a specified credit event. The notional amount represents the maximum amount payable to these counterparties under these written credit default swap contracts.

Options and warrants

Options are contractual agreements where the seller (writer) gives the purchaser the right, but not the obligation, to buy or sell a specified amount of an equity, currency, interest rate, credit, commodity or other financial instrument at or before a specified future date at a predetermined price. The purchaser pays a premium to the seller for this right. Options can be transacted in standardized amounts on regulated exchanges or customized in over-the-counter markets.

Call or put options may require the writer to sell or purchase the underlying asset at a fixed date or at any time within a fixed future period. Due to the nature of these contracts, CPP Investments cannot reasonably estimate the potential maximum amount of future payments.

Warrants are transacted both over-the-counter and through exchanges. Under a warrant, the issuer gives the purchaser the right, but not the obligation, to buy a specified quantity of stock of the issuer at or before a specified future date at a predetermined price.

3. Fair value measurement

At a Glance

In an active market, fair value is best evidenced by an independent quoted market price. In the absence of an active market, valuation can be significantly more complex and often subjective, requiring judgment.

This Note categorizes the fair value 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 year and the range of valuation techniques and inputs used.

Investments and investment liabilities owned by investment holding subsidiaries are indirectly held by CPP Investments. The fair value of each investment holding subsidiary is determined based on the fair value of the underlying investments held, net of any investment liabilities and pending trades together with its accumulated net income from operations less dividends paid. Further detail on investment holding subsidiaries is provided in Note 3.2.

ACCOUNTING POLICY

The fair value of CPP Investments' investments and investment liabilities is categorized into the following fair value hierarchy based on the level of significant inputs used in the fair value measurement:

- Level 1 – Quoted prices in active markets for identical assets or liabilities;
- Level 2 – Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (as prices) or indirectly (derived from prices); and
- Level 3 – Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

Significant estimate

Level 3 investments consist of instruments held at fair value that are not traded or quoted in active markets. Fair value is, therefore, determined using valuation techniques that use models with unobservable inputs while maximizing the use of inputs observed from markets. The resulting values are particularly judgmental. Refer to Note 3.5 for the valuation techniques used to determine the fair value of Level 3 investments.

3.1 Fair value hierarchy of investments and investment liabilities held directly by CPP Investments

	As at March 31, 2020			
(CAD millions)	Level 1	Level 2	Level 3	Total
Investments				
Equities				
Public equities[1]	$ 100,769	$ 3,891	$ 33	$ 104,693
Private equities	–	–	5,702	5,702
Total equities	100,769	3,891	5,735	110,395
Fixed income				
Bonds	60,295	40,829	–	101,124
Other debt	–	1,325	2,552	3,877
Money market securities	–	24,282	–	24,282
Total fixed income	60,295	66,436	2,552	129,283
Absolute return strategies	–	14,735	1,534	16,269
Real assets				
Real estate	–	–	14,469	14,469
Infrastructure	–	–	7,622	7,622
Power and renewables	–	–	1,114	1,114
Energy and resources	–	–	1,770	1,770
Total real assets	–	–	24,975	24,975
Investment receivables				
Securities purchased under reverse repurchase agreements and cash collateral pledged on securities borrowed	–	18,658	–	18,658
Derivative assets	–	9,730	–	9,730
Other[2]	–	5,925	–	5,925
Total investment receivables	–	34,313	–	34,313
Investments in investment holding subsidiaries (Note 3.2)	–	–	220,229	220,229
Total investments	$ 161,064	$ 119,375	$ 255,025	$ 535,464
Investment liabilities				
Securities sold under repurchase agreements and cash collateral received on securities lent	–	(52,347)	–	(52,347)
Debt financing liabilities	(32,639)	(5,756)	–	(38,395)
Securities sold short	(20,776)	–	–	(20,776)
Derivative liabilities	(353)	(9,670)	–	(10,023)
Short-term secured debt	–	(1,430)	–	(1,430)
Other[2]	–	(4,091)	–	(4,091)
Total investment liabilities	(53,768)	(73,294)	–	(127,062)
Pending trades receivable[3]	–	6,944	–	6,944
Pending trades payable[3]	–	(5,702)	–	(5,702)
Net investments	$ 107,296	$ 47,323	$ 255,025	$ 409,644

(CAD millions)	As at March 31, 2019[4] Level 1	Level 2	Level 3	Total
Investments				
Equities				
Public equities[1]	$ 125,084	$ 5,304	$ 63	$ 130,451
Private equities	–	–	6,194	6,194
Total equities	125,084	5,304	6,257	136,645
Fixed income				
Bonds	49,912	33,378	–	83,290
Other debt	–	1,461	2,159	3,620
Money market securities	–	9,004	–	9,004
Total fixed income	49,912	43,843	2,159	95,914
Absolute return strategies	–	14,635	447	15,082
Real assets				
Real estate	–	–	15,217	15,217
Infrastructure	–	–	12,534	12,534
Power and renewables	–	–	1,215	1,215
Energy and resources	–	–	1,888	1,888
Total real assets	–	–	30,854	30,854
Investment receivables				
Securities purchased under reverse repurchase agreements and cash collateral pledged on securities borrowed	–	12,532	–	12,532
Derivative assets	2	3,188	–	3,190
Other[2]	–	1,659	2	1,661
Total investment receivables	2	17,379	2	17,383
Investments in investment holding subsidiaries (Note 3.2)	–	–	199,571	199,571
Total investments	$ 174,998	$ 81,161	$ 239,290	$ 495,449
Investment liabilities				
Securities sold under repurchase agreements and cash collateral received on securities lent	–	(39,491)	–	(39,491)
Debt financing liabilities	(26,538)	(4,323)	–	(30,861)
Securities sold short	(29,027)	–	–	(29,027)
Derivative liabilities	(48)	(2,282)	–	(2,330)
Short-term secured debt	–	(1,358)	–	(1,358)
Other[2]	–	(1,152)	–	(1,152)
Total investment liabilities	(55,613)	(48,606)	–	(104,219)
Pending trades receivable[3]	–	4,467	–	4,467
Pending trades payable[3]	–	(3,703)	–	(3,703)
Net investments	$ 119,385	$ 33,319	$ 239,290	$ 391,994

1. Includes investments in funds.
2. Included in other investment receivables and other investment liabilities is cash pledged as collateral of $3,855 million (March 31, 2019 – $407 million) and cash held as collateral of $3,709 million (March 31, 2019 – $898 million) on over-the-counter derivative transactions, respectively.
3. Pending trades receivable and payable are measured at amortized cost, which approximates fair value.
4. Certain comparatives have been reclassified to conform to the current year's presentation.

3.2 Supplemental information on fair value hierarchy relating to investment holding subsidiaries

The following table presents the fair value hierarchy of the underlying investments and investment liabilities held by investment holding subsidiaries. For further details on the nature and purpose of investment holding subsidiaries, refer to Note 1.2.

	As at March 31, 2020			
(CAD millions)	Level 1	Level 2	Level 3	Total
Investments				
Equities				
Public equities[1]	$ 5,496	$ 7,956	$ 96	$ 13,548
Private equities	–	–	99,679	99,679
Total equities	5,496	7,956	99,775	113,227
Fixed income				
Bonds	–	2,534	–	2,534
Other debt	–	3,533	19,804	23,337
Money market securities	–	626	–	626
Total fixed income	–	6,693	19,804	26,497
Absolute return strategies	–	9,973	1,680	11,653
Real assets				
Real estate	–	–	29,249	29,249
Infrastructure	–	–	27,057	27,057
Power and renewables	–	–	7,597	7,597
Energy and resources	–	–	5,511	5,511
Total real assets	–	–	69,414	69,414
Investment receivables				
Derivative assets	–	–	–	–
Other	–	287	–	287
Total investment receivables	–	287	–	287
Total investments held by investment holding subsidiaries	$ 5,496	$ 24,909	$ 190,673	$ 221,078
Investment liabilities				
Other	–	(13)	–	(13)
Total investment liabilities held by investment holding subsidiaries	–	(13)	–	(13)
Pending trades receivable[2]	–	81	–	81
Pending trades payable[2]	–	(917)	–	(917)
Investments in investment holding subsidiaries	$ 5,496	$ 24,060	$ 190,673	$ 220,229

(CAD millions)	As at March 31, 2019 Level 1	Level 2	Level 3	Total
Investments				
Equities				
Public equities[1]	$ 4,128	$ 6,465	$ 145	$ 10,738
Private equities	–	–	90,465	90,465
Total equities	4,128	6,465	90,610	101,203
Fixed income				
Bonds	–	2,314	–	2,314
Other debt	–	3,754	19,951	23,705
Money market securities	–	825	–	825
Total fixed income	–	6,893	19,951	26,844
Absolute return strategies	–	8,953	1,477	10,430
Real assets				
Real estate	–	–	30,629	30,629
Infrastructure	–	–	20,597	20,597
Power and renewables	–	–	3,860	3,860
Energy and resources	–	–	6,114	6,114
Total real assets	–	–	61,200	61,200
Investment receivables				
Derivative assets	–	1	1	2
Other	–	303	65	368
Total investment receivables	–	304	66	370
Total investments held by investment holding subsidiaries	$ 4,128	$ 22,615	$ 173,304	$ 200,047
Investment liabilities				
Other	–	(3)	–	(3)
Total investment liabilities held by investment holding subsidiaries	–	(3)	–	(3)
Pending trades receivable[2]	–	225	–	225
Pending trades payable[2]	–	(698)	–	(698)
Investments in investment holding subsidiaries	$ 4,128	$ 22,139	$ 173,304	$ 199,571

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

3.3 Transfers between Level 1 and Level 2

During the year ended March 31, 2020, there were $2 million of transfers from Level 1 to Level 2 (March 31, 2019 – $11 million) and no transfers from Level 2 to Level 1 (March 31, 2019 – $178 million) for investments held directly by CPP Investments. 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.

3.4 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 year ended March 31, 2020							
(CAD millions)	Fair value as at April 1, 2019	Gain (loss) included in investment income	Purchases	Sales[1]	Transfers into Level 3	Transfers out of Level 3	Fair value as at March 31, 2020	Change in unrealized gains (losses) on investments still held at March 31, 2020[2]
Investments								
Equities								
Public equities	$ 63	$ (28)	$ –	$ (2)	$ –	$ –	$ 33	$ (27)
Private equities	6,194	(912)	730	(319)	9	–	5,702	(918)
Total equities	6,257	(940)	730	(321)	9	–	5,735	(945)
Fixed income								
Other debt	2,159	(61)	983	(529)	–	–	2,552	(27)
Absolute return strategies	447	57	68	(120)	1,082	–	1,534	98
Real assets								
Real estate	15,217	531	890	(2,169)	–	–	14,469	392
Infrastructure	12,534	(388)	–	(4,524)	–	–	7,622	(7)
Power and renewables	1,215	(101)	–	–	–	–	1,114	(101)
Energy and resources	1,888	(118)	–	–	–	–	1,770	(118)
Total real assets	30,854	(76)	890	(6,693)	–	–	24,975	166
Investment receivables								
Derivative assets	–	–	–	–	–	–	–	–
Other	2	(2)	–	–	–	–	–	–
Total investment receivables	2	(2)	–	–	–	–	–	–
Investments in investment holding subsidiaries[3]	199,571	(2,784)	24,854	(1,412)	–	–	220,229	(2,784)
Total	$ 239,290	$ (3,806)	$ 27,525	$ (9,075)	$ 1,091	$ –	$ 255,025	$ (3,492)

(CAD millions)	For the year ended March 31, 2019[4] Fair value as at April 1, 2018	Gain (loss) included in investment income	Purchases	Sales[1]	Transfers into Level 3	Transfers out of Level 3	Fair value as at March 31, 2019	Change in unrealized gains (losses) on investments still held at March 31, 2019[2]
Investments								
Equities								
Public equities	$ 81	$ (16)	$ –	$ (2)	$ –	$ –	$ 63	$ (12)
Private equities	4,152	718	1,362	(27)	1	(12)	6,194	673
Total equities	4,233	702	1,362	(29)	1	(12)	6,257	661
Fixed income								
Other debt	408	115	2,062	(153)	95	(368)	2,159	8
Absolute return strategies	184	(15)	550	(272)	–	–	447	(26)
Real assets								
Real estate	14,222	692	1,101	(798)	–	–	15,217	509
Infrastructure	9,938	2,033	647	(84)	–	–	12,534	2,043
Power and renewables	–	155	1,286	(226)	–	–	1,215	156
Energy and resources	1,447	286	160	(5)	–	–	1,888	287
Total real assets	25,607	3,166	3,194	(1,113)	–	–	30,854	2,995
Investment receivables								
Other	–	2	–	–	–	–	2	2
Total investment receivables	–	2	–	–	–	–	2	2
Investments in investment holding subsidiaries[3]	166,812	1,995	31,344	(580)	–	–	199,571	1,995
Total	$ 197,244	$ 5,965	$ 38,512	$ (2,147)	$ 96	$ (380)	$ 239,290	$ 5,635

1. Includes return of capital.
2. Included in investment income.
3. Purchases relating to investment holding subsidiaries represent capital contributions or net loan funding provided to these subsidiaries. Sales relating to investment holding subsidiaries represent return of capital from these subsidiaries.
4. Certain comparatives have been reclassified to conform to the current year's presentation.

Transfers into and out of Level 3 were primarily due to changes in the availability of market observable inputs used to determine fair value. Transfers into and out of Level 3 are deemed to have occurred at the end of period values. The entire 'change in unrealized gains (losses) on investments still held' column in the above reconciliation includes or excludes the investments transferred into and out of Level 3, respectively.

3.5 Level 3 – Significant unobservable inputs

The table below presents the fair value of investments directly held by CPP Investments, valuation techniques used to determine their fair values, and the ranges and weighted averages of unobservable inputs.

Investment holding subsidiaries are also classified as Level 3 in the fair value hierarchy. The fair value is largely driven by Level 3 investments, for which the valuation techniques, ranges and weighted averages of unobservable inputs are included below. However, certain investments held by the investment holding subsidiaries are based on quoted prices in active markets (Level 1) or valued using observable inputs (Level 2). These amount to $5,496 million (March 31, 2019 – $4,128 million) and $24,060 million (March 31, 2019 – $22,139 million), respectively. Refer to Note 3.2 for further details on Level 1 and Level 2 investments relating to investment holding subsidiaries. As each investment holding subsidiary is largely composed of Level 3 investments, the entire subsidiary is classified as Level 3.

	As at March 31, 2020					
	Fair value of investments held by:					
(CAD millions)	CPP Investments	Investment holding subsidiaries	Primary valuation techniques used[1,2]	Significant unobservable inputs	Range of input values[3]	Weighted average[3]
Public equities						
Direct	$ –	$ 7,643	Quoted market price	–	–	–
Fund investments	33	5,905	Net asset value provided by investment manager	–	–	–
Private equities						
Direct	5,623	37,730	Earnings multiples of comparable companies	EBITDA multiple	6.2X-21.2X	13.4X
			Discounted cash flow	Discount rate	8.6%-13.6%	11.8%
	–	12,540	Net asset value provided by investment manager	–	–	–
Fund investments	79	49,409	Net asset value provided by investment manager	–	–	–
Bonds						
Direct	–	2,534	Quoted market prices or discounted cash flows using observable inputs	–	–	–
Other debt						
Direct private debt	210	17,359	Discounted cash flow	Discount rate	5.6%-64.9%	12.5%
	–	1,475	Net asset value provided by investment manager	–	–	–
Asset-backed securities	2,311	203	Comparable pricing	Price	49.5%-101.1%	89.6%
Fund investments	31	4,300	Net asset value provided by investment manager	–	–	–
Money market securities						
Direct	–	626	Cost with accrued interest	–	–	–
Absolute return strategies						
Fund investments	1,534	11,653	Net asset value provided by investment manager	–	–	–
Real estate						
Direct	12,791	5,799	Discounted cash flow	Discount rate	5.0%-14.3%	6.7%
				Terminal capitalization rate	3.3%-10.8%	5.5%
	1,559	20,738	Net asset value provided by investment partner	–	–	–
Fund investments	119	2,712	Net asset value provided by investment manager	–	–	–
Infrastructure						
Direct	7,622	27,027	Discounted cash flow	Discount rate	7.1%-13.8%	8.6%
Fund investments	–	30	Net asset value provided by investment manager	–	–	–
Power and renewables						
Direct	1,114	7,597	Discounted cash flow	Discount rate	7.6%-14.7%	10.3%
Energy and resources						
Direct	1,770	5,511	Discounted cash flow	Discount rate	9.0%-15.0%	11.6%
Investment receivables						
Other	–	287	Cost with accrued interest	–	–	–
Investment liabilities						
Other	–	(13)	Cost with accrued interest	–	–	–
Pending trades net receivable/(payable)	–	(836)	Amortized cost	–	–	–
Total	$ 34,796	$ 220,229				

	As at March 31, 2019[4]					
	Fair value of investments held by:					
(CAD millions)	CPP Investments	Investment holding subsidiaries	Primary valuation techniques used[1,2]	Significant unobservable inputs	Range of input values[3]	Weighted average[3]
Public equities						
Direct	$ 63	$ 5,653	Quoted market price	–	–	–
Fund investments	–	5,085	Net asset value provided by investment manager	–	–	–
Private equities						
Direct	6,030	32,076	Earnings multiples of comparable companies	EBITDA multiple	6.1X-16.9X	13.0X
			Discounted cash flow	Discount rate	11.6%-13.0%	12.6%
	–	9,340	Net asset value provided by investment manager	–	–	–
Fund investments	164	49,049	Net asset value provided by investment manager	–	–	–
Bonds						
Direct	–	2,314	Quoted market prices or discounted cash flows using observable inputs	–	–	–
Other debt						
Direct private debt	154	17,901	Discounted cash flow	Discount rate	4.5%-29.4%	9.5%
	–	2,191	Net asset value provided by investment manager	–	–	–
Asset-backed securities	1,972	38	Comparable pricing	Price	97.7%-103.7%	99.5%
Fund investments	33	3,575	Net asset value provided by investment manager	–	–	–
Money market securities						
Direct	–	825	Cost with accrued interest	–	–	–
Absolute return strategies						
Fund investments	447	10,430	Net asset value provided by investment manager	–	–	–
Real estate						
Direct	12,585	5,277	Discounted cash flow	Discount rate	5.0%-14.3%	6.7%
				Terminal capitalization rate	3.7%-10.5%	5.5%
	2,422	22,931	Net asset value provided by investment partner	–	–	–
Fund investments	210	2,421	Net asset value provided by investment manager	–	–	–
Infrastructure						
Direct	12,534	20,546	Discounted cash flow	Discount rate	7.0%-11.9%	8.7%
Fund investments	–	51	Net asset value provided by investment manager	–	–	–
Power and renewables						
Direct	1,215	3,860	Discounted cash flow	Discount rate	7.9%-14.4%	10.4%
Energy and resources						
Direct	1,888	6,114	Discounted cash flow	Discount rate	9.0%-15.0%	11.0%
Investment receivables						
Derivative assets	–	2	Option model	Market volatility	30.0%	30.0%
Other	2	368	Discounted cash flow	Discount rate	9.2%-10.4%	10.1%
Investment liabilities						
Other	–	(3)	Cost with accrued interest	–	–	–
Pending trades net receivable/(payable)	–	(473)	Amortized cost	–	–	–
Total	$ 39,719	$ 199,571				

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.
4. Certain comparatives have been reclassified to conform to the current year's presentation.

3.6 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 values of the investments classified within Level 3 of the fair value hierarchy in Note 3.1 and 3.2 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 $11,100 million (March 31, 2019 – $7,900 million) or increase of $10,600 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. While CPP Investments has used all available information in providing its best estimate of the magnitude of the potential impact on Level 3 investments from the COVID-19 pandemic, the ranges noted above are based on alternate assumptions that are subject to material change.

4. Derivatives

At a Glance

CPP Investments enters into a variety of derivatives to manage its exposure to currency exchange, credit, interest and other market risks, and to adjust the exposure in its assets and asset classes.

The fair values, notional amounts and contractual maturities of all derivative financial instruments are set out in Note 4.1 and 4.2. Through these breakdowns, information is provided regarding the extent to which different types of derivatives are used.

4.1 Fair value of derivatives

Derivatives generate positive or negative value, as the value of underlying assets, indexes, interest rates, currency exchange rates or other market-based factors change such that the previously contracted terms of the derivative transactions have become more or less favourable than what can be negotiated under current market conditions for contracts with the same terms and remaining period to expiry.

The derivative-related market risk is a component of the total portfolio market risk, which is managed through the Integrated Risk Framework described in Note 8.

The maximum exposure to credit risk is represented by the positive fair value of the derivative and is normally a small fraction of the contract's notional amount. Negotiated over-the-counter derivatives generally present greater credit exposure than exchange-traded contracts. Credit risk on exchange-traded or centrally cleared contracts is limited because these transactions are either executed on regulated exchanges, or settled through well-capitalized clearing houses that assume the obligation of the writer of a contract and guarantee their performance.

The fair value of derivative contracts held by CPP Investments and its investment holding subsidiaries is as follows:

(CAD millions)	As at March 31, 2020 Positive fair value	As at March 31, 2020 Negative fair value	As at March 31, 2019 Positive fair value	As at March 31, 2019 Negative fair value
Equity contracts				
Futures	$ –	$ –	$ –	$ –
Swaps	7,032	(8,237)	2,164	(1,596)
Options:				
Exchange-traded – written	–	(2)	–	–
Over-the-counter – purchased	20	–	1	–
Over-the-counter – written	–	(197)	–	(41)
Warrants	–	–	1	–
Total equity contracts	7,052	(8,436)	2,166	(1,637)
Foreign exchange contracts				
Forwards	1,146	(853)	88	(135)
Options:				
Over-the-counter – purchased	66	–	1	–
Over-the-counter – written	–	(61)	–	(12)
Total foreign exchange contracts	1,212	(914)	89	(147)
Interest rate contracts				
Futures	–	–	–	–
Forwards	–	–	–	–
Swaps	1,412	(85)	692	(206)
Options:				
Exchange-traded – purchased	–	–	2	–
Exchange-traded – written	–	–	–	(1)
Over-the-counter – purchased	–	–	1	–
Over-the-counter – written	–	(110)	–	(46)
Total interest rate contracts	1,412	(195)	695	(253)
Credit contracts				
Purchased credit default swaps	19	(19)	7	(229)
Written credit default swaps	21	(21)	235	(8)
Options:				
Over-the-counter – purchased	14	–	–	–
Over-the-counter – written	–	(87)	–	(9)
Total credit contracts	54	(127)	242	(246)
Commodity contracts				
Futures	–	–	–	–
Options:				
Exchange-traded – written	–	(351)	–	(47)
Total commodity contracts	–	(351)	–	(47)
Total[1]	$ 9,730	$ (10,023)	$ 3,192	$ (2,330)

1. Includes nil (March 31, 2019 – $2 million) relating to interest rate derivatives transacted by investment holding subsidiaries.

4.2 Notional amounts of derivatives by terms to maturity

Notional amounts of derivatives represent the contractual amounts to which a rate or price is applied for computing the cash flows to be exchanged. The notional amounts are used to determine the gains/losses and fair value of the contracts. They are not recorded as assets or liabilities on the Consolidated Balance Sheet. Notional amounts do not necessarily represent the amount of potential market risk or credit risk arising from derivatives.

The terms to maturity of the notional amounts for derivatives held by CPP Investments and its investment holding subsidiaries are as follows:

	Terms to maturity					
	As at March 31, 2020					As at March 31, 2019
(CAD millions)	Within 1 year	1 to 5 years	6 to 10 years	Over 10 years	Total	Total
Equity contracts						
Futures	$ 5,332	$ 109	$ –	$ –	$ 5,441	$ 6,386
Swaps	104,913	2,171	2	–	107,086	108,367
Options:						
Exchange-traded – written	49	–	–	–	49	–
Over-the-counter – purchased	1,621	56	–	–	1,677	1
Over-the-counter – written	3,726	11	–	–	3,737	1,918
Warrants	1	10	24	–	35	26
Total equity contracts	115,642	2,357	26	–	118,025	116,698
Foreign exchange contracts						
Forwards	40,758	701	–	–	41,459	16,969
Options:						
Over-the-counter – purchased	3,504	792	–	–	4,296	375
Over-the-counter – written	7,082	55	–	–	7,137	4,282
Total foreign exchange contracts	51,344	1,548	–	–	52,892	21,626
Interest rate contracts						
Futures	7,831	415	–	–	8,246	4,110
Forwards	9,653	–	–	–	9,653	2,707
Swaps	20,798	42,060	20,219	22,908	105,985	93,429
Options:						
Exchange-traded – purchased	–	–	–	–	–	26,719
Exchange-traded – written	–	–	–	–	–	26,719
Over-the-counter – purchased	–	–	–	–	–	675
Over-the-counter – written	6,533	–	–	–	6,533	4,809
Total interest rate contracts	44,815	42,475	20,219	22,908	130,417	159,168
Credit contracts						
Purchased credit default swaps	906	29,197	1,808	13	31,924	13,772
Written credit default swaps	1,156	30,906	13,482	14	45,558	15,337
Options:						
Over-the-counter – purchased	1,423	–	–	–	1,423	–
Over-the-counter – written	7,473	–	–	–	7,473	4,676
Total credit contracts	10,958	60,103	15,290	27	86,378	33,785
Commodity contracts						
Futures	6,555	–	–	–	6,555	3,408
Options:						
Exchange-traded – written	2,209	–	–	–	2,209	1,847
Total commodity contracts	8,764	–	–	–	8,764	5,255
Total[1]	$ 231,523	$ 106,483	$ 35,535	$ 22,935	$ 396,476	$ 336,532

1. Includes $14 million (March 31, 2019 – $79 million) relating to interest rate derivatives and $10 million (March 31, 2019 – nil) relating to warrants transacted by investment holding subsidiaries.

5. Investment income

At a Glance

Components of investment income are included to provide additional information on the nature of the income.

Investment income on investments made through investment holding subsidiaries and not directly held by CPP Investments, is presented as unrealized gains or losses under IFRS 10 in Note 5.1. Further details are provided in Note 5.2.

Investment-related expenses borne by the investment holding subsidiaries are a reduction in the net asset values of the investment holding subsidiaries and thus are a component of the unrealized gains on investment holding subsidiaries under IFRS 10 in Note 5.1. Further details are provided in Note 6.2.

ACCOUNTING POLICY

Income from investments includes realized gains and losses from investments, unrealized gains and losses on investments, dividend income and interest income. Realized and unrealized gains and losses on investments include foreign currency gains or losses arising from investments denominated in foreign currencies. Dividend income is recognized on the ex-dividend date, which is when CPP Investments' right to receive the dividend has been established. Interest income is recognized as earned.

5.1 Investment income by nature

	For the years ended	
(CAD millions)	**March 31, 2020**	March 31, 2019[2]
Interest, dividends, and other investment income	**$ 13,476**	$ 22,091
Realized gains on private equities and real assets	**705**	49
Unrealized (losses) gains on private equities and real assets	**(1,846)**	3,651
Unrealized (losses) gains on investment holding subsidiaries (Note 5.2)	**(2,784)**	1,995
Realized and unrealized gains on public and other investments[1]	**6,170**	7,309
Total investment income	**$ 15,721**	$ 35,095

1. Consists of investment income from public equities, fixed income, absolute return strategies, derivatives and other.
2. Certain comparatives have been reclassified to conform to the current year's presentation.

5.2 Supplemental information on investment income

The change in unrealized gains generated from investment holding subsidiaries is a composite of the following:

	For the years ended	
(CAD millions)	**March 31, 2020**	March 31, 2019[2]
Interest, dividends, and other investment income	**$ 4,742**	$ 4,308
Realized gains on private equities and real assets	**7,346**	6,400
Unrealized (losses) gains on private equities and real assets	**(2,889)**	7,469
Realized and unrealized (losses) gains on public and other investments[1]	**(3,297)**	1,060
Dividends paid to CPP Investments	**(7,335)**	(15,946)
Investment-related expenses (Note 6.2)	**(1,351)**	(1,296)
Unrealized gains on investment holding subsidiaries	**$ (2,784)**	$ 1,995

1. Consists of investment income from public equities, fixed income, absolute return strategies, derivatives and other.
2. Certain comparatives have been reclassified to conform to the current year's presentation.

6. Investment-related expenses

At a Glance

The combined borrowing costs, investment management fees and transaction costs of CPP Investments and its investment holding subsidiaries are $1,523 million, $1,808 million and $390 million, respectively, for the year ended March 31, 2020 (March 31, 2019 – $1,163 million, $1,586 million and $429 million, respectively).

ACCOUNTING POLICY

Investment-related expenses includes borrowing costs, investment management fees and transaction costs.

Borrowing costs include interest and other costs that are incurred when borrowing funds or securities. Borrowing costs are composed of expenses from debt financing liabilities, securities sold under repurchase agreements, prime brokerage and other securities borrowing transactions as well as securities lending transactions where cash is received. Gains and losses associated with certain interest rate derivatives used as part of financing activities are also included in borrowing costs. Borrowing costs are recognized as incurred.

Investment management fees include payments to external managers who invest and manage capital committed by CPP Investments, whether directly or through funds. They also include performance fees paid when CPP Investments earns a return above a pre-determined hurdle. Investment management fees are expensed as incurred.

Transaction costs are incremental costs that are directly attributable to the acquisition or disposal of an investment. These costs comprise a variety of non-recurring expenses, including due diligence on potential investments, legal and tax advisory fees required to support the acquisition and disposition of private market assets, or, in the case of public markets, commissions paid when trading securities. Transaction costs are expensed as incurred.

6.1 Investment-related expenses of CPP Investments

Investment-related expenses borne by CPP Investments consist of the following:

	For the years ended	
(CAD millions)	**March 31, 2020**	March 31, 2019
Borrowing costs	**$ 1,523**	$ 1,163
Investment management fees	**603**	446
Transaction costs	**244**	273
Total	**$ 2,370**	$ 1,882

6.2 Supplemental information on investment-related expenses

Investment-related expenses borne by CPP Investments' investment holding subsidiaries consist of the following:

	For the years ended	
(CAD millions)	**March 31, 2020**	March 31, 2019
Investment management fees	**$ 1,205**	$ 1,140
Transaction costs	**146**	156
Total	**$ 1,351**	$ 1,296

7. Segment information

7.1 Investment segments

CPP Investments' purpose is to manage amounts transferred to it under Sections 108.1 and 108.3 of the CPP Act in the best interests of CPP beneficiaries and contributors. This requires investing its assets with a view to achieving a maximum rate of return without undue risk of loss. Investments are managed by six departments as described below.

- **Total Portfolio Management** – ensures the investing activities of the organization collectively produce a total portfolio that maximizes returns without taking undue risk. Total Portfolio Management also directs the Balancing Portfolio (the remaining portion of the Investment Portfolios after excluding the assets of all active programs managed by the other investment departments) to achieve overall desired investment exposures.

- **Capital Markets and Factor Investing** – invests assets globally in public equities, fixed income securities, currencies, commodities and derivatives, and engages investment managers and makes co-investments to invest in public market securities. Capital Markets and Factor Investing is also responsible for managing CPP Investments' liquidity needs.
- **Active Equities** – invests globally in public and soon-to-be public companies as well as securities focused in emerging markets or long-term global changes, which can include earlier stage private companies. Active Equities also works with departments across the organization to ensure that environmental, social and governance risks and opportunities are incorporated into investment decision-making and asset management activities.
- **Credit Investments** – responsible for public and private credit investments globally. Credit Investments invests across the entire credit structure, including term loans, high-yield bonds, mezzanine lending, structured products and other credit instruments for borrowers in all sectors.
- **Private Equity** – responsible for private equity investments globally including funds, secondaries and direct private equity investments.
- **Real Assets** – responsible for investments in real estate, infrastructure, energy and resources, and power and renewables, which are typically long term, tangible assets with steady income streams.

7.1.1 Net income from operations by investment segment

The table below illustrates the investment income generated and the associated investment-related expenses and operating expenses incurred by each investment department to support their activities.

	For the year ended March 31, 2020							
(CAD millions)	Total Portfolio Management	Capital Markets and Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Adjustment[3]	Total
Investment income (loss)	$ 10,395	$ (1,910)	$ 3,916	$ (838)	$ 6,068	$ 347	$ (2,257)	$ 15,721
Borrowing costs[1]	(2,429)	–	–	–	–	–	906	(1,523)
Investment management fees[2]	–	(1,010)	(6)	(17)	(585)	(190)	1,205	(603)
Transaction costs[2]	(53)	(45)	(56)	(37)	(63)	(136)	146	(244)
Net investment income (loss)	7,913	(2,965)	3,854	(892)	5,420	21	–	13,351
Operating expenses	(200)	(205)	(179)	(147)	(227)	(296)	–	(1,254)
Net income (loss) from operations	$ 7,713	$ (3,170)	$ 3,675	$ (1,039)	$ 5,193	$ (275)	$ –	$ 12,097

	For the year ended March 31, 2019[4]							
(CAD millions)	Total Portfolio Management	Capital Markets and Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Adjustment[3]	Total
Investment income	$ 12,261	$ 114	$ 1,306	$ 3,161	$ 12,853	$ 7,417	$ (2,017)	$ 35,095
Borrowing costs[1]	(1,884)	–	–	–	–	–	721	(1,163)
Investment management fees[2]	–	(730)	(12)	(24)	(562)	(258)	1,140	(446)
Transaction costs[2]	(42)	(39)	(59)	(48)	(82)	(159)	156	(273)
Net investment income (loss)	10,335	(655)	1,235	3,089	12,209	7,000	–	33,213
Operating expenses	(253)	(182)	(173)	(113)	(205)	(277)	–	(1,203)
Net income (loss) from operations	$ 10,082	$ (837)	$ 1,062	$ 2,976	$ 12,004	$ 6,723	$ –	$ 32,010

1. Costs of $2,429 million (March 31, 2019 – $1,884 million) attributable to Total Portfolio Management represent borrowing costs as described in Note 6 of $1,523 million (March 31, 2019 – $1,163 million), as well as the leverage-generating elements of additional derivative transactions of $906 million (March 31, 2019 – $721 million). Together these amounts reflect the financing costs described in Note 11.2, which is a measure used by Management to monitor the total costs associated with all sources of leverage to CPP Investments.
2. Includes investment management fees and transaction costs borne by CPP Investments and its investment holding subsidiaries in relation to the respective departments.
3. Consists of costs on the leverage-generating elements of additional derivative transactions, and investment management fees and transaction costs borne by investment holding subsidiaries, all of which are reclassified into investment income.
4. Certain comparatives have been reclassified to conform to the current year's presentation.

7.1.2 Net assets (liabilities) by investment segment

	Net assets (liabilities)						
(CAD millions)	Total Portfolio Management[1]	Capital Markets and Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Total
As at:							
March 31, 2020	**$ 179,681**	**$ (2,686)**	**$ 430**	**$ 39,965**	**$ 94,557**	**$ 97,641**	**$ 409,588**
March 31, 2019	172,599	(31)	1,047	36,579	87,696	94,090	391,980

1. Net assets attributable to Total Portfolio Management include net corporate liabilities of $56 million (March 31, 2019 – net corporate liabilities of $14 million).

7.2 Geographic information

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

	Net investments[1]						
(CAD millions)	Canada	U.S.	Asia	Europe (excluding U.K.)	U.K.	Other	Total
As at:							
March 31, 2020	**$ 63,858**	**$ 144,259**	**$ 102,855**	**$ 42,723**	**$ 20,698**	**$ 35,251**	**$ 409,644**
March 31, 2019	60,897	131,196	90,060	53,959	22,078	33,804	391,994

1. Includes debt financing liabilities of $3,629 million, $23,990 million, $9,890 million, and $886 million (March 31, 2019 – $3,828 million, $20,803 million, $6,230 million, and nil), based on the currencies of the issuances, in Canada, the U.S., Europe (excluding the U.K.) and the U.K., respectively.

8. Risk management

At a Glance

The base CPP Investment Portfolio and additional CPP Investment Portfolio (collectively the Investment Portfolios) are exposed to a variety of financial risks which are managed through the Integrated Risk Framework. The underlying risk categories, exposures, and the related risk management techniques are described in the following Notes:

- Note 9 – Market risk
- Note 10 – Credit risk
- Note 11 – Liquidity and leverage risk

Any references to the investment activities and risk exposures of CPP Investments also include those of its unconsolidated investment holding subsidiaries.

In the fourth quarter of the fiscal year, the COVID-19 pandemic resulted in reduced economic activity, exceptional volatility in financial markets and a widespread impact on people around the world. Despite the significant market movements, CPP Investments remains within all risk limits established by its Board of Directors, including limits related to market, credit, liquidity and leverage risks.

8.1 Introduction

CPP Investments uses the Integrated Risk Framework, which establishes accountability of the Board of Directors, the various committees, including the Risk Committee, and the investment departments to manage investment-related risks. CPP Investments manages and mitigates investment risks through the Risk Policy, which is approved by the Board of Directors at least once every fiscal year. This policy contains risk limits and risk management provisions that govern investment decisions in accordance with the mandate of CPP Investments.

Upper and lower absolute risk limits and the absolute risk operating range are included within the Risk Policy, and these govern the amount of total investment risk that CPP Investments can take in the Investment Portfolios. CPP Investments monitors potential investment losses in the Investment Portfolios daily and reports to the Board of Directors on at least a quarterly basis. The target equity content for each of the base CPP Investment Portfolio and additional CPP Investment Portfolio is assessed using an equity/debt risk equivalence ratio, which is the proportion of equity versus debt in a simple two-asset reference portfolio that would give the same market and credit risk as that of the applicable Investment Portfolio. Each Investment Portfolio's ratio must be within the Board of Directors' approved absolute risk limits.

8.1.1 Independent risk oversight

The Risk group within CPP Investments reports to the Chief Financial and Risk Officer. The function is responsible for assessing, monitoring and ensuring management of the Investment Portfolios is consistent with the risk appetites and limits established. This oversight is exercised through independent control and support functions.

Investment departments are accountable for managing risk within prescribed limits.

8.1.2 Investment risk measures

A suite of measures is used to estimate the risk of loss from small, moderate and significant market moves over various time horizons. In addition to industry standard market and credit risk models, CPP Investments uses proprietary models to assess potential losses to the portfolio over longer time horizons. Furthermore, a number of trading desk-specific risk measures are tracked that are related to the specific nature of the strategy.

8.1.3 Stress scenario analysis

To complement the suite of potential loss measures used to monitor the Investment Portfolios, CPP Investments further examines the potential impact of exceptional but plausible adverse market events. Scenario analysis considers the effect of various market stress events, including potential geopolitical or adverse economic events, using a bottom-up approach that considers the effect of parameter shocks across the entire portfolio. Generally, the forecasted timeline considered is one year in order to appropriately include the effect of the public market shocks on private asset valuations. These assessments are reported to both Senior Management and the Board of Directors.

8.1.4 Model validation

The model validation function within the Risk group validates strategically important portfolio construction and risk management models as well as valuation methodologies within main investment systems.

8.2 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. Regular risk reports are provided to Senior Management and the Board of Directors 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. While CPP Investments has changed the articulation of its risk appetites, which sets the upper and lower limits for risk taking, the target level of market risk of the Investment Portfolios has not changed materially.

Central to the new investment risk limits is the concept of plan adjustment risk which is the percentage probability of a 0.25% increase in the Minimum Contribution Rate applicable to CPP contributors, over a 20-year horizon, due solely to adverse investment experience. It is an overarching measure that is impacted by market, credit, liquidity and leverage risk. Additional investment risk governance measures include:

- 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% confidence level.
- Liquidity and leverage risk measures, which are further described in Note 11.

These measures are monitored in addition to the equity/debt risk equivalence ratios as described in Note 8.1.

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 tables below provide a summary of the key investment risk governance measures of the Investment Portfolios.

		As at March 31, 2020	As at March 31, 2019
(CAD millions, unless otherwise specified)	Limit	**base CPP**	base CPP
Plan adjustment risk	30 %	**26 %**	23 %
Potential investment loss:			
One-year horizon	$ 80,000	**$ 69,377**	$ 66,745
Five-year horizon[1]	25 %	**13 %**	15 %
Equity/debt risk equivalence ratio[2]	55–100 %	**84 %**	87 %

(CAD millions, unless otherwise specified)	Limit[3]	As at March 31, 2020 additional CPP	As at March 31, 2019 additional CPP
Plan adjustment risk	30 %	28 %	25 %
Potential investment loss:			
One-year horizon	$ 300	$ 252	$ 42
Five-year horizon[1]	15 %	8 %	8 %
Equity/debt risk equivalence ratio[2]	40–70 %	49 %	51 %

1. Percentage of investment value.
2. Conditional value-at-risk is measured to calculate the equity/debt risk equivalence ratio.
3. The additional risk governance measures of the additional CPP Investment Portfolio have been approved by the Board of Directors and are effective April 1, 2020.

8.2.1 Stress scenarios and results

As part of ongoing monitoring, CPP Investments performs scenario analysis to quantify the impact of potential stress events, including how severe market and geopolitical events could affect CPP Investments' portfolios. The monitoring of key stress scenarios, which are run on a quarterly basis, include:

- A repeat of the Global Financial Crisis (GFC) of 2008 – CPP Investments estimates that if an event like the GFC were to reoccur, the reported value of the Investment Portfolios would decline by approximately $49.4 billion or 12%. Under this scenario, CPP Investments' reported loss is expected to be within its stated appetite for shorter term losses.
- Hypothetical Severe Case – This scenario is an aggregation of the more severe historical market stress events. This scenario also removes the currency gains that have occurred during past market stress periods where some of CPP Investments' losses were partially offset by the depreciation of the Canadian dollar against the United States dollar. Realization of this more extreme scenario would result in losses of approximately $84.3 billion or 21%. This potential loss would exceed CPP Investments' standard estimate of losses that are expected to occur every one in twenty years based on CPP Investments' market risk target.
- COVID-19 Pandemic – CPP Investments has developed a series of scenarios in an attempt to assess the potential economic and financial impacts on its Investment Portfolios arising from COVID-19. This includes the impacts of lower CPP contributions due to increasing unemployment in Canada on our liquidity, as well as impacts on investment losses. Initial results indicate potential severe-case losses similar in magnitude to the historical market-stress scenarios. However, these estimates are highly sensitive to the assumptions made regarding the length and severity of the pandemic. The actual impacts could differ materially from this estimate. CPP Investments will continue to refine the views and assumptions underlying the assessment as the situation unfolds.

9. 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.

CPP Investments uses a tiered structure of limits to govern market risk by controlling the size of risk exposures. Limits include the use of equity/debt risk equivalence ratios of the two Investment Portfolios as well as various limits to reduce the probability that none of the individual investment departments' market risks grow faster than originally anticipated. These measures are supplemented with drawdown or reported loss triggers that highlight any public market strategies that are experiencing losses outsized to their estimated market risk levels. More granular limits are also used in certain cases that are investment program specific and are tailored to the way that the strategies are managed on a daily basis. Examples of such granular limits and measures include: DV01 which measures the possible loss/gain in the investment strategy as a result of 1 basis point increase/decrease in interest rate yield curves; and divergence limits that track the risks against their respective benchmarks.

Investment departments are expected to stay within their limits but are allowed to request increases to management level limits. Any limit excesses are processed according to established escalation guidelines.

Market risk includes equity risk, interest rate risk, spread risk and currency risk. The sensitivity of these risks is summarized in each respective Note.

9.1 Equity

The Investment Portfolios invest 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. This calculation assumes that equities other than the S&P 500 Index would move in accordance with their historical behaviour conditional on a 1% decrease/increase in the S&P 500 Index.

(CAD millions)	As at March 31, 2020	As at March 31, 2019
	Impact of 1% decrease in the S&P 500 Index	
Loss on public equity investments	$ (944)	$ (1,021)

9.2 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.

9.2.1 Interest rate risk sensitivity

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)	As at March 31, 2020	As at March 31, 2019
Maturity	Impact of increase of 25 basis points on net assets[1]	
Within 1 year	$ 25	$ 14
1 to 5 years	(650)	(557)
6 to 10 years	(474)	(434)
Over 10 years	(1,363)	(1,091)
Total	$ (2,462)	$ (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:

Region	As at March 31, 2020	As at March 31, 2019
United States	53 %	43 %
Canada	32	39
Europe	6	11
Other	9	7
Total	100 %	100 %

9.3 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 March 31, 2020	As at March 31, 2019
Percentage of credit risk in A or better rated debt	44 %	75 %

(CAD millions)	As at March 31, 2020	As at March 31, 2019
	Impact of 1 basis point widening of credit spread	
Decrease in net assets	$ 37	$ 31

9.4 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.

9.4.1 Currency risk exposures

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

(CAD millions)	As at March 31, 2020		As at March 31, 2019	
Currency	Net exposure	% of total	Net exposure	% of total
United States dollar	$ 230,536	56 %	$ 204,605	52 %
Euro	25,921	6	33,539	9
British pound sterling	15,438	4	18,219	5
Chinese renminbi	14,954	4	12,577	3
Australian dollar	12,669	3	13,587	3
Hong Kong dollar	11,526	3	10,376	3
Japanese yen	8,153	2	8,416	2
Indian rupee	7,897	2	6,509	2
Brazilian real	3,813	1	3,620	1
Swiss franc	3,286	1	2,623	1
Chilean peso	2,652	1	2,722	1
Mexican peso	1,948	–	1,785	–
Other	8,824	2	13,224	3
Total foreign exposure	347,617	85	331,802	85
Canadian dollar	62,027	15	60,192	15
Total	$ 409,644	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 $34,762 million (March 31, 2019 – $33,180 million).

10. 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. The Investment Portfolios' credit risk exposure arises primarily through its investment in debt securities and over-the-counter derivatives. The carrying amounts of these investments as presented in the Consolidated Schedule of Investment Portfolio represent the maximum direct credit risk exposure at the Balance Sheet date.

10.1 Counterparty exposures

The fair value of debt securities and over-the-counter derivatives exposed to credit risk, by credit rating category and without taking account of any collateral held or other credit enhancements, is as follows:

(CAD millions)	As at March 31, 2020						
Credit rating	Bonds[1]	Money market securities[1]	Reverse repurchase agreements[1]	Over-the-counter derivatives	Other debt[1,2]	Total	% of total
AAA	$ 22,316	$ 129	$ –	$ –	$ 1,058	$ 23,503	14 %
AA	43,307	12,855	7,743	784	876	65,565	38
A	26,569	9,003	6,403	8,255	255	50,485	30
BBB	7,110	–	3,519	691	1,269	12,589	7
BB	3,969	868	–	–	3,543	8,380	5
B	865	–	–	–	8,307	9,172	5
CCC/CC/D	404	–	–	–	998	1,402	1
Total	$ 104,540	$ 22,855	$ 17,665	$ 9,730	$ 16,306	$ 171,096	100 %

(CAD millions) Credit rating	As at March 31, 2019 Bonds[1]	Money market securities[1]	Reverse repurchase agreements[1]	Over-the-counter derivatives	Other debt[1,2]	Total	% of total
AAA	$ 22,975	$ –	$ –	$ –	$ 1,111	$ 24,086	20 %
AA	30,802	4,002	1,414	338	674	37,230	30
A	25,231	3,857	5,001	2,398	614	37,101	30
BBB	4,151	–	1,792	451	1,290	7,684	6
BB	1,976	17	–	–	3,844	5,837	5
B	1,240	–	–	–	7,874	9,114	8
CCC/CC/D	47	–	–	–	1,600	1,647	1
Total	$ 86,422	$ 7,876	$ 8,207	$ 3,187	$ 17,007	$ 122,699	100 %

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

In addition to the above, the Investment Portfolios are indirectly exposed to credit risk on the underlying securities of fund investments.

CPP Investments limits credit risk on over-the-counter contracts through a variety of means, including dealing only with authorized counterparties that meet the minimum credit rating and limiting the maximum exposures to any individual counterparty, and the use of master netting agreements and collateral.

Credit risk exposure is mitigated on certain financial assets and financial liabilities, which have conditional offset rights in the event of default, insolvency or bankruptcy. For securities purchased under reverse repurchase agreements, securities sold under repurchase agreements and over-the-counter derivatives, collateral is collected from or pledged to counterparties to manage credit exposure (see Note 15). In addition, in the event of default, amounts with a specific counterparty are settled on a net basis under master netting or similar arrangements, such as the Global Master Repurchase Agreement and the International Swaps and Derivatives Association Netting Agreements.

10.2 Credit value-at-risk

In addition to incorporating credit risk within the potential investment loss measures as described in Note 8.2, 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)	As at March 31, 2020 base CPP	As at March 31, 2020 additional CPP	As at March 31, 2019 base CPP	As at March 31, 2019 additional CPP
Credit value-at-risk	**$ 6,299**	**$ 26**	$ 5,317	$ 3

11. Liquidity and leverage risk

Liquidity and leverage risk includes three 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 rebalance Investment Portfolios back to their target level of market risk and leverage during periods of stress.
- Leverage risk – The risk that excessive on-and-off balance sheet leverage accelerates the worsening of market and liquidity risk factors during periods of stress.

11.1 Solvency risk and portfolio rebalancing risk

Liquidity risk increases from 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 directly through leverage measures (Note 11.2), and through liquidity risk limits which require sufficient liquidity to be available to manage both solvency and portfolio rebalancing risks.

Management of liquidity risk is supplemented through the ability to raise funds through activities such as the issuance of commercial paper and term debt and transacting in securities sold under repurchase agreements. The table below presents the unsecured credit facilities that CPP Investments maintained at each reporting date. There were no credit facilities drawn as at March 31, 2020 and March 31, 2019.

(CAD millions)	**As at March 31, 2020**	As at March 31, 2019
Unsecured credit facilities held	**$ 6,482**	$ 6,176

The ability to readily dispose of certain investments to meet liquidity needs is facilitated by maintaining a liquid portfolio of publicly traded equities, money market securities and marketable bonds.

CPP Investments is exposed to liquidity risk through its obligations to remit cash to the CPP and to fund investment commitments. In order to manage associated liquidity risk, certain assets are segregated and managed separately. Liquidity risk is also managed by investing these assets in liquid money market instruments with the primary objective of ensuring that CPP Investments has the necessary liquidity to meet all of its CPP benefit payment obligations and investment obligations, without incurring unacceptable losses.

The liquidity coverage ratio measures the level of liquidity CPP Investments maintains to meet all CPP and investment obligations over various time horizons including 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 March 31, 2020**	As at March 31, 2019
Liquidity coverage ratio	1.0x	**3.3x**	2.8x

11.2 Leverage risk

Leverage risk is monitored against two metrics which together capture different aspects of leverage across the Investment Portfolios:

- Total financing liabilities is a notional-based measure which represents all financing activities that are undertaken to obtain leverage using both on-balance sheet and off-balance sheet items.
- Risk weighted liabilities is determined using risk-weighted notionals of recourse liabilities which represent the risk of the underlying leverage products, including derivatives financing, used by CPP Investments.

The table below presents the key leverage risk metrics of the Investment Portfolios.

	As at March 31, 2020	As at March 31, 2019
Total financing liabilities	**24.9 %**	23.2 %
Risk weighted liabilities	**13.0 %**	11.0 %

For the year ended March 31, 2020, the associated financing costs on total financing liabilities were $2,429 million (March 31, 2019 – $1,884 million). These financing costs are higher than the borrowing costs disclosed in Note 6.1 due to the inclusion of certain derivative transactions which are utilized to provide additional sources of leverage to CPP Investments.

In addition, CPP Investments seeks to maintain its issuer credit rating of "AAA" and maintains leverage ratios that are consistent with this rating.

11.3 Terms to maturity

11.3.1 Terms to maturity of non-derivative investments held directly by CPP Investments

(CAD millions)	Terms to maturity As at March 31, 2020 Within 1 year	1 to 5 years	6 to 10 years	Over 10 years	Total[2]	Average effective yield	As at March 31, 2019[3] Total[2]	Average effective yield
Non-marketable bonds								
Canadian provincial government	$ 1,502	$ 6,287	$ 1,918	$ 12,661	$ 22,368	2.4 %	$ 23,439	2.7 %
Marketable bonds								
Government of Canada	1,165	4,996	267	1,050	7,478	0.8	8,553	1.7
Canadian provincial government	–	542	2,243	3,502	6,287	2.4	6,158	2.7
Canadian government corporations	–	1,981	868	940	3,789	1.1	3,281	2.2
Foreign government	310	20,218	10,859	21,565	52,952	1.5	36,425	2.3
Corporate bonds	79	3,214	2,595	2,361	8,249	3.8	5,434	3.8
Other debt								
Private debt[1]	464	88	–	–	552	6.2	442	2.5
Asset-backed securities	25	82	192	2,012	2,311	3.9	1,972	3.0
Securities purchased under reverse repurchase agreements	17,665	–	–	–	17,665	0.5	8,205	0.8
Cash collateral pledged on securities borrowed	993	–	–	–	993	n/a	4,327	n/a
Total	$ 22,203	$ 37,408	$ 18,942	$ 44,091	$ 122,644	n/a	$ 98,236	n/a

1. Includes direct investments and excludes fund investments.
2. Represents fair value.
3. Certain comparatives have been reclassified to conform to the current year's presentation.

11.3.2 Terms to maturity of non-derivative investments held by investment holding subsidiaries

The following table presents supplemental information relating to the terms to maturity of investments held by investment holding subsidiaries.

(CAD millions)	Terms to maturity As at March 31, 2020 Within 1 year	1 to 5 years	6 to 10 years	Over 10 years	Total[2]	Average effective yield	As at March 31, 2019 Total[2]	Average effective yield
Marketable bonds								
Foreign government	$ –	$ –	$ –	$ –	$ –	– %	$ 45	7.0 %
Corporate bonds	–	647	1,626	262	2,535	7.3	2,269	6.1
Other debt								
Private debt[1]	802	5,308	7,982	–	14,092	10.2	15,909	7.9
Asset-backed securities	–	93	26	84	203	6.2	38	4.9
Total	$ 802	$ 6,048	$ 9,634	$ 346	$ 16,830	n/a	$ 18,261	n/a

1. Includes direct investments and excludes fund investments.
2. Represents fair value.

11.3.3 Terms to maturity of non-derivative investment liabilities held directly by CPP Investments

	Terms to maturity									
	As at March 31, 2020							As at March 31, 2019[4]		
(CAD millions)	Within 1 year	1 to 5 years	6 to 10 years	Over 10 years	Total[3]	Fair value	Weighted average interest rate	Total[3]	Fair value	Weighted average interest rate
Securities sold under repurchase agreements	$ 52,261	$ –	$ –	$ –	$ 52,261	$ 52,189	1.0 %	$ 38,548	$ 38,375	2.3 %
Cash collateral received on securities lent	158	–	–	–	158	158	n/a	1,116	1,116	n/a
Securities sold short[1,2]	20,776	–	–	–	20,776	20,776	n/a	29,027	29,027	n/a
Debt financing liabilities										
Commercial paper payable	5,775	–	–	–	5,775	5,757	1.7	4,378	4,323	2.7
Term debt	5,626	13,969	8,433	3,124	31,152	32,638	0.7	26,099	26,538	1.6
Short-term secured debt	1,430	–	–	–	1,430	1,430	1.1	1,358	1,358	2.5
Total	$ 86,026	$ 13,969	$ 8,433	$ 3,124	$ 111,552	$ 112,948	n/a	$ 100,526	$ 100,737	n/a

1. Considered repayable within one year based on the earliest period in which the counterparty could request payment under certain conditions.
2. Includes equities sold short for which the average interest rate is not applicable.
3. Represents contractual amounts.
4. Certain comparatives have been reclassified to conform to the current year's presentation.

12. Reconciliation of debt financing liabilities

The following table provides a reconciliation of debt financing liabilities arising from financing activities:

	For the year ended March 31, 2020				
(CAD millions)	As at April 1, 2019	Proceeds	Repayments	Non–cash Changes in fair value[1]	As at March 31, 2020
Debt financing liabilities	$ 30,861	$ 29,507	$ (24,830)	$ 2,857	$ 38,395
Total	$ 30,861	$ 29,507	$ (24,830)	$ 2,857	$ 38,395

	For the year ended March 31, 2019				
(CAD millions)	As at April 1, 2018	Proceeds	Repayments	Non–cash Changes in fair value[1]	As at March 31, 2019
Debt financing liabilities	$ 24,056	$ 36,784	$ (30,929)	$ 950	$ 30,861
Total	$ 24,056	$ 36,784	$ (30,929)	$ 950	$ 30,861

1. Includes foreign exchange losses of $1,824 million (March 31, 2019 – $377 million).

13. Financial instruments – rights of offset

ACCOUNTING POLICY

Financial assets and financial liabilities are offset and the net amount reported in the Consolidated Financial Statements if, and only if, there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, or to realize the asset and settle the liability simultaneously.

The following table presents the effect of offsetting for derivatives and repurchase and reverse repurchase agreements that are subject to master netting arrangements or similar agreements that meet the criteria for offsetting. The table also presents the amounts that are subject to enforceable netting arrangements but do not qualify for offsetting. For certain derivatives, the gross amounts subject to netting arrangements include the daily settlement of variation margin which is netted against the fair value of the derivatives.

	As at March 31, 2020					
				Less: Amounts subject to master netting or similar arrangements but not presented net		
(CAD millions)	Gross amounts subject to netting arrangements	Less: Amounts offset in Consolidated Financial Statements	Net amount presented in the Consolidated Schedule of Investment Portfolio	Subject to agreements	Securities and cash collateral[2]	Net exposure
Securities purchased under reverse repurchase agreements	$ 17,665	$ –	$ 17,665	$ (6,300)	$ (11,365)	$ –
Derivative assets[1]	9,730	–	9,730	(6,470)	(3,260)	–
Total investment receivables	**$ 27,395**	**$ –**	**$ 27,395**	**$ (12,770)**	**$ (14,625)**	**$ –**
Securities sold under repurchase agreements	$ (52,189)	$ –	$ (52,189)	$ 6,300	$ 45,889	$ –
Derivative liabilities	(10,023)	–	(10,023)	6,470	2,643	(910)
Total investment payables	**$ (62,212)**	**$ –**	**$ (62,212)**	**$ 12,770**	**$ 48,532**	**$ (910)**

	As at March 31, 2019					
				Less: Amounts subject to master netting or similar arrangements but not presented net		
(CAD millions)	Gross amounts subject to netting arrangements	Less: Amounts offset in Consolidated Financial Statements	Net amount presented in the Consolidated Schedule of Investment Portfolio	Subject to agreements	Securities and cash collateral[2]	Net exposure
Securities purchased under reverse repurchase agreements	$ 8,205	$ –	$ 8,205	$ (7,335)	$ (870)	$ –
Derivative assets[1]	3,192	–	3,192	(1,834)	(965)	393
Total investment receivables	$ 11,397	$ –	$ 11,397	$ (9,169)	$ (1,835)	$ 393
Securities sold under repurchase agreements	$ (38,375)	$ –	$ (38,375)	$ 7,335	$ 31,040	$ –
Derivative liabilities	(2,330)	–	(2,330)	1,834	235	(261)
Total investment payables	$ (40,705)	$ –	$ (40,705)	$ 9,169	$ 31,275	$ (261)

1. Includes nil (March 31, 2019 – $2 million) relating to interest rate derivative assets transacted by investment holding subsidiaries.
2. Securities and cash collateral exclude over-collateralization, collateral in transit, and initial margin to clearing houses. Refer to Note 15 for the total amount of collateral.

14. Operating expenses

14.1 Compensation of key management personnel

Key management personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of CPP Investments, consisting of the Senior Management Team and the Board of Directors.

Compensation of key management personnel of CPP Investments is as follows:

	For the years ended	
(CAD millions)	**March 31, 2020**	March 31, 2019
Short-term employee compensation and benefits	**$ 28**	$ 26
Other long-term compensation and benefits	**17**	26
Total	**$ 45**	$ 52

14.2 Operating expenses

Operating expenses consist of the following:

	For the years ended	
(CAD millions)	**March 31, 2020**	March 31, 2019[2]
Personnel costs	**$ 837**	$ 802
Information technology and data services	**139**	118
Professional services[1]	**93**	107
Amortization of premises and equipment	**50**	20
Custodial fees	**35**	36
Tax on international operations	**32**	35
Travel and accommodation	**27**	25
Premises and equipment	**22**	40
Communications	**15**	14
Directors' remuneration	**2**	2
Other	**2**	4
Total	**$ 1,254**	$ 1,203

1. Includes auditor's remuneration of $4 million (March 31, 2019 – $4 million).
2. Certain comparatives have been reclassified to conform to the current year's presentation.

15. Collateral

Collateral transactions are conducted to support investment activities under terms and conditions that are common and customary to collateral arrangements. These arrangements may be transacted by CPP Investments or its investment holding subsidiaries in their normal course of business.

15.1 Collateral held and pledged directly by CPP Investments

The net fair value of collateral held and pledged directly by CPP Investments was as follows:

(CAD millions)	As at March 31, 2020	As at March 31, 2019[6]
Third-party assets held as collateral on[1]:		
Reverse repurchase agreements	$ 17,606	$ 8,207
Over-the-counter derivative transactions	3,709	965
Securities lent[2]	613	1,627
Own and third-party assets pledged as collateral on:		
Repurchase agreements	(52,072)	(38,383)
Securities borrowed[3]	(23,265)	(34,090)
Short-term secured debt[4]	(1,879)	(1,817)
Over-the-counter derivative transactions	(3,855)	(407)
Loans[5]	(3,607)	(3,557)
Total	$ (62,750)	$ (67,455)

1. The fair value of the collateral held that may be sold or repledged as at March 31, 2020 was $18,025 million (March 31, 2019 – $8,785 million). The fair value of collateral sold or repledged as at March 31, 2020 was $11,145 million (March 31, 2019 – $3,504 million).
2. Includes cash collateral of $158 million (March 31, 2019 – $1,116 million). The fair value of securities lent as at March 31, 2020 was $675 million (March 31, 2019 – $1,602 million).
3. The fair value of securities borrowed as at March 31, 2020 was $16,953 million (March 31, 2019 – $27,110 million) of which $16,160 million was sold or repledged (March 31, 2019 – $26,631 million) for securities sold short.
4. Represents securities pledged as collateral on short-term cash borrowings from prime broker.
5. Represents investment assets pledged by CPP Investments on loan liabilities held by its investment holding subsidiary.
6. Certain comparatives have been reclassified to conform to the current year's presentation.

15.2 Supplemental information on collateral relating to investment holding subsidiaries

The net fair value of collateral held and pledged directly by investment holding subsidiaries was as follows:

(CAD millions)	As at March 31, 2020	As at March 31, 2019
Third-party assets held as collateral on[1]:		
Other debt	$ 987	$ 772
Own and third-party assets pledged as collateral on:		
Loans[2]	(10,762)	(8,854)
Total	$ (9,775)	$ (8,082)

1. The fair value of the collateral held that may be sold or repledged as at March 31, 2020 was $987 million (March 31, 2019 – $772 million). The fair value of collateral sold or repledged as at March 31, 2020 was nil (March 31, 2019 – nil).
2. The loans liability is included in the fair value of investment holding subsidiaries.

16. 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 March 31, 2020, the unfunded commitments for CPP Investments and its investment holding subsidiaries totalled $1,940 million (March 31, 2019 – $1,779 million) and $53,453 million (March 31, 2019 – $45,629 million), respectively.

17. Related-party transactions

Related parties of CPP Investments include unconsolidated subsidiaries, joint ventures and associates. All related-party investments are measured at fair value.

Unconsolidated subsidiaries include 224 wholly owned investment holding subsidiaries (see Note 1.2) (March 31, 2019 – 219) managed by CPP Investments. These investment holding subsidiaries hold private investments, debt, funds and real assets. The 224 investment holding subsidiaries are incorporated as follows: 155 in Canada (March 31, 2019 – 148), 26 in the United States (March 31, 2019 – 25), 20 in Australia (March 31, 2019 – 20), six in Hong Kong (March 31, 2019 – six), and 17 in other jurisdictions (March 31, 2019 – 20). CPP Investments provides financial or other support to these investment holding subsidiaries to fund their day-to-day operations and investment activities under loan agreements or shareholders' resolutions, as needed.

In addition, CPP Investments also owns interests in unconsolidated subsidiaries that are themselves investments. These investments, some of which may be wholly owned, are controlled through ownership rights directly or indirectly by CPP Investments.

Investments in joint ventures are those arrangements where CPP Investments or its investment holding subsidiaries have joint control. An associate is an entity in which CPP Investments or its investment holding subsidiaries has the ability to exercise significant influence over decision-making.

Related-party transactions consist of investments and investment income primarily in private equities, debt, funds and real assets. These transactions are measured at fair value and will, therefore, have the same impact on net assets and net investment income as those investment transactions with unrelated parties.

Related-party transactions with consolidated subsidiaries are eliminated upon consolidation.

18. Guarantees and indemnifications

18.1 Guarantees

As part of certain investment transactions, CPP Investments and its investment holding subsidiaries agreed to guarantee, as at March 31, 2020, up to $263 million (March 31, 2019 – $359 million) and $4,832 million (March 31, 2019 – $4,078 million), respectively, to other counterparties in the event certain investee entities default under the terms of loan and other related agreements.

18.2 Indemnifications

CPP Investments provides indemnifications to its Officers, Directors, certain others and, in certain circumstances, to various counterparties and other entities. CPP Investments may be required to compensate these indemnified parties for costs incurred as a result of various contingencies such as changes in laws, regulations and litigation claims. The contingent nature of these indemnification agreements prevents CPP Investments from making a reasonable estimate of the maximum potential payments CPP Investments could be required to make. To date, CPP Investments has not received any material claims nor made any material payments pursuant to such indemnifications.

19. Base CPP and additional CPP

At a Glance

As a result of legislative amendments in December 2016, the CPP Act now defines two separate parts of the CPP:

1. base CPP – the part of the CPP that existed before January 1, 2019; and
2. additional CPP – the additional part of the CPP that came into effect on January 1, 2019.

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

19.1 Changes in net assets

Pursuant to Sections 108.1 and 108.3 of the CPP Act, the CPPIB Act and an administrative agreement between Her Majesty the Queen in right of Canada and CPP Investments, amounts not required to meet specified obligations of the CPP are transferred weekly to CPP Investments. The funds originate from employer and employee contributions to the CPP.

CPP Investments remits cash to the CPP as required, including the periodic return, on at least a monthly basis, of funds required to meet CPP benefits and expenses. The accumulated transfers from/to the CPP and its two parts, the base CPP and additional CPP, as well as their accumulated net income since inception, are as follows:

	Accumulated net transfers from CPP			Accumulated net income			
(CAD millions)	base CPP	additional CPP	Total	base CPP	additional CPP	Total	Total net assets
As at April 1, 2018	$ 140,520	$ –	$ 140,520	$ 215,614	$ –	$ 215,614	$ 356,134
Total net income for the year	–	–	–	32,008	2	32,010	32,010
Transfers from CPP	38,160	421	38,581	–	–	–	38,581
Transfers to CPP	(34,745)	–	(34,745)	–	–	–	(34,745)
Balance as at March 31, 2019	$ 143,935	$ 421	$ 144,356	$ 247,622	$ 2	$ 247,624	$ 391,980
As at April 1, 2019	**$ 143,935**	**$ 421**	**$ 144,356**	**$ 247,622**	**$ 2**	**$ 247,624**	**$ 391,980**
Total net income for the year	**–**	**–**	**–**	**12,084**	**13**	**12,097**	**12,097**
Transfers from CPP	**42,619**	**1,902**	**44,521**	**–**	**–**	**–**	**44,521**
Transfers to CPP	**(39,010)**	**–**	**(39,010)**	**–**	**–**	**–**	**(39,010)**
Balance as at March 31, 2020	**$ 147,544**	**$ 2,323**	**$ 149,867**	**$ 259,706**	**$ 15**	**$ 259,721**	**$ 409,588**

19.2 Net assets of base CPP and additional CPP

The net assets of CPP Investments' base CPP and additional CPP accounts are as follows:

	As at March 31, 2020		
(CAD millions)	base CPP	additional CPP	Total
Cash and cash equivalents held for investment purposes	$ 23,469	$ 86	$ 23,555
Net investments other than cash and cash equivalents	383,848	2,241	386,089
Net investments	407,317	2,327	409,644
Premises and equipment	461	13	474
Other assets[1]	261	1	262
Accounts payable and accrued liabilities	(789)	(3)	(792)
Net assets	$ 407,250	$ 2,338	$ 409,588

	As at March 31, 2019		
(CAD millions)	base CPP	additional 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

1. Includes cash held for operating purposes.

19.3 Schedule of Investment Portfolio for base CPP and additional CPP

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

	As at March 31, 2020		
(CAD millions)	base CPP	additional CPP	Total
Equities			
Public equities	$ 117,847	$ 394	$ 118,241
Private equities	105,030	351	105,381
Total equities	222,877	745	223,622
Fixed income			
Bonds	102,363	1,295	103,658
Other debt	27,123	91	27,214
Money market securities	24,818	90	24,908
Total fixed income	154,304	1,476	155,780
Absolute return strategies	27,829	93	27,922
Real assets			
Real estate	43,572	146	43,718
Infrastructure	34,563	116	34,679
Power and renewables	8,682	29	8,711
Energy and resources	7,257	24	7,281
Total real assets	94,074	315	94,389
Investment receivables			
Securities purchased under reverse repurchase agreements and cash collateral pledged on securities borrowed	18,595	63	18,658
Derivative assets	9,698	32	9,730
Other	6,186	26	6,212
Total investment receivables	34,479	121	34,600
Total investments	$ 533,563	$ 2,750	$ 536,313
Investment liabilities			
Securities sold under repurchase agreements and cash collateral received on securities lent	(52,173)	(174)	(52,347)
Debt financing liabilities	(38,267)	(128)	(38,395)
Securities sold short	(20,707)	(69)	(20,776)
Derivative liabilities	(9,989)	(34)	(10,023)
Short-term secured debt	(1,425)	(5)	(1,430)
Other	(4,090)	(14)	(4,104)
Total investment liabilities	(126,651)	(424)	(127,075)
Pending trades receivable	7,002	23	7,025
Pending trades payable	(6,597)	(22)	(6,619)
Net investments	$ 407,317	$ 2,327	$ 409,644

	As at March 31, 2019[1]		
(CAD millions)	base CPP	additional 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
Power and renewables	5,072	3	5,075
Energy and resources	7,997	5	8,002
Total real assets	91,999	55	92,054
Investment receivables			
Securities purchased under reverse repurchase agreements and cash collateral pledged on securities borrowed	12,524	8	12,532
Derivative assets	3,190	2	3,192
Other	2,027	2	2,029
Total investment receivables	17,741	12	17,753
Total investments	$ 495,448	$ 477	$ 495,925
Investment liabilities			
Securities sold under repurchase agreements and cash collateral received on securities lent	(39,467)	(24)	(39,491)
Debt financing liabilities	(30,843)	(18)	(30,861)
Securities sold short	(29,010)	(17)	(29,027)
Derivative liabilities	(2,329)	(1)	(2,330)
Short-term secured debt	(1,357)	(1)	(1,358)
Other	(1,154)	(1)	(1,155)
Total investment liabilities	(104,160)	(62)	(104,222)
Pending trades receivable	4,689	3	4,692
Pending trades payable	(4,392)	(9)	(4,401)
Net investments	$ 391,585	$ 409	$ 391,994

1. Certain comparatives have been reclassified to conform to the current year's presentation.

19.4 Net income of base CPP and additional CPP

Details of net income of CPP Investments' base CPP and additional CPP accounts are as follows:

	For the year ended March 31, 2020		
(CAD millions)	base CPP	additional CPP	Total
Investment income	$ 15,699	$ 22	$ 15,721
Investment-related expenses	(2,365)	(5)	(2,370)
Net investment income	**13,334**	**17**	**13,351**
Operating expenses	**(1,250)**	**(4)**	**(1,254)**
Net income	**$ 12,084**	**$ 13**	**$ 12,097**

	For the year ended March 31, 2019[1]		
(CAD millions)	base CPP	additional CPP	Total
Investment income	$ 35,084	$ 11	$ 35,095
Investment-related expenses	(1,882)	–	(1,882)
Net investment income	33,202	11	33,213
Operating expenses	(1,194)	(9)	(1,203)
Net income	$ 32,008	$ 2	$ 32,010

1. Certain comparatives have been reclassified to conform to the current year's presentation.

Ten-Year Review[1]

	For the year ended March 31									
($ billions)	**2020**	2019	2018	2017	2016	2015	2014	2013	2012	2011
CHANGE IN NET ASSETS										
Net investment income	**13.4**	33.2	37.8	34.4	10.0	41.4	30.7	16.7	9.9	15.5
Operating expenses	**(1.3)**	(1.2)	(1.1)	(0.9)	(0.9)	(0.8)	(0.6)	(0.5)	(0.4)	(0.3)
Net contributions	**5.5**	3.9	2.7	4.3	5.2	4.9	5.7	5.5	3.9	5.4
Increase in net assets	**17.6**	35.9	39.4	37.8	14.3	45.5	35.8	21.7	13.4	20.6
NET ASSETS	**409.6**	392.0	356.1	316.7	278.9	264.6	219.1	183.3	161.6	148.2

($ billions)	**2020**	2019[2]	2018[2]	2017[2]	2016[2]	2015[2]	2014[2]	2013[2]	2012[2]	2011[2]
EQUITIES										
Canada	**8.2**	8.9	9.7	11.7	13.5	19.5	18.6	15.3	14.2	21.0
Foreign	**156.9**	162.7	165.1	140.0	112.6	98.0	75.6	64.0	56.7	50.8
Emerging	**51.5**	51.5	36.0	23.7	17.6	15.5	12.6	12.4	10.6	7.6
FIXED INCOME										
Non-marketable bonds	**21.1**	22.2	23.6	24.0	24.4	25.8	23.4	24.4	23.6	21.8
Marketable bonds	**76.6**	63.9	53.2	49.1	32.5	34.4	31.0	28.5	21.2	19.7
Cash and Absolute Return Strategies	**(14.7)**	(16.2)	(13.6)	(2.4)	16.8	18.8	17.4	8.7	2.5	2.3
External debt issuance	**(38.4)**	(30.9)	(24.1)	(19.9)	(15.6)	(9.9)	(9.7)	(9.5)	(2.4)	(1.4)
CREDIT	**50.8**	35.8	22.6	17.6	17.0	17.2	11.4	8.6	8.8	6.1
REAL ASSETS										
Real estate	**46.5**	47.5	46.1	40.1	36.7	30.3	25.5	19.9	17.1	10.9
Infrastructure	**35.1**	33.3	28.6	24.3	21.3	15.2	13.3	11.2	9.5	9.5
Energy and resources	**7.3**	8.2	6.1	4.3	1.4	–	–	–	–	–
Power and renewables	**8.7**	5.1	3.0	4.4	0.9	–	–	–	–	–
NET INVESTMENTS[3]	**409.6**	392.0	356.3	316.9	279.1	264.8	219.1	183.5	161.8	148.3
NET RETURN (%)										
base CPP	**3.1%**	8.9%	11.5%	11.8%	3.4%	18.2%	16.0%	9.7%	6.2%	11.5%
additional CPP	**4.2%**	5.0%								
TOTAL FUND	**3.1%**	8.9%	11.5%	11.8%	3.4%	18.2%	16.0%	9.7%	6.2%	11.5%

1. The net investment table aligns with the Asset Mix within the Management's Discussion and Analysis.
2. Historical figures for fiscal 2016 to 2019 are consistent with the current year's presentation. Fiscal 2011 to 2015 figures have not been updated to the current year's presentation.
3. Includes $407.3 billion of base CPP and $2.3 billion of additional CPP.

ANNEX A-3: 2020 MD&A

Management’s Discussion and Analysis

This annual report contains forward-looking statements reflecting Management’s objectives, outlook and expectations as at May 15, 2020. These statements involve risks and uncertainties. Therefore, our future investment activities may vary from those outlined herein.

Fiscal 2020

Net Assets
$409.6 billion

Operating Expenses
$1.3 billion

Net Income
$12.1 billion

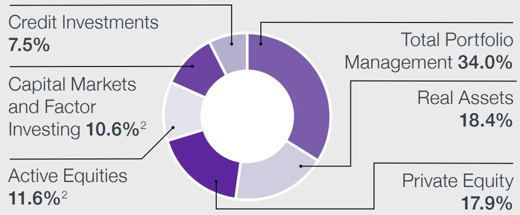
Net Return (annualized)

10-year	5-year	1-year
9.9%	7.7%	3.1%

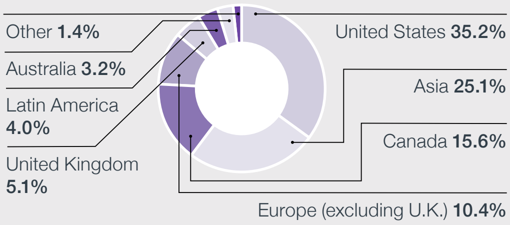
Dollar Value-Added ($ billions)

10-year[1]	5-year[1]	1-year
$56.9	$44.0	$23.5

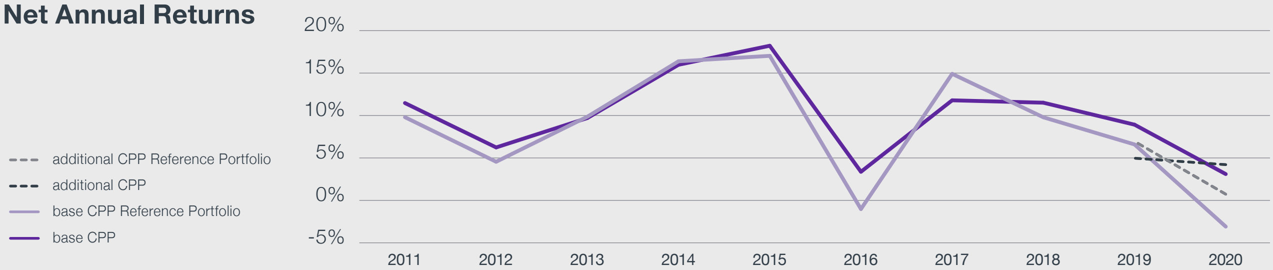
Assets Under Management by Investment Department



Global Diversification by Region



Net Annual Returns



1. Compounded DVA
2. For Capital Markets and Factor Investing and Active Equities, Assets Under Management (AUM) represents the sum of long investments in each of these programs. AUM differs from Net Investments, which factors in offsetting systematic exposures through short investments.

Management’s Discussion and Analysis

The following information provides analysis of the operations and financial position of Canada Pension Plan Investment Board (CPP Investments) and should be read in conjunction with the Consolidated Financial Statements (Financial Statements) and accompanying Notes for the year ended March 31, 2020. The Financial Statements have been prepared in accordance with International Financial Reporting Standards (IFRS).

The disclosure of certain non-IFRS measures in this section is intended to provide readers with a better understanding of Management’s perspective on the Fund’s performance and may not be comparable to similar measures disclosed by other institutions. Definitions of IFRS and non-IFRS measures can be found on page 103.

Fiscal 2020 financial highlights

CPP Investments ended the fiscal year with $409.6 billion in net assets, an increase of $17.6 billion (or 4.5%) over the end of fiscal 2019. This increase consisted of $12.1 billion in net income after CPP Investments costs and $5.5 billion in net Canada Pension Plan (CPP) contributions.

CPP Investments' major asset classes delivered mixed returns in fiscal 2020. For the first three quarters of the fiscal year, all asset classes contributed positive returns to the Fund driven by favourable global economic fundamentals. However, growth was significantly interrupted by the COVID-19 pandemic in the last quarter of the fiscal year, which caused a deterioration in global markets and economic conditions. To place results in context, the Fund produced a 12.6% return on a 2019 calendar basis, comparing favourably to other investment fund peers.

In fiscal 2020, the Fund generated a net rate of return of 3.1% or $12.1 billion after deducting CPP Investments costs. The base CPP account, which represented $407.3 billion or 99.4% of the Fund's net assets at the end of the fiscal year, earned a net return of 3.1% or $12.1 billion. The additional CPP account represented 0.6% or $2.3 billion of the Fund's net assets and earned a net return of 4.2% or $13 million.

CPP Investments generated $23.5 billion in dollar value-added (DVA) in fiscal 2020, which was driven by the Fund's relative underweight exposure to global public equities compared to the Reference Portfolios during the global downturn in equity markets at the end of the fiscal year, as well as positive value-added contributions from most investment departments.

Total Fund performance

The Fund's positive return was driven by foreign exchange gains of $14.0 billion, as the Canadian dollar depreciated due to the decline in oil prices and the economic downturn as a result of the COVID-19 pandemic. Economic fallout from the pandemic also had dramatic effects on global equity and credit markets in the fourth quarter. Major equity indexes suffered steep declines and credit markets experienced widening credit spreads. The adverse market environment contributed to losses of $0.6 billion in local currency terms from investment activities, particularly in equities and credit. Private investments, which generated steady returns earlier in the fiscal year, were also impacted, although to a lesser extent, by the unfavourable market conditions.

Public equities investments, mainly in the Balancing Portfolio, underperformed this fiscal year generating returns of -2.6% (or -7.6% in local currency terms). Earlier in the fiscal year, public equities experienced strong gains reflecting a rising equity market environment as global indexes posted historical highs. However, those gains were erased by a sharp market sell-off in the fourth quarter. The S&P Global LargeMidCap Index lost 9.4% in local currency terms with most of those losses driven by the underperformance of emerging markets relative to developed markets in the reporting period. In Canada, the decline in oil prices and its impact on the energy sector contributed to a further deterioration in Canadian equity performance, which returned -12.2% in the fiscal year.

The challenging economic conditions were also reflected in credit underperformance with a return of 0.5% (or -4.2% in local currency terms). The sudden widening of credit spreads, in response to the unfavourable economic conditions in the fourth quarter, negatively impacted corporate credit yields. For example, global high-yield corporate credit bonds fell 10.0% in local currency terms in the fiscal year.

Government bonds performed well and returned 13.5%, reflecting a "flight to safety" with investors seeking lower-risk assets as well as a reversal in the interest rate outlook across major markets. The Canadian and United States government bond markets returned 5.6% and 13.2%, respectively, in local currency terms. This contributed to the gains in the Balancing Portfolio, which was comprised of $100.8 billion in net assets in fixed income at the end of the fiscal year.

Private equities and real assets also contributed positive returns to the Fund driven by steady gains earlier in the fiscal year and favourable foreign currency gains. The positive market conditions until the fourth quarter, particularly in emerging markets, contributed to outperformance in private equities and real assets. However, the negative market sentiment resulting from depressed energy markets and the COVID-19 pandemic contributed to underperformance in Canadian private equities and energy and resources, which returned -5.1% and -23.4%, respectively. Infrastructure was negatively impacted by foreign exchange losses given its exposure to emerging markets and returned -1.0% (or 1.0% in local currency terms).

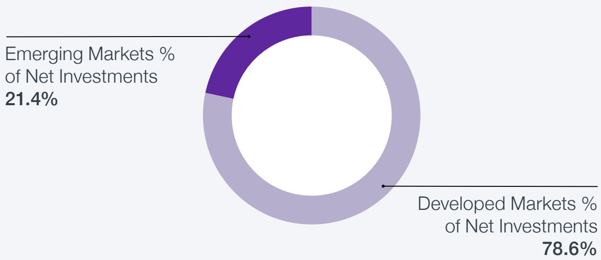
The depreciation of the Canadian dollar against the U.S. dollar was influenced by the decline in oil prices and the economic downturn as a result of the COVID-19 pandemic. Starting in March 2020, all major central banks began cutting key interest rates to near zero in an effort to shore up the global economy. The Bank of Canada cut its key overnight interest rate to 0.25%, which was a level previously seen subsequent to the 2008 Global Financial Crisis. The chart on page 54 shows the overall foreign currency impact for each of the past five fiscal years, in billions of dollars and as a percentage of the Investment Portfolios.

Foreign currency exposures represented 85.0% of the Fund and this diversification contributed to the $14.0 billion foreign currency gain this fiscal year. Currency diversification is based on the underlying currency exposure of our investments, whereas global diversification is based on the exposure to various geographic markets.

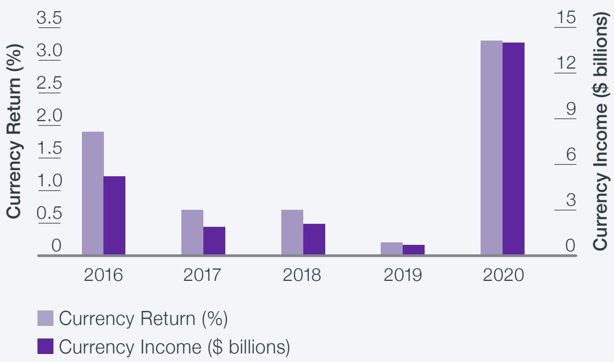
The Fund continued to progress well towards CPP Investments' 2025 strategic objectives to scale private and public investment programs and invest up to one-third of the Fund in emerging markets. During the fiscal year, the Fund increased its emerging market exposures to $87.6 billion with contributions from all investment departments. Emerging markets accounted for 21.4% of the Fund at the end of fiscal 2020, compared to 19.9% in the previous year. However, the Fund's emerging market exposures returned -1.1% this fiscal year, compared to 2.2% in the previous year, following a sharp decline in emerging equity markets, particularly in China, India and Brazil.

Market Classification

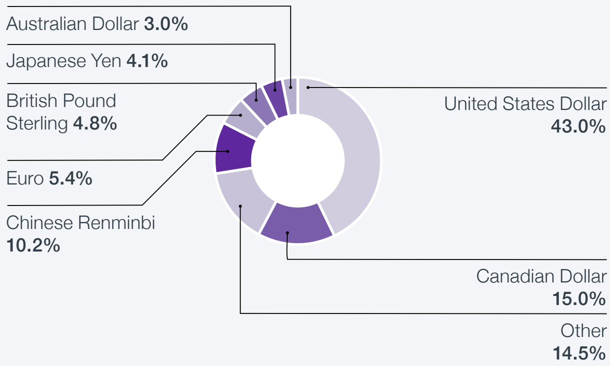
As at March 31, 2020



Currency Impact 5-Years



Currency Diversification



Asset Mix

	As at March 31, 2020		As at March 31, 2019	
Asset Class	($ billions)	(%)	($ billions)	(%)
Public Equities				
Canadian	7.1	1.7%	7.9	2.0%
Foreign	70.5	17.2%	82.7	21.1%
Emerging	38.1	9.3%	39.4	10.1%
	115.7	28.2%	130.0	33.2%
Private Equities				
Canadian	1.1	0.3%	1.0	0.2%
Foreign	86.4	21.1%	80.0	20.4%
Emerging	13.4	3.3%	12.1	3.1%
	100.9	24.7%	93.1	23.7%
Government Bonds				
Non-marketable	21.1	5.2%	22.2	5.7%
Marketable	76.6	18.7%	63.9	16.3%
	97.7	23.9%	86.1	22.0%
Credit	50.8	12.4%	35.8	9.1%
Real Assets				
Real estate	46.5	11.3%	47.5	12.1%
Infrastructure	35.1	8.6%	33.3	8.5%
Energy and resources	7.3	1.8%	8.2	2.1%
Power and renewables	8.7	2.1%	5.1	1.3%
	97.6	23.8%	94.1	24.0%
External Debt Issuance	(38.4)	(9.4%)	(30.9)	(7.9%)
Cash and Absolute Return Strategies[1]	(14.7)	(3.6%)	(16.2)	(4.1%)
NET INVESTMENTS	409.6	100.0%	392.0	100.0%
Non-Investment Assets[2]	–		–	
NET ASSETS[3]	409.6		392.0	

1. The negative balance of $14.7 billion in Cash and Absolute Return Strategies represents the net amount of financing through derivatives and repurchase agreements, and the current net position from Absolute Return Strategies.
2. Includes assets such as premises and equipment and non-investment liabilities.
3. Includes $407.3 billion in the base CPP account and $2.3 billion in the additional CPP account.

Total Fund Returns[1]

ASSET CLASS	Fiscal 2020	Fiscal 2019
Public Equities		
Canadian	(12.2%)	7.9%
Foreign	1.6%	7.5%
Emerging	(9.1%)	(1.7%)
	(2.6%)	6.3%
Private Equities		
Canadian	(5.1%)	5.7%
Foreign	6.0%	18.0%
Emerging	8.0%	11.8%
	6.2%	17.0%
Government Bonds		
Non-marketable	4.7%	4.8%
Marketable	16.1%	5.3%
	13.5%	5.2%
Credit	0.5%	8.7%
Real Assets		
Real estate	5.1%	6.4%
Infrastructure	(1.0%)	14.0%
Energy and resources	(23.4%)	(0.6%)
Power and renewables	4.4%	1.2%
	0.0%	8.0%
Total Fund[2]	3.1%	8.9%

1. Returns by asset class are inclusive of both the base and additional CPP accounts, before CPP Investments operating expenses. Subtotals are not arithmetically derived, since performance metrics are reported using time-weighted returns.
2. The total Fund net return is after all costs, including operating expenses of $1.3 billion ($1.2 billion in fiscal 2019). The total Fund return includes the results of certain investment activities that are not attributed to an asset class return reported in this table, such as performance of $(3.0) billion from currency management activities ($(1.2) billion in fiscal 2019), $(0.3) billion from cash and liquidity management activities ($(0.7) billion in fiscal 2019), $0.9 billion from absolute return strategies ($0.6 billion in fiscal 2019).

Base CPP and additional CPP

Since January 2019, the Canada Pension Plan has been made up of two parts as described on page 20. The base Canada Pension Plan (base CPP) refers to the portion of benefits and contributions continuing at the rates used before January 2019. The additional Canada Pension Plan (additional CPP) refers to the increased benefits and contributions that started in January 2019.

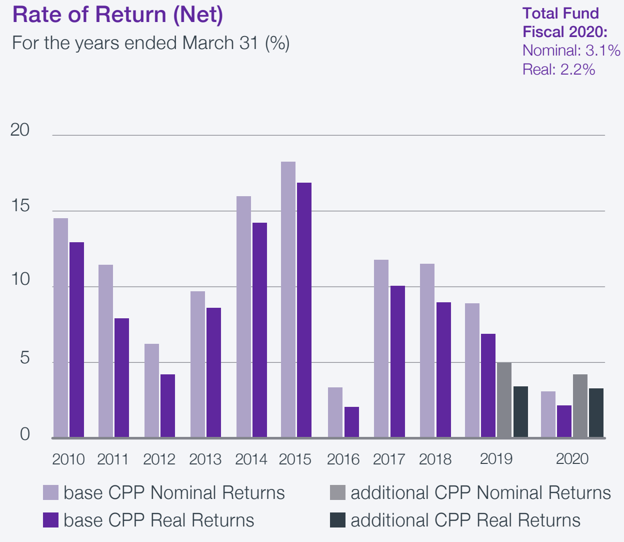
The base CPP and additional CPP accounts each consist of holdings in units of two investment pools ("Core" and "Supplementary") that are valued daily. Both Core and Supplementary Pools were established in January 2019. Initially, the Core Pool consisted of all assets managed by CPP Investments prior to January 2019, while the Supplementary Pool consisted of new domestic fixed income investments based on contributions from the additional CPP. Each of the base CPP and additional CPP accounts will invest their long-term Investment Portfolios through holdings of these units.

Over the fiscal year, the additional CPP account grew 452.7% or $1.9 billion. This growth in net assets consisted of net contributions of $1.9 billion, and net income of $13 million.

The additional CPP account delivered a net return of 4.2%, since the Supplementary Pool's fixed income securities performed well in the fourth quarter. The base CPP account, which is fully invested in the Core Pool, delivered a net return of 3.1% mainly driven by favourable contributions from foreign exchange gains.

Rate of Return (Net)

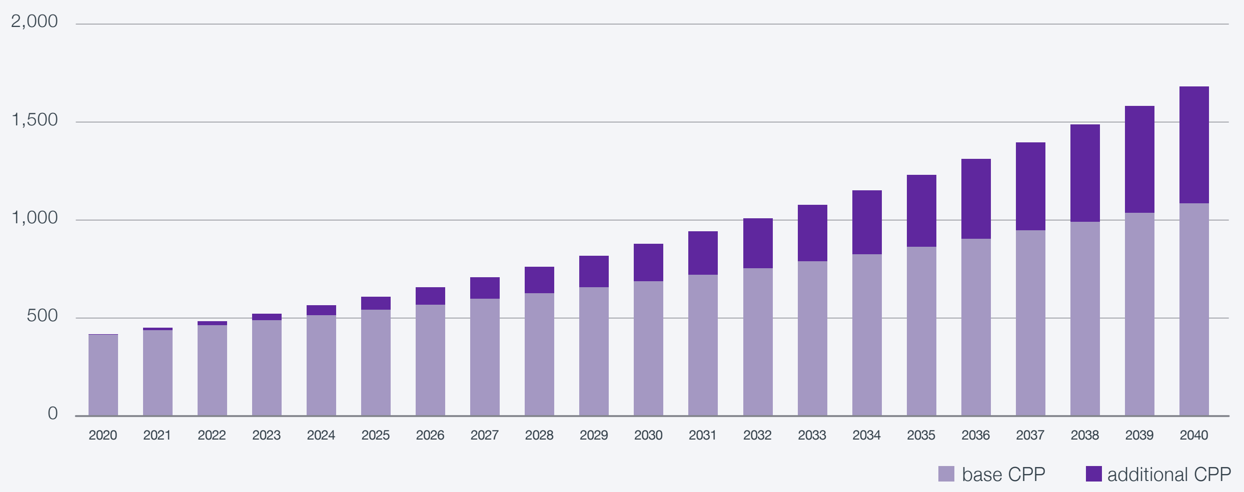
For the years ended March 31 (%)



Growth of the CPP – Base CPP and Additional CPP Accounts (as at December 31)

Office of the Chief Actuary projections – 30th Actuarial Report

($ billions)



Longer-term performance

As a long-term investor, five- and 10-year periods provide a more meaningful assessment to evaluate the performance of CPP Investments' strategy. For the five-year period ending March 31, 2020, the Fund generated total net income of $123.4 billion or an annualized nominal return of 7.7% after deducting CPP Investments costs. For the 10-year period, the Fund generated $235.2 billion or an annualized nominal return of 9.9% after CPP Investments costs.

Every three years, the Office of the Chief Actuary conducts an independent review of the sustainability of the base and additional CPP over the next 75 years. In the most recent triennial review, the Chief Actuary reaffirmed that, as at December 31, 2018, both the base and additional CPP continue to be sustainable over the 75-year projection period at the current legislated contribution rates.

The Chief Actuary's projections are based on the assumption that, over the 75 years following 2018, the base CPP account will earn an average annual real rate of return of 3.95%. This figure is above the rate of Canadian consumer price inflation and is also after all costs. The corresponding assumption is that the additional CPP account will earn an average annual real rate of return of 3.38%.

The Fund, combining both the base CPP and additional CPP accounts, achieved 10-year and five-year annualized net real returns of 8.1% and 6.0%, respectively.

Total Fund Returns

	Fiscal 2020		Fiscal 2019	
Net Returns	**% (annualized)**	**$ billions (cumulative)**	% (annualized)	$ billions (cumulative)
base CPP				
1-year net return	**3.1**	**12.1**	8.9	32.0
5-year net return	**7.7**	**123.4**	10.7	152.0
10-year net return	**9.9**	**235.2**	11.1	239.0
additional CPP				
1-year net return[1]	**4.2**	**0.0**	5.0	0.0
Since inception net return[2]	**7.4**	**0.0**		

1. Fiscal 2019 additional CPP net return is not annualized given additional CPP inception in January 2019. Additional CPP net return excludes $9 million in start-up expenses.
2. Return is since inception of additional CPP in January 2019, for a 15-month measurement period.

Reference Portfolios returns

The Reference Portfolios are notional, two-asset passive portfolios consisting of public market global equities and nominal bonds issued by Canadian federal and provincial governments, each represented by broad market indexes, which serve as benchmarks against which CPP Investments' performance can be compared. As such, they provide the targeted level of market risk and benchmarks for the long-term total returns of both the base CPP and additional CPP Investment Portfolios. The Reference Portfolios differ between the base CPP and additional CPP accounts to reflect the different risk levels prudently targeted for each of their long-term Investment Portfolios. See page 33 for more information.

Below are the Reference Portfolios' rates of return over a longer-term basis:

% (annualized)	**Fiscal 2020**	Fiscal 2019
base CPP Reference Portfolio Returns		
1-year	**(3.1)**	6.6
5-year	**5.2**	9.3
10-year	**8.3**	10.7
additional CPP Reference Portfolio Returns		
1-year[1]	**0.7**	7.0
Since inception[2]	**6.1**	

1. Fiscal 2019 additional CPP net return is not annualized given additional CPP inception in January 2019.
2. Return is since inception of additional CPP in January 2019, for a 15-month measurement period.

Performance against Reference Portfolios

Each year we measure the difference between the annual performance of each account and that of its Reference Portfolio in dollar terms, or dollar value-added (DVA), after deducting all costs.

The Fund earned a net return of 3.1% and net income of $12.1 billion in fiscal 2020, after deducting CPP Investments costs. This result is above the aggregated Reference Portfolios' returns for both the base and additional CPP accounts, leading to a net dollar value-added of $23.5 billion. CPP Investments' DVA relative to the aggregated Reference Portfolios is primarily due to the impact of COVID-19 on the global equity market in the last quarter of the fiscal year. The aggregated Reference Portfolios lost $11.4 billion or 3.1% in the fiscal year.

At an account level, the base CPP Reference Portfolio return of -3.1% resulted in a net DVA of $23.4 billion, while the additional CPP Reference Portfolio return of 0.7% resulted in a net DVA of $0.1 billion. See page 25 for more details on active management and the sources of return.

In any given year, differences between the actual net returns and Reference Portfolios' returns are often substantially affected by three factors:

1. **Diversification –** By design, the Investment Portfolios are more broadly diversified than the Reference Portfolios. The base CPP Investment Portfolio includes major commitments to private asset classes such as private equity and real assets. By comparison, the Reference Portfolio contains only two asset classes heavily weighted to public equities (85% since fiscal 2019). The additional CPP Investment Portfolio also participates in the same broad range of asset classes and strategies, tempered by its higher weight in government bonds.

Asset Class	Benchmark	**2020 Return (%)**	2019 Return (%)
Equity	S&P Global LargeMidCap Index[1]	**(4.8)**	6.7
Fixed Income	FTSE TMX Canada All Governments Nominal Bond Index	**5.6**	5.4
Total base CPP Reference Portfolio[2]		**(3.1)**	6.6
Total additional CPP Reference Portfolio[2]		**0.7**	7.0

1. Net of CPP Investments withholding tax, unhedged.
2. Component returns for base CPP and additional CPP Reference Portfolios are the same, but the aggregated returns differ due to different component weighting between the two benchmarks (Equity/Fixed Income weights of 85/15 and 50/50 for base CPP and additional CPP, respectively). In addition, for fiscal 2019, additional CPP Reference Portfolio has partial year results given additional CPP inception in January 2019.

The average allocation of Fund assets to major asset classes in fiscal 2020 is shown below:

		Fiscal 2020
Average Asset Class Weights	**base CPP**	**additional CPP**
Public Equities	**32%**	**18%**
Private Equities	**24%**	**14%**
Government Bonds	**22%**	**55%**
Credit	**10%**	**6%**
Real Assets[1]	**23%**	**13%**
Cash and Absolute Return Strategies[2]	**(11%)**	**(6%)**
Total	**100%**	**100%**

1. Includes 12% for Real Estate, 8% for Infrastructure, 2% for Energy and Resources, and 1% for Power and Renewables for base CPP, and 6% for Real Estate, 5% for Infrastructure, 1% for Energy and Resources, and 1% for Power and Renewables for additional CPP.
2. Net of external debt issuances.

When global public equity markets have a strong year, the Reference Portfolios' returns, dominated by public equities, will naturally tend to be higher than those of the more diversified Investment Portfolios. In years when asset class returns are more mixed across the spectrum, and especially when public equity markets are falling, the Investment Portfolios will tend to outperform. Using leverage to increase the gross amount of assets we invest in at a targeted level of market risk leads to both broader diversification and higher returns over the long term.

2. **Investment selection –** Investment selection refers to how we select, buy, weight and sell individual assets in line with their program's mandates and intended factor exposures. Generating value through investment selection over longer time horizons requires skill. Nevertheless, we believe that the variety and breadth of our investment programs help to both increase and stabilize our overall performance.

3. **Valuations –** The values placed on private investments are determined by processes that include independent valuation procedures and the use of external appraisers and valuators. See page 38 for more details about the valuation process. In the short term, private assets often exhibit less volatility in value than the daily-moving prices of comparable public market equivalent investments. In periods when public equities rise rapidly, we often see that values observed in private assets rise less rapidly, resulting in negative dollar value-added. Conversely, in periods where publicly traded assets are falling rapidly, we often observe private market values that are more resilient, resulting in positive reported dollar value-added.

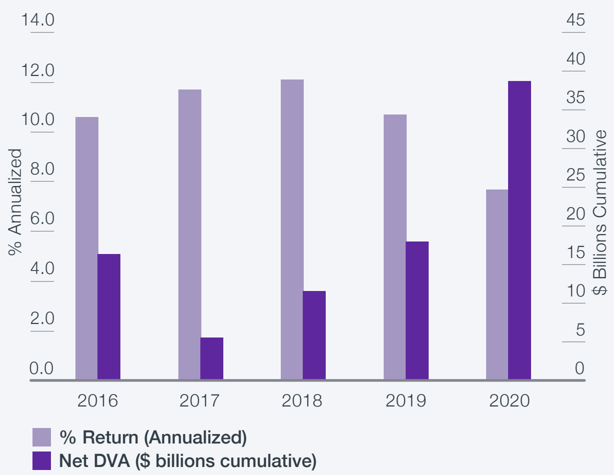
We do not place undue emphasis on results in any single year, whether positive or negative, mainly due to market volatility in most asset classes from one year to the next. Our investment strategy and decisions intentionally look through time horizons spanning multiple years and decades. We focus on tracking absolute and dollar value-added performance over five-year periods. This measurement period aligns with our long-term investment mandate and our compensation framework, as described on page 104. While it does not necessarily represent a full market cycle, historical patterns show that the five-year period provides a reasonable basis for assessing longer-term performance when viewed over multiple such periods.

At March 31, 2020, CPP Investments has generated $52.6 billion of compounded DVA since the inception of active management on April 1, 2006. The chart below shows the compounded DVA for the full period since inception, and for the past 10 and five years.

Compounded dollar value-added

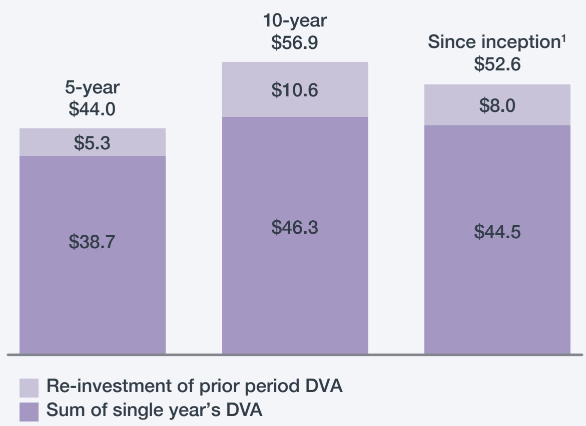
The dollar value-added is not only the sum of every single year's value-added but also the compounding effect of continuous reinvestment of gains (or losses). We therefore calculate compounded dollar value-added as the total net dollar value that CPP Investments has added to the Fund over the long term through all sources of active management. This figure is above the value that the Fund would have generated had it earned Reference Portfolio returns alone.

5-Year Net Return and DVA



Compounded Dollar Value-Added Returns

($ billions)



1. Figures do not add up due to rounding.

5-Year Net DVA

($ billions)	2016	2017	2018	2019	**2020**
base CPP	16.4	5.6	11.6	18.0	**38.6**
additional CPP	0.0	0.0	0.0	0.0	**0.1**
Total	16.4	5.6	11.6	18.0	**38.7**

Managing costs

Building CPP Investments today and for the future

CPP Investments seeks to maximize investment returns without undue risk of loss, having regard to the factors that may affect the funding of the CPP. This objective guides all decisions, whether it is creating a new investment program, investing in technology systems or opening a new office. As a result, we only incur internal or external costs when we are sufficiently confident of enhanced long-term returns for the Fund, net of all costs. Further, a decision to either carry out activities with internal resources, or to do so through external partners, is an economic calculation in the best interest of the Fund. If we can achieve higher returns using internal resources, we will do so. If the program requires more unique capabilities not cost-effectively available internally, we will seek external partners. We remain vigilant as we continue to build an organization designed to realize our public purpose.

In 2006, CPP Investments made the decision to adopt an active management strategy seeking to build value and generate investment returns that will exceed passive management in the long run after all costs. Our decision to manage the Fund actively was not made lightly. This approach presents significant complexity and comes with costs. It requires resources to build an enduring, skills-based organization with diverse, internationally competitive investment programs designed to maximize long-term, risk-adjusted returns after all costs.

To evaluate active management, we measure results relative to risk against available alternatives. This serves to check whether we are on track to deliver superior returns over numerous economic cycles and multiple generations. Ultimately, the benefits of our active management can be distilled down to one word: sustainability. Generating above-market returns over time can help cushion the impact of other factors affecting the sustainability of the CPP in the long term. These other factors include wage growth, demographics, fertility rates, immigration and longevity, all of which are outside the control of CPP Investments.

Consistent with the growth in the Fund and the development of our active management strategy, CPP Investments costs have also grown accordingly over the years. We are continuously building our in-house capabilities required to operate as a top-tier global investment organization focused on the future. These capabilities include investment skills, expertise in critical corporate functions, new systems and the establishment of a local presence in key regions in order to both access investment opportunities and closely manage our investments over the ownership period. We believe it is in the Fund's best interest, from both cost and competitive perspectives, to continue building internal investment expertise and capabilities where CPP Investments has comparative advantages. Infrastructure investing is a case in point. We estimate that the costs for an externally managed $25.2 billion pool of committed capital would range on average from $1 billion to $1.2 billion per year. By contrast, the fully costed internal management of our infrastructure portfolio is approximately $88 million.

To obtain the diversification and skills we require, it is not practical to build all capabilities in-house. As a result, we use external managers to complement our internal programs. To ensure we derive the appropriate value from managers, we only partner with top-tier managers. Fee arrangements are structured to ensure our interests are aligned. See page 63 for more details.

Growth of CPP Investments

	Fiscal 2020	Fiscal 2006[1]
Net assets[2]	**$409.6 billion**	$98.0 billion
% foreign investments	**84.4%**	35.7%
Total employees (full-time)	**1,824**	164
Number of offices	**Nine**	One
Number of investment programs	**23**	Six
Number of external partners	**283**	62

1. Current year results are compared to fiscal 2006 prior to implementing our active management programs.
2. Includes net assets of $407.3 billion for base CPP and $2.3 billion for additional CPP in fiscal 2020.

Our global scale allows us to attract and retain professionals from across the world, compete for the most attractive investments and win against formidable competitors. Scale also allows us to establish and effectively manage more distinct investment programs, meeting the goal of diversification and to apply insights from one program to enhance others.

CPP Investments seeks to realize the financial benefits of spreading costs over an increasing amount of assets under management. We seek to generate further operational efficiencies as we move toward 2025 through continued investment in technology and data. One measure that will demonstrate such efficiency is the net assets managed per full-time employee. While the assets we manage and oversee have grown significantly over the years in size, location and complexity, we currently manage $225 million in net assets per employee, consistent with the average of the last five years.

We regularly assess our cost-effectiveness against peers through participation in external benchmarking studies such as that of CEM Benchmarking, an independent provider of objective and actionable benchmarking information for pension funds, sovereign wealth funds and other long-term asset owners. Results from the 2019 CEM Benchmarking study (the most recent report available) indicate that CPP Investments costs were aligned with our peers relative to the assets under management. CPP Investments' staffing levels also continue to align with the peer benchmark developed by CEM. We monitor these relationships closely and ensure this level of staffing provides us with the resources necessary to support investment activities and properly govern and administer the assets we manage.

While we benchmark our costs to ensure they are appropriate, CPP Investments also participates in benchmarking of our net returns through CEM. For the five-year period ending March 31, 2019 (the most recent data available) our net annualized return of 10.7% after all costs was 1.9% higher than the median of our global peer group and 3.1% higher than the Canadian peer median.

Cost governance framework

We apply the resources required to deliver above-market returns for the Fund. At the same time, we are diligent in ensuring value for money spent. Our cost governance framework includes expense-management policies and authorities as well as expense reporting to the Senior Management Team and the Board of Directors. This ensures that we pursue growth in a responsible and cost-effective manner consistent with the Board-approved business plan and operating budget. In addition, our employee travel and expense policy requires that the expenses incurred be appropriate for the needs of our business. Oversight includes regular reviews by the Assurance & Advisory group. To ensure objectivity, Assurance & Advisory is an independent corporate function that reports functionally to the Chair of the Audit Committee and administratively to the Chief Financial and Risk Officer.

Fiscal 2020 costs

CPP Investments directly incurred $2,370 million of investment-related expenses and $1,254 million of operating expenses for fiscal 2020, as reported on page 138 in the *Consolidated Statement of Comprehensive Income*. Investment-related expenses include $603 million in investment management fees paid to external managers and $244 million of transaction costs. Borrowing costs of $1,523 million were also incurred as part of the Fund's management of leverage. (See page 64 for details on CPP Investments costs associated with managing leverage.)

Through investment holding subsidiaries, CPP Investments indirectly incurred $1,205 million of investment management fees paid to external managers and $146 million of transaction costs. Investment management fees and transaction costs incurred by CPP Investments together with its investment holding subsidiaries totalled $1,808 million and $390 million, respectively. This compares to the prior year's costs of $1,586 million in total investment management fees and $429 million in total transaction costs.

Management and the Board of Directors govern the costs of CPP Investments and its investment holding subsidiaries on a holistic basis. The costs illustrated in the diagram below reflect resources required to invest, manage and govern CPP Investments' Investment Portfolios, exclusive of the costs associated with the Fund's use of leverage.

Costs to Invest the Fund

INVESTMENT MANAGEMENT FEES

PAID ON COMMITMENTS & ASSETS INVESTED

Management fees
$1,188 million

What does it pay for?
Payments to external fund managers to pay for their operating costs and basic profit margins.

Why do we incur the costs?
To seek exceptional performance net of all costs, while diversifying the Fund through different strategies and regions.

PAID ON RETURNS GENERATED BY EXTERNAL PARTNERS

Performance fees
$620 million

What does it pay for?
A form of profit sharing when returns exceed a predetermined hurdle.

Why do we incur the costs?
Enhanced fund performance through alignment of interests between CPP Investments and the external fund managers.

Transaction costs
$390 million

What does it pay for?
Legal and tax advisors, consultants and trading commissions.

Why do we incur the costs?
Pursuing complex, large investment opportunities in public and private markets requires us to conduct greater due diligence including complying with international regulatory and tax regimes.

Operating expenses
$1,254 million

What does it pay for?
Personnel, technology, data, global offices and other operating costs.

Why do we incur the costs?
To prudently maximize the Fund returns, we employ top-tier talent and have offices in key markets to access and manage investment opportunities.

All costs defined above are incurred directly by CPP Investments or indirectly through its investment holding subsidiaries.

The table below illustrates the adjusted investment income (loss) and the associated costs incurred by each investment department to support their activities. Adjusted investment income consists of investment income, as reported in the *Consolidated Statement of Comprehensive Income*, excluding the investment management fees and transaction costs incurred by investment holding subsidiaries, as well as the difference between financing costs and borrowing costs. Further details on the difference between financing costs and borrowing costs can be found on page 64. Refer to Note 7 of the Financial Statements for a reconciliation of adjusted investment income to investment income as reported in the *Consolidated Statement of Comprehensive Income* on page 138.

Net Income (Loss) by Investment Department

	Fiscal 2020							Fiscal 2019[1]	5-year[1]
($ millions)	Total Portfolio Management	Capital Markets and Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Total	Total	Total
Adjusted Investment Income (Loss)	10,395	(1,910)	3,916	(838)	6,068	347	17,978	37,112	144,539
Financing Costs	2,429	–	–	–	–	–	2,429	1,884	5,903
Investment Management Fees	–	1,010	6	17	585	190	1,808	1,586	7,926
Transaction Costs	53	45	56	37	63	136	390	429	1,985
Net Investment Income (Loss)	7,913	(2,965)	3,854	(892)	5,420	21	13,351	33,213	128,725
Operating Expenses	200	205	179	147	227	296	1,254	1,203	5,309
Net Income (Loss)	7,713	(3,170)	3,675	(1,039)	5,193	(275)	12,097	32,010	123,416

1. Certain comparatives have been updated to conform with the current year's presentation.

Investment management fees

In order to obtain broad diversification of active management skills, we seek exposure to a wide range of asset classes, geographic markets and strategies. In some cases, it would not be practical or cost efficient to build a dedicated in-house team. As a result, we seek well-aligned external managers who exhibit the highest capabilities and strong prospective returns, net of all costs incurred. In addition to delivering attractive returns through our fund investments, many of our external manager partners generate attractive investment opportunities for our direct investment programs.

Investment management fees include payments to external managers who invest and manage capital committed by CPP Investments, whether directly or through funds. They also include performance fees paid when CPP Investments earns a return above a pre-determined hurdle.

Investment management fees of $1,808 million in fiscal 2020 reflect $1,188 million in management fees paid primarily to private equity funds and hedge funds, and $620 million related to investment performance. Investment management fees increased by 14% or $222 million in the fiscal year, driven by more assets under management by fund managers and higher performance fees paid to external fund managers in public market strategies. Performance fees are calculated on a calendar year basis and represent very strong manager performance for the calendar year 2019, which were higher than our absolute returns in 2018.

Use of external fund managers

Over the most recent five-year period, external fund managers for both Capital Markets and Factor Investing (CMF) and Private Equity (PE) Funds and Secondaries programs have delivered $22.8 billion of net investment income relative to $4.5 billion in management fees, as well as $2.4 billion in performance rewards once certain return hurdles were achieved. Our private equity fund partners have also generated a large number of attractive direct investment opportunities resulting in $37.5 billion of invested capital since inception and $12.2 billion of net investment income over the last five years with no associated fees.

CMF's External Portfolio Management group invests through managers that are expected to generate attractive, sustainable results on a risk-adjusted basis, net of all costs. The PE Funds group invests in funds managed by private equity partners that we expect will outperform public alternatives on a risk-adjusted basis. When negotiating fees and other terms, our primary focus is achieving alignment between the manager's incentives and our investment goals. Below are some examples of our approach to improve alignment, reduce costs and increase net returns.

External Portfolio Management achieves this by:

- Trading lower management fees for higher performance fees;
- Considering longer commitment periods in exchange for lower fee structures;
- Structuring some management fees as an advance on performance fees;
- Making co-investments, which generally incur significantly lower fees than co-mingled vehicles;
- Instituting performance hurdles; and
- Investing in emerging managers, where we can usually achieve lower fees and secure scarce investment capacity.

Fee arrangements are reviewed regularly, and we negotiated more favourable fees with several of our managers in fiscal 2020.

PE Funds achieves this by:

- Securing direct investment opportunities while paying no fees by being a large investor in the funds that we select;
- Using our scale to secure larger allocations at reduced fees; and
- Making commitments early in the fundraising process when this allows us to obtain lower fee structures.

We can be limited in our ability to negotiate lower fees when managers are unable to accept significant new commitments. However, we decline allocations to potential target managers when we are unable to negotiate acceptable terms.

Transaction costs

Transaction costs for fiscal 2020 totalled $390 million compared to $429 million in the prior year, a decrease of 9% ($39 million), driven by lower costs for private investment strategies. This year, we completed 46 transactions valued at more than $300 million, each involving complex due diligence and negotiations.

Transaction costs include a variety of non-recurring expenses, including due diligence on potential investments. They also include legal and tax advisory fees required to support the acquisition and disposition of private market assets, or, in the case of public markets, commissions paid when trading securities.

Given the nature of these costs, they will vary from year to year according to the number, size and complexity of our investing activities in any given period. These costs are expected to increase over time as we continue to increase our private asset holdings and dispositions, as well as our public markets trading activities in both developed and emerging markets given the expected growth in the Fund.

Further details on transaction costs are included in the investment department performance sections starting on page 65.

Costs associated with managing leverage

CPP Investments uses leverage as part of an integrated strategy in seeking to maximize the rate of return for the Fund over the long term. Leverage enables CPP Investments to make additional and more diversified investments while maintaining the Fund's approach to market risk. (This is described in more detail on page 33.) CPP Investments' strong balance sheet, measured by a "AAA" credit rating, has increasingly provided access to a range of cost-effective financing options. Given the growing size and prominence of leverage in our investment strategy, CPP Investments is providing additional disclosure regarding our use of leverage and its associated financing costs.

Financing costs include borrowing costs, as reported in Note 6 of the Financial Statements. Borrowing costs are composed of expenses from debt financing liabilities, securities sold under repurchase agreements, prime brokerage and other securities borrowing transactions as well as securities lending transactions where cash is received. Gains and losses associated with certain interest rate derivatives used as part of financing activities are also included in borrowing costs.

For the purposes of monitoring the costs associated with all forms of leverage used across the Fund, Management and the Board track a measure referred to as financing costs. Financing costs include borrowing costs as well as the costs associated with the leverage-generating elements of additional derivative transactions. This measure is consistent with the "Total Financing Liabilities" measure described in the Risk Management section on page 98. In fiscal 2020, CPP Investments incurred total financing costs of $2,429 million, which was comprised of $1,523 million in borrowing costs and $906 million in additional derivative transaction costs. This compares to the prior year's financing costs of $1,884 million, which included $1,163 million in borrowing costs and $721 million in additional derivative transaction costs. The Fund's return is reported net of financing costs.

Operating expenses

Total operating expenses were $1,254 million this year representing 30.6 cents for every $100 of invested assets compared to $1,203 million in fiscal 2019 or 32.8 cents.

Total operating expenses increased 4% or $51 million year-over-year primarily due to higher personnel costs and increased investment in information technology and data services. These increases were partially offset by a lower use of professional services.

Total personnel costs were $837 million in fiscal 2020, an increase of 4% (or $35 million) compared to the prior year. The higher personnel costs reflect an increase in staffing levels, from 1,661 in fiscal 2019 to 1,824 full-time employees in fiscal 2020, which were required to manage the growing size and reach of the Fund. Incentive compensation payouts increased in fiscal 2020, reflecting the Fund's strong 5-year net return and dollar value-added relative to the Reference Portfolios.

To support the growing Fund, as well as continued diversification of assets across sectors and geographies, CPP Investments has expanded its international operations in key markets over the past six years, including opening an office in San Francisco. Six years ago, there were just over 100 employees in the international offices combined. Today, there are almost 450 employees supporting those offices, which will continue to grow in the future as CPP Investments looks to manage a higher percentage of assets in fast-growth emerging markets.

Information technology and data service expenses of $139 million were 18% (or $21 million) higher on a year-over-year basis and reflect the continued investment in technology and data as outlined in our 2025 strategy. The increased spend of $21 million reflects our Technology & Data strategy to leverage the cloud platform to build CPP Investments' data analytics capability, support our strategic priorities, modernize our infrastructure and invest in additional tools and data sets.

The adoption of new lease accounting standards in fiscal 2020 resulted in a net increase of $12 million over the prior year in premises and equipment and related amortization.

Professional services of $93 million decreased by 13% or $14 million year over year, as fiscal 2019 included work related to strategy development and the establishment of the additional CPP.

Allocation of costs between the base CPP and the additional CPP

CPP Investments costs consist of investment-related expenses and operating expenses. CPP Investments attributes investment-related expenses to the investment programs that directly incur those expenses and attributes operating expenses arising from investment activities to programs based on underlying cost drivers. Operating expenses arising from governance activities are allocated to programs based primarily on assets under management.

This cost allocation process results in allocations to each of the Core and Supplementary investment pools based on the investment programs within that pool, and therefore to the base CPP and the additional CPP based on their proportionate holdings in the two pools. As a result, regardless of either account's portfolio composition or the weighting of its investments between the two pools, each account is allocated its proportionate share of costs on a fair and consistent basis. For more details on the actual costs allocated to each account in fiscal 2020, please see Note 19 of the Financial Statements on page 175.

Performance of the investment departments

We conduct all investment activity in accordance with the Statement of Investment Objectives, Policies, Return Expectations and Risk Management, and the Policy on Sustainable Investing discussed on page 43. These and other Board-approved policies are available on our website at www.cppinvestments.com. Responsibilities of investment departments are described on page 41. What follows is a review of how each investment department performed during fiscal 2020.

The table below shows the year-end composition of total Fund net investments:

($ millions)	Total Portfolio Management	Capital Markets and Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Total
Public Equities	115,031	–	–	–	637	–	115,668
Private Equities	–	–	–	7,004	93,927	–	100,931
Government Bonds	97,334	–	–	375	–	–	97,709
Credit	18,252	–	–	32,593	–	–	50,845
Real Assets	–	–	–	–	–	97,641	97,641
External Debt Issuance	(38,395)	–	–	–	–	–	(38,395)
Cash and Absolute Return Strategies[1]	(12,485)	(2,686)	430	(7)	(7)	–	(14,755)
Net Investments	179,737	(2,686)	430	39,965	94,557	97,641	409,644
Absolute Return Strategies – Assets[2]		*56,014*	*61,365*				
Absolute Return Strategies – Liabilities[3]		*(58,700)*	*(60,935)*				

1. Absolute Return Strategies hold offsetting systematic exposures through long and short investments. As a result, their net asset values greatly understate their size and impact on the portfolio.
2. To calculate the size of Absolute Return Strategies on a comparable basis with long-only programs, we calculate Assets (or Assets Under Management) as the sum of the long investments in each of the programs.
3. Includes short positions and hedges of systematic risks arising in Absolute Return Strategies.

We continued to expand our capabilities around the world through multiple investment programs. Maintaining offices in key markets helps us to source deals, establish partnerships and relationships, manage assets and attract professionals with local knowledge. The table on page 66 shows the contributions of each investment department to net income, after CPP Investments costs, for the current fiscal year. It also shows the historical five-year period.

Several investment departments contributed positively to total Fund returns over the fiscal year despite the severe impact of the COVID-19 pandemic in the fourth quarter. Our actively managed programs delivered $4.4 billion in net income, compared to $21.9 billion in the previous year, while the Balancing Portfolio returned $7.7 billion in net income compared to $10.1 billion last year.

The sell-off in global equity markets in the fourth quarter resulted in negative performance across Real Assets and Credit Investments. Real Assets and Credit Investments generated $0.3 billion and $1.0 billion in net losses, respectively, in fiscal 2020. This compared to a respective $6.7 billion and $3.0 billion in net income in 2019. The decrease was a result of the negative economic impact of COVID-19. Capital Markets and Factor Investing generated $3.2 billion in net losses compared to $0.8 billion in net losses last fiscal year, which was driven by broad market volatility that led to widespread deleveraging by investors and dislocation across global asset classes.

Offsetting these impacts, the Private Equity and Active Equities departments contributed positively to the Fund's results with $5.2 billion and $3.7 billion in net income, respectively, as a result of strong investment selection. That compared to $12.0 billion and $1.0 billion in net income, respectively, for the Private Equity and Active Equities departments in the prior year.

Net Income (Loss) by Investment Department

($ millions)	1-Year	5-Year
Total Portfolio Management	7,713	50,065
Capital Markets and Factor Investing	(3,170)	(2,063)
Active Equities	3,675	5,955
Credit Investments	(1,039)	8,052
Private Equity	5,193	38,012
Real Assets	(275)	23,395
TOTAL	**12,097**	**123,416**

The dollar value-added contributions of the investment departments shown in the chart below are measured relative to the respective portfolio's return comparators. The definition of those comparators takes into consideration the underlying return-risk factors that represent the specific programs in each department. In the case of the Total Portfolio Management department, it also includes a variety of other impacts contributing to total net dollar value-added, such as foreign currency gains and financing costs, which are excluded from the value-added shown for the other investment departments.

Net Value-Added Contributions by Investment Department[1,2]

($ billions)	1-Year	5-Year
Total Portfolio Management	11.6	6.6
Capital Markets and Factor Investing	(3.2)	(1.8)
Active Equities	3.7	6.0
Credit Investments	(3.4)	0.3
Private Equity	9.6	13.7
Real Assets	5.3	14.0
TOTAL	**23.5**	**38.7**

1. Foreign currency fluctuations have no impact on value-added of investment departments other than Total Portfolio Management. The currency impact is reported under Total Portfolio Management. See page 67 for more details.
2. Figures do not add up due to rounding.

Total Portfolio Management

Investment Department

Fiscal 2020 Net Return
$7.7 billion
4.8%

Net Investments
$179.7 billion

Key Focus this Year

- Began building frameworks to deliver better guidance to investment departments
- Enhanced Balancing Portfolio management processes and capabilities
- Improved total portfolio design methods and techniques
- Advanced attribution and monitoring capabilities

The primary focus of the Total Portfolio Management (TPM) department is long- and medium-term design of the Investment Portfolios, and ongoing implementation of the Total Portfolio Investment Framework. TPM's mission is to coordinate and guide the Fund's investing activities for both the base CPP and additional CPP accounts to collectively manage a total portfolio that maximizes long-term returns without undue risk.

Summary

TPM contributes to total Fund investment performance in two major ways:

1. Managing the Balancing Portfolio to achieve the desired set of investment exposures in the Core Pool (see page 21), used by the Investment Portfolios of both the base CPP and additional CPP; and
2. Designing and directing the construction of the long-term Investment Portfolios given CPP Investments' objectives.

Total Portfolio Management

(%)	Fiscal 2020	Fiscal 2019
Returns		
1-year	**4.9%**	6.4%
1-year net	**4.8%**	6.3%

($ billions)	Fiscal 2020	Fiscal 2019
Contribution to Net Value-Added[1]		
1-year	**11.6**	(0.7)
5-year	**6.6**	(5.3)

1. Includes net dollar value-added from Balancing Portfolio, diversification and other total portfolio impacts.

Balancing Portfolio fiscal 2020 performance

The Balancing Portfolio, which includes leverage and foreign exchange positions, does not itself have targeted asset class or factor weights. Rather, it acts as a completion portfolio of public securities that brings the actual exposures of the Core Pool into alignment with its targeted exposures, once the contributions of the active investment programs have been considered.

During the fiscal year, the Balancing Portfolio experienced a net return of 4.8% and net gain of $7.7 billion. Despite the sell-off in stocks in the last quarter of the fiscal year, resulting in a -2.7% return on equities for the full year, global public equity markets still experienced solid performance over the past five years. For fiscal 2020, substantial gains on global government bonds investments, augmented by gains on credit investments, more than offset the losses on equities.

The returns are net of TPM's $2,682 million of costs which include financing costs, transaction costs and operating expenses. Financing costs of $2,429 million include borrowing costs, as reported in Note 6 of the Financial Statements, as well as the leverage-generating elements of additional derivative transactions. Financing costs are $545 million higher than the prior year due to greater use of leverage and partially offset by a lower effective financing rate. (For more information on financing costs, see page 64.)

Transaction costs of $53 million include primarily public market commissions and trade settlement costs. The increase in transaction costs over last year is mainly driven by regulatory requirements for swap trading. Operating expenses of $200 million for the year include TPM's departmental expenses as well as its allocation of expenses from other departments such as trading execution teams, investment service management functions and finance. Operating expenses are lower than last year due to a higher proportion of TPM resources being allocated to corporate strategic projects and support for other investment departments. Fiscal 2019 also included start-up costs relating to the additional CPP.

Net Income for Total Portfolio Management

($ millions)	Fiscal 2020	Fiscal 2019[1]	5-Year[1]
Adjusted Investment Income	**10,395**	12,261	57,272
Financing Costs	**2,429**	1,884	5,903
Investment Management Fees	**–**	–	–
Transaction Costs	**53**	42	192
Net Investment Income	**7,913**	10,335	51,177
Operating Expenses	**200**	253	1,112
Net Income	**7,713**	10,082	50,065

1. Certain comparatives have been updated to conform with the current year's presentation.

Balancing Portfolio composition and trading activity

The Balancing Portfolio holdings of public equity, fixed income and leverage have increased over the past five years by $43.5 billion, with more recent increases in emerging market and credit holdings. These changes progressively aligned the total Core Pool portfolio more closely with CPP Investments' desired long-term exposures.

In the earlier part of fiscal 2020, TPM sold public market equities and fixed income to increase holdings of credit investments and cash, but in the final quarter purchased equities following their price decline. This maintained overall targeted exposures through the balancing process.

Major impacts on Investment Portfolio five-year performance (Fiscal 2016–2020)

Two key decisions have a significant impact on total Fund performance:

- The overall targeted market risk level; and
- The diversification of assets beyond the two asset classes and proportions in the Reference Portfolio.

First, on behalf of the Investment Planning Committee and the Board, TPM develops recommendations for the market and credit risk levels of each Investment Portfolio. Second, TPM develops recommendations concerning the optimal leverage and targeted return-risk factor exposures of the portfolios. Both are longer-term decisions, so they should be viewed with a perspective of at least five years.

These two basic decisions are not the only factors that affect overall Investment Portfolio returns. Other diversification decisions – such as allocations to active programs and their strategies – also have an impact, as do investment selection decisions within each of the programs.

Risk Level

To gauge the impact of progressively raising total portfolio market risk, we compare realized returns under alternative Reference Portfolio specifications (see page 26). For fiscal years 2007 through 2015, CPP Investments' Reference Portfolio was composed of 65% public equity and 35% sovereign debt. TPM simulated returns associated with this 65/35 equity/debt Reference Portfolio over the past five fiscal years. This provided a proxy for performance had CPP Investments not progressively increased the risk level of the Investment Portfolio over the fiscal years 2016 through 2018. It is then possible to compare the simulated returns with the actual transition path of the Reference Portfolio from 65/35 equity/debt at April 1, 2014 to 85/15 equity/debt with full effect from April 1, 2018.

Over the past five years, given the strong equity market returns observed over much of the period, the high-risk actual Reference Portfolio outperformed the former 65/35 Reference Portfolio by approximately 34 basis points on an annualized basis. This represents an increase in Fund value of $5.5 billion cumulatively over the five years.

Diversification

TPM directs and manages the processes necessary to implement the overall market risk, leverage and exposure diversification targets for the Investment Portfolios. An enhanced and extended balancing process was designed in fiscal 2019, and although a five-year period has not been completed for evaluation, its results are emerging as expected. In general, diversification helps to control risks. The degree of risk control depends on whether different markets are moving together or more independently. Under normal circumstances, diversification can be expected to protect against market downturns and add value over the long term. During extreme downturns, the current values of all riskier assets tend to decline together, and the diversification benefit is lessened. Amid the COVID-19 market declines in the fourth quarter of fiscal 2020, two key factors supported the Fund: CPP Investments' substantially higher proportion of fixed income in the Investment Portfolio compared to the 15% weighting in the Reference Portfolio; and higher returns of the Investment Portfolios' global fixed income exposures compared to the Reference Portfolios' Canadian governments' bonds. However, the values of many smaller capitalization equities, real estate properties and higher-yielding bonds all fell dramatically, offsetting these gains.

Conversely, in periods when the Reference Portfolios' returns are dominated by strong public equity markets, the Fund will typically underperform the two-asset Reference Portfolios.

Fiscal 2020 activities

At the end of fiscal 2020, TPM's team comprised 101 professionals located in Toronto. During the year, the team advanced its mission to effect optimal management of the total portfolio of assets entrusted to CPP Investments as an integrated, risk-appropriate and return-maximizing whole, rather than simply as an aggregate of individual investments. Key aspects of TPM's activities are described below.

Building frameworks to deliver better guidance to investment departments

Throughout fiscal 2020, TPM worked with the other investment departments to enhance accessible and actionable investment department guidance. This work is ongoing and will help investment departments more effectively bridge long-term portfolio design with the realities of deploying or realizing capital in the current market.

Developing Balancing Portfolio management processes and capabilities

The new balancing process was successfully implemented in the first quarter of fiscal 2020 and has been running effectively through the year. Over the course of fiscal 2020, TPM has continued to refine components of the process and develop new enhancements. This includes improvements to methodology to incorporate a wider variety of exposures, as well as the introduction of new balancing portfolios. Together these measures provide greater precision and tighter ongoing control of total Fund composition. Key measures include:

- Adding Emerging Markets Fixed Income as a tradable balancing portfolio;
- Enhancing controls over the composition of China exposure in the balancing portfolio;
- Enhancing controls over the mix of physical and synthetic credit investments and the amount of rate exposure in the credit balancing portfolio; and
- Advancing the recognition of liquidity, leverage and geographical composition into the rebalancing methodology.

TPM also deployed the necessary processes to manage the Supplementary Pool and the additional CPP account, and to rebalance pool weights.

Improving portfolio design methods and techniques

TPM delivered a suite of improvements to both the models and governance processes for portfolio design in fiscal 2020. This included enhancements to the models TPM uses to characterize global markets, with further improvements planned based on research completed this year. The department continued to deliver incremental improvements to the processes and models used for long-term portfolio design through research, back-testing and analytics of the key drivers of portfolio design decisions. TPM also implemented production models that improve the governance of, and confidence in, final outputs.

Advancing attribution and monitoring capabilities

Investment Outcome Analytics (IOA) is a firmwide strategic initiative to provide more robust information on past investment results, leading to deeper insights and, ultimately, enhancement of investment decision-making. The framework includes:

- Achieving comprehensive attribution and internally consistent analysis of past performance; and
- Attributing returns, dollar value-added and risks to the investment decisions that generated them.

TPM and the Finance, Analytics and Risk (FAR) department jointly lead the initiative. In fiscal 2020, redesign was completed for the top-down return attribution framework, and the analytics for attributing risk-return factor exposures, changes and drivers. TPM also contributed to the development of the parallel framework for risk attribution.

In addition, TPM prototyped a comprehensive set of Active Portfolio Management monitoring dashboards. TPM uses these to help ensure delivery of investments and risk-return factor exposures that align with the guidance provided to the investment departments.

Looking ahead

The primary objectives for TPM in fiscal 2021 include:

- Deliver long-term target investment performance from diversification as a primary source of return for the Fund;
- Support CPP Investments' Climate Change program by developing and disseminating climate change energy models and transition scenarios to deliver solutions that will directly inform investment decision-making;
- Continue to lead the Knowledge Sharing and Collaboration program across CPP Investments. This provides systematic access to the comprehensive transaction pipeline and equips teams with key intelligence on investment activities and prospects;
- Review the choice and relationships of return-risk factor exposures to improve recognition of underlying economic drivers; and
- Enhance the process and transparency of the annual strategic allocation of assets, liquidity and risk among active and balancing programs. This includes the ability to incorporate costs and business judgment more directly into allocation decisions.

Capital Markets and Factor Investing

Investment Department

Fiscal 2020 Net Return

Absolute Return Strategies[1]

-$3.2 billion

Net Investments

-$2.7 billion

Assets Under Management

$56.0 billion

Key Focus this Year

- Built new investment programs and refined existing ones
- Facilitated a greater focus on total return and delivered increased emerging markets exposure
- Launched the Alpha Generation Lab along with Technology & Data and Active Equities to accelerate innovative investment capabilities, new technologies and advanced data analytics
- Reviewed the department's infrastructure to advance its capabilities, enhance its ability to scale investment programs and improve efficiency and controls

The primary goal of the Capital Markets and Factor Investing (CMF) department is to ensure that CPP Investments has the flexibility to efficiently gain access to a broad array of sources of return in public equities, fixed income securities, currency, commodities and derivatives on a global basis.

Summary

Total assets under management at fiscal year end were $56.0 billion, representing a decline of $10.5 billion compared to last year. The decrease primarily reflects reduced exposure in the Quantitative Strategies program.

1. Absolute Return Strategies (ARS) hold offsetting systematic exposures through long and short investments. (See page 27 for more on long and short investing.) As a result, their net asset values greatly understate their size and impact on the portfolio. To calculate the size of Absolute Return Strategies on a comparable basis with long-only programs, we calculate assets under management as the sum of the long investments and the net value of derivatives in each of the programs. Returns for these strategies are reported in dollar values only, since percentage returns on their net asset values do not represent their investment performance.

The distribution and decrease in CMF's assets under management are shown below at the current and prior year ends.

The following chart shows the contribution of CMF's Absolute Return Strategies to the dollar value-added in fiscal 2020. As in prior years, the returns are reported only in dollar amounts because activities are conducted on a market-neutral or long/short basis. In such cases, there is no generally accepted and appropriate underlying asset base for measuring returns in percentage terms.

Capital Markets and Factor Investing

($ billions)	March 31, 2020	March 31, 2019[1]
Absolute Return Strategies (ARS) – Assets		
External Portfolio Management	**40.9**	42.1
Macro Strategies	**11.5**	8.1
Quantitative Strategies & Risk Premia	**3.6**	16.3
ARS Assets Under Management (AUM)[2]	**56.0**	66.5
ARS Liabilities[3]	**(58.7)**	(66.5)
Net Investments	**(2.7)**	–

1. Certain comparatives have been updated to conform with the current year's presentation.
2. Absolute Return Strategies (ARS) hold offsetting systematic exposures through long and short investments (see page 27 for more on long and short investing). As a result, their net asset values greatly understate their size and impact on the portfolio. To calculate the size of Absolute Return Strategies on a comparable basis with long-only programs, we calculate assets under management, which represents the sum of the long investments in each of the programs and the net value of derivative holdings. For Quantitative Strategies & Risk Premia, the fiscal 2020 change in assets under management represents primarily the change in net long investments and to a lesser extent the market value of the net derivative positions.
3. Includes short positions and hedges of systematic risks arising in Absolute Return Strategies.

($ billions)	Fiscal 2020	Fiscal 2019
Contribution to Portfolio Net Value-Added		
1-year	**(3.2)**	(0.8)
5-year	**(1.8)**	3.2

CMF produced a net loss of $3.2 billion in fiscal 2020 with losses concentrated in the fourth quarter, as the fallout from the COVID-19 pandemic roiled financial markets. The highly volatile environment was particularly challenging, with losses experienced across most programs.

Fiscal 2020 Net Return

The drivers of CMF's performance this fiscal year varied across investment programs. The department responded to the changes in the market environment by scaling back exposures to select factors and geographies while broadening the diversification of its investment strategies, resulting in a 16% decrease of assets under management year-over-year to $56.0 billion.

- **External Portfolio Management (EPM) generated a net loss of $0.7 billion** following a sharp increase in volatility in the fourth quarter, which triggered broad-based deleveraging across the hedge fund industry. The market conditions in March 2020 drove negative performance across most investment strategies. Before March, EPM was trending towards strong positive results for the fiscal year.
- **Macro Strategies (MS) generated a net loss of $0.5 billion** reflecting a steep drawdown in the fourth quarter, as the fallout from COVID-19 pandemic negatively impacted most strategies. Heading into March, MS was positioned to benefit from expansionary economic trends, however the onset of the financial market crisis in March had significant negative impacts on those views.
- **Quantitative Strategies (QS) contributed to a net loss of $1.0 billion** due to declines in the first three quarters of the fiscal year when value-oriented factors among others underperformed in the U.S. and European portfolios. As the investment program adopted a more balanced allocation across factors, QS performance was flat in the fourth quarter despite the challenging market environment.
- **Risk Premia generated a net loss of $1.0 billion** with the result largely driven by market dislocation in the fourth quarter. Volatility strategies experienced net losses of $0.7 billion mostly in equity and commodity volatility that reflected the chaotic market environment and the drop in crude oil prices. The Dynamic Carry strategy, which takes positions in currencies, interest rates, equities, and commodities, also ended the year in a $0.3 billion loss. Momentum-based strategies typically provide diversification to Dynamic Carry during market downturns, but they were not immediately effective given the speed of market changes. Consequently, the strategy's gains from the first three quarters were reversed.

CMF's net loss includes costs comprised of investment management fees of $1,010 million, operating costs of $205 million and transaction costs of $45 million. Investment management fees of $1,010 million represent $584 million for performance fees and $426 million for management fees paid to external fund managers. Management fees have increased relative to asset growth while performance fees were paid on returns generated by our external fund managers for the calendar year 2019 (see page 63 on the use of external fund managers). Operating expenses increased over last year as newer programs scaled up their strategies and increased their assets under management.

Net Income (Loss) for Capital Markets and Factor Investing

($ millions)	Fiscal 2020	Fiscal 2019[1]	5-Year[1]
Adjusted Investment Income (Loss)	**(1,910)**	114	3,332
Investment Management Fees	**1,010**	730	4,348
Transaction Costs	**45**	39	164
Net Investment Loss	**(2,965)**	(655)	(1,180)
Operating Expenses	**205**	182	883
Net Loss	**(3,170)**	(837)	(2,063)

1. Certain comparatives have been updated to conform with the current year's presentation.

Fiscal 2020 activities

In fiscal 2020, CMF continued to scale and expand new programs, while also growing exposure to emerging markets. CMF supported the launch of the Alpha Generation Lab, which is dedicated to developing significant advantages for CPP Investments in the search for alpha by accelerating innovative investment capabilities focused on technology and data. (See page 25 for more on alpha.) CMF has 186 professionals located across four global offices.

External Portfolio Management

External Portfolio Management (EPM) experienced losses this year largely due to events related to the COVID-19 pandemic in March 2020 where equities sold off, as well as due to deleveraging of the broader hedge fund industry and dislocation across asset classes. Overall, most strategies were negatively impacted by the market environment, although Fixed Income and Global Macro managers performed well. Assets under management were $38.3 billion representing a small decrease from $39.5 billion last year. EPM continued to deploy capital to new managers and top up investments with existing managers. EPM also deployed a number of new co-investments this year, particularly in emerging markets. The portfolio now includes 60 managers, up from 58 at the end of fiscal 2019.

Notable highlights for the fiscal year:

- Significantly scaled its Co-Investment Program with both existing partners as well as fund managers with whom EPM does not currently invest, demonstrating the group's increasing flexibility in investment execution;
- Continued to grow EPM's Emerging Managers program by providing seed and acceleration capital to early stage managers; and
- Continued to focus on fee reduction through the above programs and by negotiating better-aligned terms with existing partners.

Financing, Collateral & Trading

Financing, Collateral & Trading (FCT) continued to integrate the Fund's financing, collateral optimization and execution functions within a centralized model. To effectively manage the Fund's leverage and liquidity requirements, the team continues to develop a financing toolkit, which includes the term debt issuance program and capabilities across global markets (including emerging markets).

Notable highlights for the fiscal year:

- Established a presence in the London office, expanding its global trading expertise and financing capabilities.
- Issued the Fund's first US$500 million green bond floating rate security linked to the Secured Overnight Financing Rate (SOFR). This was part of the industry's move away from the legacy London Interbank Offered Rate (LIBOR) as the principal reference rate for short-term interbank financing (see page 93). This new green bond was the Fund's third since becoming the first pension fund to issue a green bond in June 2018.
- Established the Regulatory Program to ensure compliance with evolving global markets regulations. The initial priorities included FCT's preparedness for uncleared margin rules (UMR), central clearing and LIBOR transition. FCT has since established central clearing capabilities for mandated cleared trades, is implementing processes for UMR and is assessing the potential risks and impacts of LIBOR transition.

Macro Strategies

In fiscal 2020, Macro Strategies (MS) scaled up its strategies, with assets under management growing to $11.5 billion from $8.1 billion last year. MS invests across asset classes with exposure to 24 countries. The group experienced losses this year due to the challenging market environment. As the COVID-19 pandemic intensified in March 2020, most MS strategies were negatively impacted by significant volatility in global markets. During this period, investments positioned to benefit from improving economic growth in selected countries experienced losses. Consistent with its mandate, MS has adjusted to the rapidly changing market landscape, leveraging its investment process to identify and capture the most significant market opportunities. MS remains focused on investments where it believes pricing has become dislocated from long-term fundamentals.

Notable highlights for the fiscal year:

- Developed an enhanced analytical framework to ensure the durability of its investment process. In addition to using its own analytical tools, MS collaborated across departments to deliver in-depth research in support of actionable investments;
- Expanded its emerging markets capabilities and market coverage. Through effective cross-departmental collaboration, MS identified significant trends and positioned its portfolio accordingly; and
- Committed US$2 billion to the Bridgewater BWTA Fund I as part of CPP Investments strategic positioning strategy. CPP Investments uses strategic positioning as a deliberate, meaningful, but temporary shift of asset allocations and factor exposures away from the Fund's established targets.

Quantitative Strategies & Risk Premia

This fiscal year was a challenging period for the quantitative equity portfolio and more generally for the longer-horizon quantitative equity hedge fund universe. In particular, value-oriented factors continued to decline, and factors that assess quality and continued asset price momentum had less consistent returns. It was the weakest performance in several years for many programs employing value-oriented strategies preferring less expensive stocks over more expensive ones. These programs also struggled in the previous year. Momentum and quality strategies that typically diversify these value-oriented strategies also had weak performance. With broader quantitative equity strategies challenged, investors withdrew significant assets from the space, which put further pressure on the performance of such strategies. Given that the duration of the headwinds facing our models was unknown, the level of capital was reduced in the quantitative equity portfolio and diversification increased towards a more balanced allocation across factors and geographic regions. These efforts at diversification bore fruit in the fourth quarter as the Quantitative Strategies portfolio's performance improved despite heightened market volatility.

The Risk Premia portfolio suffered the majority of its losses for the year during the market dislocation in March 2020. Strategies in the portfolio seek to benefit from leveraging investor behaviour biases as well as bearing risk that market participants wish to transfer. As market participants realized that the COVID-19 virus outbreak was worse than expected and oil prices plummeted on production disagreements, the positive performance to February for bearing these risks was insufficient to compensate for the market volatility that ensued in March.

We build and implement these Risk Premia strategies as one component of a larger, balanced portfolio and size them appropriately for their potential risks and returns, in accordance with CPP Investments' overall risk framework. This sizing includes modelling for scenarios such as past market stress events and considering whether the ratio of reward to potential losses remains attractive and sensible given the Fund's objectives and advantages. Given the size and scope of the market pullback seen in the fourth quarter of the fiscal year, the Risk Premia strategies experienced losses, as expected under the applicable circumstances. However, the strategies were well within limits and expectations established for the programs at the start of the year.

Earlier in the year, the Risk Premia strategies had successfully navigated Brexit uncertainty as well as the drone strike on Saudi Arabian oil processing facility that affected the crude market. Until March, the portfolio had positive results from strategies encompassing positive-yielding trades (commonly known as "carry trades") in rates, foreign exchange and equities.

Notable highlights for the fiscal year:

- Enhanced portfolio construction techniques and tools, in collaboration with Technology & Data. Together they designed the architecture and developed a prototype of a consolidated Research and Portfolio Management Platform;
- Partnered with colleagues in the Research & Innovation Group to enhance the resiliency of the quantitative equity portfolio. This included greater geographic diversification and a more balanced allocation across factors; and
- Scaled the dynamic carry and completion portfolio to full size within the Risk Premia program.

Looking ahead

Building on the progress made in fiscal 2020, CMF will focus its efforts in fiscal 2021 to:

- Place a greater focus on total Fund return through the development of long-biased investment strategies;
- Further advance programs that support the delivery of desired levels of emerging markets exposure; and
- Continue to enhance CMF's infrastructure through multi-year initiatives to scale its investment programs, improve investment agility and support CPP Investments' long-term growth. This growth strategy is set out in CPP Investments' 2025 strategy, described on page 32.

Active Equities

Investment Department

Fiscal 2020 Net Return

Absolute Return Strategies[1]

$3.7 billion

Net Investments

$0.4 billion

Assets Under Management

$61.4 billion

Key Focus this Year

- Increased the Fund's capabilities in Asia and Latin America
- Collaborated with Real Assets to further enhance the Climate Change Security Selection Framework
- Advanced data-driven research capabilities and supported the Alpha Generation Lab

Active Equities (AE) invests globally, primarily in public and soon-to-be public companies. AE comprises five investment groups, as well as a Research & Strategy group and the Fund's dedicated Sustainable Investing group.

Summary

Active Equities (AE) total assets under management were $61.4 billion at the end of the fiscal year, representing a decrease of $1.8 billion compared to last year. The small decline reflects the impact from the market drawdown in the fourth quarter offset against AE's growing position in emerging markets, with a focus on Asia and Latin America.

1. Absolute Return Strategies (ARS) hold offsetting systematic exposures through long and short investments. (See page 27 for more on long and short investing.) As a result, their net asset values greatly understate their size and impact on the portfolio. To calculate the size of Absolute Return Strategies on a comparable basis with long-only programs, we calculate assets under management as the sum of the long investments and the net value of derivatives in each of the programs. Returns for these strategies are reported in dollar values only, since percentage returns on their net asset values do not represent their investment performance.

The distribution and growth of AE's assets under management appear below at the current and prior year ends.

The following chart also shows AE's contribution to dollar value-added in fiscal 2020. The returns are reported in dollar amounts only, because activities are conducted on a market-neutral or long/short basis. Net income is equivalent to dollar value-added for long/short strategies. Net income represents both market return and dollar value-added for long-only strategies.

Active Equities

($ billions)	March 31, 2020	March 31, 2019
Absolute Return Strategies (ARS) – Assets		
Active Fundamental Equities	**21.9**	27.5
Direct Equity Investments Latin America	**1.6**	–
Fundamental Equities Asia	**20.3**	17.9
Relationship Investments	**11.7**	12.0
Thematic Investing	**5.9**	5.8
ARS Assets Under Management (AUM)[1]	**61.4**	63.2
ARS Liabilities[2]	**(61.0)**	(62.2)
Net Investments	**0.4**	1.0

1. Absolute Return Strategies (ARS) hold offsetting systematic exposures through long and short investments (See page 27 for more on long and short investing). As a result, their net asset values greatly understate their size and impact on the portfolio. To calculate the size of Absolute Return Strategies on a comparable basis with long-only programs, we calculate assets under management, which represents the sum of the long investments and the net value of derivatives in each of the programs.
2. Includes short positions and hedges of systematic risks arising in Absolute Return Strategies.

($ billions)	Fiscal 2020	Fiscal 2019
Contribution to Portfolio Net Value-Added		
1-year	**3.7**	1.1
5-year	**6.0**	2.7

AE delivered net income of $3.7 billion in fiscal 2020. This was driven by the outperformance of active investments relative to the broader market, especially in emerging markets. The majority of programs contributed to outperformance this year. AE programs are structured as long/short absolute return portfolios; therefore, their net income represents dollar value-added as a relative measure of performance.

AE's net income includes costs of $241 million. AE's costs are slightly lower than fiscal 2019 due to lower investment management fees. Both transaction costs of $56 million, which include public market commissions and trade settlement costs, and operating expenses of $179 million remained relatively consistent with the prior year.

As a result of the worldwide impact of the COVID-19 pandemic, AE experienced impacts to travel and leisure-related businesses more broadly, and energy investments. Outperformance was driven by large long-term holdings with low leverage and companies that benefit from increased demand for data and online activities. There has also been positive performance on a few investments in the companies focused on COVID-19 vaccine production and online medical consultations. The impact of market uncertainty and negative sentiment tends to increase the correlation of stocks during market dislocations; however, the diversification of AE's strategies and the general strength of its portfolio companies supported this year's outperformance.

Net Income for Active Equities

($ millions)	Fiscal 2020	Fiscal 2019[1]	5-Year[1]
Adjusted Investment Income	**3,916**	1,306	6,938
Investment Management Fees	**6**	12	27
Transaction Costs	**56**	59	241
Net Investment Income	**3,854**	1,235	6,670
Operating Expenses	**179**	173	715
Net Income	**3,675**	1,062	5,955

1. Certain comparatives have been updated to conform with the current year's presentation.

Fiscal 2020 activities

In fiscal 2020, AE continued to advance its emerging markets strategy with the launch of the Direct Equity Investments Latin America (DEILA) group in São Paulo. It provides dedicated, on-the-ground coverage across both public and private market investments and private equity funds in the region. AE also established a presence in the recently opened San Francisco office, which will provide direct access to networks and companies in the world's largest innovation hub. AE has 161 professionals located across six international offices.

As executive sponsor of the Climate Change Program, AE continued to support CPP Investments' efforts to be a leader among asset owners and managers in understanding the investment risks and opportunities presented by climate change.

Key achievements of the program in fiscal 2020 included:

- The implementation of a new Climate Change Security Selection Framework to perform bottom-up analyses of climate change risks and opportunities on material investments;
- Further refinement of the in-house methodology to estimate carbon footprint; and
- Enhanced understanding of the potential impacts of climate change on national economic growth.

The Investment Analytics and Insights (IAI) team within AE's Research and Portfolio Strategy group is a cross-functional team. IAI incubated a data analytics platform and used it to complete specialized investment research projects for multiple investment groups. These included Active Fundamental Equities and Thematic Investing within AE and other groups throughout the organization, such as Credit Investments and Direct Private Equity.

Active Fundamental Equities

Active Fundamental Equities (AFE) had positive performance prior to the equity market shock caused by the COVID-19 pandemic. As a result of the market shock, AFE delivered negative performance in fiscal 2020 primarily driven by impacts to the travel and leisure-related businesses in the portfolio. Assets under management were $21.9 billion, representing a decline of $5.6 billion from $27.5 billion last year. The decline was driven by the sale of investments in the year, market drawdown in the fourth quarter and a transfer of assets to the newly formed Direct Equity Investments Latin America group.

Notable highlights for the fiscal year:

- Committed an additional €210 million in E.ON SE, a German utility company that owns and operates electricity and gas grids, as well as energy supply businesses;
- Realized net proceeds of C$250 million on the sale of Intact Financial Corporation, a Canadian company that provides property and casualty insurance; and
- Realized net proceeds of C$919 million on the sale of Worldpay Inc. The company offers proprietary technology platforms that enable merchants to accept credit and debit card payments in-store or online, through telephones and smartphones.

Direct Equity Investments Latin America

Direct Equity Investments Latin America (DEILA) made a positive contribution in its inaugural year as a standalone group primarily driven by its investments in telecom, financial services and utilities in Brazil. The group launched by consolidating Latin American investments from the existing private equity funds and public markets groups. It also invested in one new direct investment and one new fund commitment. DEILA ended the year with assets under management of $1.6 billion.

Notable highlights for the fiscal year:

- Invested C$340 million for a 12.4% stake in Smart Fit, Latin America's largest fitness chain based in Brazil – the group's first direct private investment; and
- Committed US$200 million to Advent Latin American Private Equity Fund VII.

Fundamental Equities Asia

Fundamental Equities Asia (FEA) was a significant driver of AE's positive results in fiscal 2020, with active investments outperforming the broader market. Assets under management were $20.3 billion compared to $17.9 billion last fiscal year, with the increase reflecting additional deployments this year. Despite volatility and broad-based declines in equities in Asia this year, resulting from both geopolitical tensions in Hong Kong, and later the financial market fallout from the COVID-19 pandemic, FEA was able to deliver outperformance based on strong results from long-term, high-conviction investments and active management of the portfolio based on localized market knowledge.

Notable highlights for the fiscal year:

- Invested C$500 million in Z Holdings Corp., a Japanese provider of electronic commerce and settlement finance services and the operator of the internet search engine "Yahoo! Japan";
- Invested US$375 million in Tencent Music Entertainment Group, an operator of an online music platform in China; and
- Made a US$115 million investment in Delhivery Pvt Ltd., one of India's leading third-party logistics providers.

Relationship Investments

Relationship Investments (RI) was among the top contributors to AE's positive net income in fiscal 2020 primarily from investments in the telecommunications infrastructure, engineering and data and analytics sectors. Assets under management were $11.7 billion, remaining stable from $12.0 billion last fiscal year, as the exit from several portfolio investments offset new deployments.

Notable highlights for the fiscal year:

- Invested US$750 million for an 8.8% stake in water utility company, Essential Utilities (formerly known as Aqua America), to support its acquisition of Peoples Natural Gas;
- Invested C$200 million for an approximately 7% stake in Premium Brands Holdings Corp., an owner of leading specialty food manufacturing and distribution businesses in North America, to support its future growth strategy; and
- Sold our ownership stake in Entertainment One following the company's acquisition by Hasbro, Inc., which generated net proceeds of approximately C$830 million, representing a 2.4 times multiple of capital invested since inception.

Thematic Investing

Thematic Investing (TI) generated positive results this year as portfolio investments generally outperformed broad market hedges. Investments in innovative companies in both the retail and health care sectors performed well amid the challenging market environment in the fourth quarter. Assets under management were $5.9 billion, remaining relatively stable from $5.8 billion last year. TI refined its strategy into six themes during the fiscal year and made several investments in early-stage, privately held companies. TI is taking advantage of the recent opening of CPP Investments' office in San Francisco to further develop networks in the Silicon Valley innovation hub and gain deeper insight into disruptive technologies and cutting-edge trends.

Notable highlights for the fiscal year:

- Expanded the automobility theme by C$421 million, which included a US$45 million investment in Sila Nanotechnologies, which specializes in the design and manufacture of highly efficient batteries for use in automobiles and electronics;
- Expanded the Data to Value theme by C$375 million as TI continued to leverage the PE Funds team's relationships with general partners (GPs) such as Sequoia Capital Global Equities and Accel. TI contributed to the closing of a US$75 million investment in Netskope, a leading cloud access security broker; and
- Launched the Health Care Innovations theme, with preliminary investments such as US$10 million in Fusion Pharmaceuticals Inc., a clinical-stage cancer drug development company focused on radiopharmaceuticals.

Sustainable Investing

During fiscal 2020, Sustainable Investing (SI) continued to advance the integration of environmental, social and governance (ESG) considerations, including climate change, into the investment process. SI also continued to play an important role in CPP Investments' Climate Change program, as outlined on page 30, notably through significant contributions to the new Climate Change Security Selection Framework. This framework incorporates assessments of climate change-related risks and opportunities into the most material individual investments. It requires investment teams and approval committees to assess key climate change risks and opportunities. In fiscal 2020, SI worked with investment teams to consider climate change in close to 100 transactions, with over 30 of those including significant climate change-related due diligence and impact assessments. In the year ahead, SI will support the extension of the framework to existing portfolio companies.

SI continued to play a leading role in climate change engagement and proxy voting, as described on page 30. In fiscal 2020, SI supported more than 20 shareholder proposals related to climate change.

SI continued to undertake activities to support CPP Investments' view that there is a clear business case for diversity. The long-standing position is that diversity directly links to positive long-term value creation. SI views lack of diversity as a business and financial risk. Efforts include involvement in the 30% Club of Canada and related engagements with portfolio companies. Another example is the continued expansion of the gender diversity voting policy in Canada and globally. These activities will remain significant areas of focus going forward.

SI launched Sustainable Equities, a beta-test of an investment portfolio that leverages the ESG database. The team is actively investigating this alpha opportunity through research and back-testing. Seven investments have been made to date, and SI will continue to develop this portfolio in the coming fiscal year.

Looking ahead

Building on the progress made in fiscal 2020, AE will focus its efforts to:

- Increase exposure in emerging markets through new investments and in-depth research;
- Institutionalize investment analytics and insights to extend across the organization. This will involve using alternative data to directly impact investment decisions and returns; and
- Continue to lead the Climate Change program across CPP Investments, in partnership with TPM, Finance, Analytics and Risk, Public Affairs and Communications and Human Resources. The department will work towards including climate change considerations in portfolio design, risk and investment selection decisions.

Credit Investments

Investment Department

Fiscal 2020 Net Return
-$1.0 billion
-2.4%

Net Investments
$40.0 billion

Key Focus this Year

- Built out a Public Credit active program and grew our emerging markets exposure
- Developed a portfolio management framework to evaluate and allocate capital based on best relative value among Credit Investments strategies globally
- Further scaled our investment activities along the entire credit spectrum

Credit Investments (CI) manages all of CPP Investments' public and private credit investments globally. CI invests in all credit and credit-like products across the capital structure, in all sectors and along the rating spectrum, with the exception of local-currency sovereign bonds.

Summary

The CI portfolio has grown from $36.6 billion at the end of fiscal 2019 to $40.0 billion at the end of fiscal 2020. This growth was primarily driven by new investment activities of $18.3 billion and foreign exchange gains of $2.1 billion, partially offset by $12.1 billion of dispositions and valuation losses of $5.0 billion. CI's net assets represent approximately 9.8% of the Fund and are managed by 116 professionals located across four offices globally. As shown on page 80, CI's investments are diversified by industry and geography. The figures exclude Balancing Credit managed by Public Credit which are reported under the Balancing Portfolio.

The table below summarizes aggregated returns in absolute terms. Rates of return are calculated on an unhedged time-weighted basis, as well as currency-neutralized dollar value-added.

Credit Investments

(%)	Fiscal 2020	Fiscal 2019
Returns		
1-year excluding foreign currency impact	**(6.8)**	9.8
1-year	**(2.0)**	11.2
1-year net	**(2.4)**	10.8
1-year return comparator[1]	**2.5**	5.4

($ billions)	Fiscal 2020	Fiscal 2019
Contribution to Portfolio Net Value-Added[1,2]		
1-year	**(3.4)**	1.3
5-year	**0.3**	3.4

1. Return comparator is the weighted return of return-risk factors representative of the department's investment programs. Dollar value-added is relative to the return comparator.
2. Foreign currency fluctuations have no impact on departmental value-added. See page 29 for more details.

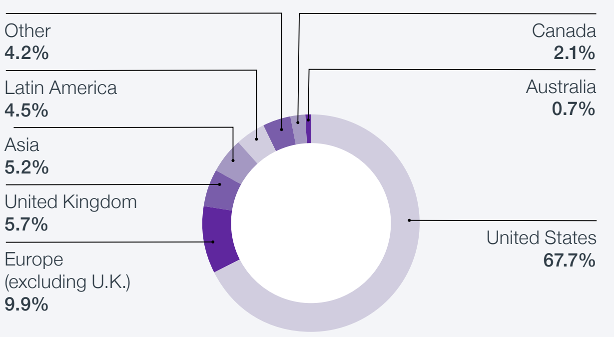
The CI department ended fiscal 2020 with a net loss as a result of significant market volatility towards the end of the fiscal year. Mark-to-market losses in the fourth quarter more than offset income flows, realizations and foreign exchange gains from earlier in the fiscal year. However, the diversified CI portfolio continued to outpace the returns of relevant public market indexes over the long term. Over the past five years, the CI portfolio has generated a net return of 8.0% and net income of $8.1 billion.

During fiscal 2020, CI generated a net loss of $1.0 billion including costs of $201 million to support investment activities. Management fees of $17 million mainly represent fees for structured credit and deployment vehicles. Transaction costs of $37 million primarily stem from the professional and advisory services related to acquisitions and dispositions. Operating expenses of $147 million for CI have increased compared to last year consistent with the growth in CI's new investment activities.

The charts below provide a summary of CI's holdings by geography and sector.

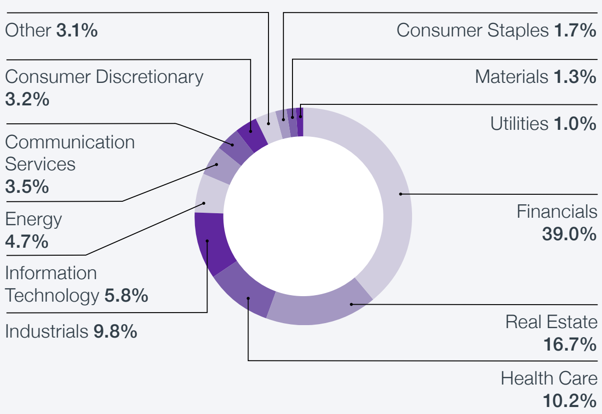
Credit Investments – Geographic Diversification

As at March 31, 2020



Credit Investments – Sector Diversification

As at March 31, 2020



Net Income (Loss) for Credit Investments

($ millions)	Fiscal 2020	Fiscal 2019	5-Year
Adjusted Investment Income (Loss)	**(838)**	3,161	8,892
Investment Management Fees	**17**	24	82
Transaction Costs	**37**	48	261
Net Investment Income (Loss)	**(892)**	3,089	8,549
Operating Expenses	**147**	113	497
Net Income (Loss)	**(1,039)**	2,976	8,052

Fiscal 2020 activities

Since the formation of CI in fiscal 2019, the department has extended its investment activities along the entire credit spectrum and grown its emerging markets exposure. The department expanded its Active Public Credit program and launched a China onshore public credit program. During fiscal 2020, CI formulated the infrastructure credit strategy, and continued to expand investments in structured credit and other credit-like assets. CI further advanced its portfolio management capabilities by developing a framework to allocate capital based on the best relative value among CI strategies, embracing technology and establishing a framework to prepare the department for market downturns.

Following strong performance during the first three quarters of fiscal 2020, credit markets globally experienced significant volatility amid the COVID-19 pandemic in the fourth quarter. Credit spreads widened across the spectrum and new issuances slowed despite monetary and fiscal stimulus. However, CI was well positioned to withstand the market downturn as the department proactively managed the portfolio by rotating into high-quality corporate and non-correlated assets throughout the year. In fiscal 2020, CI deployed $18.3 billion in capital across the credit spectrum and geographies and had $12.1 billion in dispositions. The dispositions were primarily comprised of non-investment grade credit when the markets were more robust.

Americas Leveraged Finance

At year end, Americas Leveraged Finance (ALF) assets totalled $13.7 billion, compared to $13.3 billion at the end of fiscal 2019. The portfolio remained relatively flat, as dispositions (including maturities and redemptions) totalling $4.4 billion and $0.8 billion in valuation losses offset $4.9 billion in new investment activity and $0.7 billion in foreign exchange gains. In fiscal 2020, ALF created a special situations program, which will focus on solution-oriented rescue financings as well as stressed and deep-value credit opportunities.

A notable highlight for the fiscal year:

- Diversified the ALF portfolio through strategic rotation amongst high yield bonds, leveraged loans and credit opportunities, in preparation for market downturn.

Americas Structured Credit & Financials

At year end, Americas Structured Credit & Financials (ASCF) assets totalled $5.8 billion, compared to $4.7 billion at the end of fiscal 2019. The growth in the portfolio was driven primarily by $5.1 billion in new investment activity and $0.4 billion in foreign exchange gains. This was partially offset by portfolio distributions, refinancings and dispositions totalling $3.1 billion, as well as $1.2 billion in valuation losses. ASCF continues to leverage data and technology to enhance investment decisions and portfolio management.

A notable highlight for the fiscal year:

- Acquired a portion of LifeArc's royalty interests on worldwide sales of Keytruda® (pembrolizumab) for approximately US$1.3 billion. Keytruda is an anti-PD-1 therapy developed and commercialized by Merck (known as MSD outside the U.S. and Canada). This marks CPP Investments' largest pharmaceutical royalty and intellectual property investment to date.

APAC Credit

At year end, APAC Credit (APAC) assets totalled $1.3 billion, compared to $1.2 billion at the end of fiscal 2019. The growth in the portfolio was driven primarily by $0.8 billion in new investment activity. This was partially offset by $0.6 billion of dispositions (including maturities and redemptions) and $0.1 billion of valuation losses. During the year, APAC welcomed a new head and the group focused on scaling the portfolio with new programs in China and India.

A notable highlight for the fiscal year:

- Committed US$225 million to the India Resurgence Fund platform. This is a distressed assets buyout platform set up with Piramal Enterprises Limited and Bain Capital Credit as joint sponsors.

European Credit

At year end, European Credit (EC) assets totalled $4.1 billion, compared to $4.6 billion at the end of fiscal 2019. The decrease in the portfolio was due to $3.0 billion of dispositions (including maturities and redemptions) and $0.5 billion of mark-to-market losses more than offsetting $2.8 billion in new investment activity and $0.1 billion in foreign exchange gains. The group implemented strategies to manage the European structured credit portfolio more efficiently and enhance returns on the senior secured loan portfolio.

A notable highlight for the fiscal year:

- Closed a €245 million commitment in the Payment-in-Kind (PIK) Notes issued by a leading global provider of elevator and escalator solutions. The PIK Notes are part of a broader financing package that the equity sponsors expect to put in place to fund the acquisition of the business.

Public Credit

At year end, Public Credit managed assets that totalled $23.1 billion, consisting of $16.1 billion in Balancing Credit and $7.0 billion in Active Public Credit, compared to $8.0 billion at the end of fiscal 2019. The net growth in the portfolio was driven primarily by $13.7 billion in net new investment activity, and $1.5 billion in currency gains. In fiscal 2020, Public Credit launched the China onshore public credit program to build CI's presence and capabilities in China's local currency credit market.

Real Assets Credit

At year end, Real Assets Credit (RAC) assets totalled $8.1 billion, compared to $8.9 billion at the end of fiscal 2019. The decrease in the portfolio was primarily due to $2.3 billion of mark-to-market losses as real estate and energy sectors experienced steep declines in the fourth quarter of fiscal 2020. The valuation losses, together with $0.9 billion of dispositions (including maturities and redemptions), more than offset $1.9 billion in new investment activity and $0.5 billion in foreign exchange gains. In fiscal 2020, the group developed an infrastructure credit strategy and started establishing a team to pursue opportunities in that space.

A notable highlight for the fiscal year:

- Committed €300 million to an Iberian Private Real Assets Credit partnership. This is a separately managed account which will invest in middle market real estate credit opportunities across Spain and Portugal.

Looking ahead

With the ability to provide a complete solution across the credit markets, CI is focused on scaling the portfolio globally and investing in the best risk-adjusted opportunities. Specifically, CI will:

- Proactively manage the portfolio to both withstand and take advantage of market volatility caused by the COVID-19 pandemic;
- Further scale its strategies and develop new programs to fill in the gaps in the credit spectrum;
- Continue to grow its emerging markets exposure with a focus on China, India and Latin America; and
- Focus on technology and data to improve core infrastructure and portfolio management capabilities.

Private Equity

Investment Department

Fiscal 2020 Net Return

$5.2 billion
5.8%

Net Investments

$94.6 billion

Key Focus this Year

- Refined the department's portfolio construction framework to better align with maximizing overall Private Equity department returns
- Built out the new Venture Capital program and established a local presence in San Francisco
- Leveraged higher-quality data and technology to drive more efficient investment decisions

Private Equity (PE) invests in a wide range of private equity assets globally. PE seeks return premiums for investing in less liquid assets and by focusing on long-term value creation.

Summary

PE's assets increased from $87.7 billion at the end of fiscal 2019 to $94.6 billion at the end of fiscal 2020. This growth was primarily driven by new investment activities totalling $17.2 billion and foreign exchange gains of $6.2 billion. This was partially offset by dispositions and distributions of $16.0 billion and valuation losses of $0.3 billion. PE's total exposure including unfunded commitments was $129.8 billion – an increase of $9.6 billion over the fiscal year. PE has 152 direct investments and maintains 152 manager relationships. The department's net assets represent approximately 23.1% of the Fund, managed by 167 professionals located across five offices globally. As shown on page 84, PE's investments are diversified by industry and geography.

The table below summarizes aggregated returns in absolute terms. Rates of return are calculated on an unhedged time-weighted basis, as well as currency-neutralized dollar value-added.

Private Equity

(%)	Fiscal 2020	Fiscal 2019
Returns		
1-year excluding foreign currency impact	**0.2**	14.4
1-year	**6.1**	16.8
1-year net	**5.8**	16.5
1-year return comparator[1]	**(7.2)**	8.6

($ billions)	Fiscal 2020	Fiscal 2019
Contribution to Portfolio Net Value-Added[1,2]		
1-year	**9.6**	3.4
5-year	**13.7**	5.4

1. Return comparator is the weighted return of return-risk factors representative of the department's investment programs. Dollar value-added is relative to the return comparator.
2. Foreign currency fluctuations have no impact on departmental value-added. See page 29 for more details.

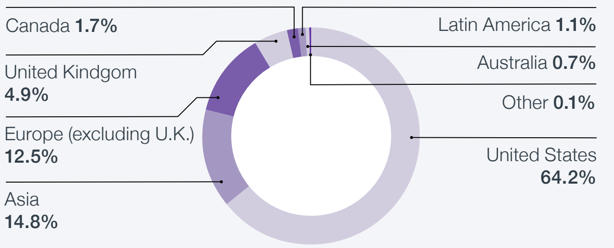
In fiscal 2020, the PE department delivered positive returns largely due to foreign exchange gains. The strong investment gains and income flows recorded in the first three quarters of the year were mostly offset by the valuation write-downs in the fourth quarter as a result of the macroeconomic and business uncertainty introduced by COVID-19. The Information Technology and Consumer Discretionary investments in the active direct portfolio were the most negatively impacted in the last quarter. In addition, PE applied a top-of-house write-down on its fund valuations provided by general partners (GPs) to adjust the lagged GP values and to mitigate the increased valuation risk. Despite the significant write-downs, PE's diversified portfolio continued to outperform the returns of the relevant public equity benchmarks on a five-year basis. Over the past five years, the Private Equity department has generated a net return of 12.3% and net income of $38.0 billion.

During fiscal 2020, PE delivered $5.2 billion in net income and incurred costs of $875 million to support investment activities. Investment management fees of $585 million, representing fees paid to external fund managers, are higher than last year driven by more fund assets under management. Transaction costs of $63 million, reflecting professional and advisory services related to private market acquisitions and dispositions, were lower than last year driven by the type of deals pursued. Operating expenses of $227 million were higher than last year, driven by higher personnel and organizational support costs to manage the growth in the portfolio.

The charts below provide a summary of PE's holdings by geography and sector.

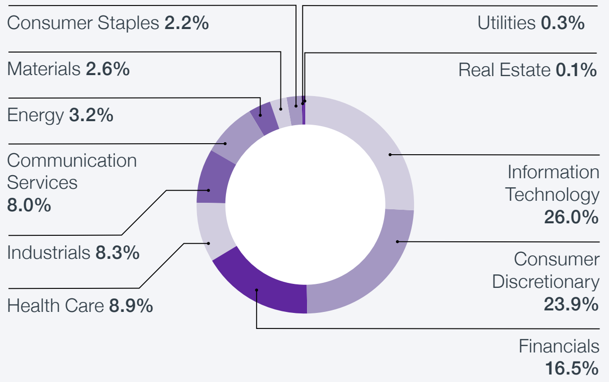
Private Equity – Geographic Diversification

As at March 31, 2020



Private Equity – Sector Diversification

As at March 31, 2020



Net Income for Private Equity

($ millions)	Fiscal 2020	Fiscal 2019	5-Year
Adjusted Investment Income	**6,068**	12,853	41,936
Investment Management Fees	**585**	562	2,607
Transaction Costs	**63**	82	435
Net Investment Income	**5,420**	12,209	38,894
Operating Expenses	**227**	205	882
Net Income	**5,193**	12,004	38,012

Fiscal 2020 activities

In the first three quarters of fiscal 2020, the private equity market continued to experience strong deal activity with buyout valuations at cyclical highs despite growing concerns of a global recession. Against this backdrop, the PE teams exercised underwriting discipline and maintained a consistent focus on quality and diversification with measured investment pacing as PE deployed $17.2 billion in capital during the fiscal year. The COVID-19 pandemic in the fourth quarter resulted in delayed deals, volatility and weakened buyer appetite in the private equity market. In response to the pandemic, PE promptly and thoroughly assessed the financial and operational risk of its direct portfolio holdings and proactively reached out to its fund managers to review their responses.

In fiscal 2020, PE adopted a department-wide investment framework to more efficiently allocate capital across all PE programs. The objectives of this framework include:

- Driving total relationship returns, which considers the benefits a GP brings outside of a fund commitment, including co-investments, knowledge/network sharing and partnership transparency;
- Optimizing the mix of fee-bearing and non-fee-bearing investments; and
- Actively managing exposures to legacy managers and older vintage funds.

PE continues to embrace innovation, disruption and technology. The department played a cornerstone role this year in establishing the San Francisco office, which provides CPP Investments with enhanced access to a network of investment opportunities and to an innovative technology ecosystem. In addition, PE has been leveraging the organization's enhanced data analytics capabilities and exploring opportunities to cultivate private portfolio company data. This added information set will help in making increasingly superior investment decisions and to drive portfolio value creation.

Direct Private Equity

At year end, the Direct Private Equity (DPE) portfolio consisted of 85 direct investments valued at $38.0 billion compared with 80 valued at $32.8 billion the previous year. The growth in the portfolio was primarily driven by $6.4 billion in new investment activity and $2.4 billion in foreign exchange gains. This was partially offset by dispositions totalling $3.4 billion. The group generated a net return of 6.6% and net income of $2.2 billion.

Notable highlights for the fiscal year:

- Participated in the privatization of Inmarsat, a leading global satellite operator, providing data and voice connectivity to end-users worldwide, at an enterprise value of US$6 billion, alongside Apax, Warburg Pincus and Ontario Teachers' Pension Plan. CPP Investments acquired a 25% stake;
- Invested in Merlin Entertainments, the second-largest themed attractions provider globally, alongside Blackstone and KIRKBI, in a transaction valued at £5.9 billion. KIRKBI and the Blackstone/CPP Investments group each acquired a 50% stake; and
- Invested in Waystar, a leading cloud-based provider of revenue cycle technology, alongside the EQT VIII Fund, at a valuation of US$2.7 billion. CPP Investments and EQT acquired a majority stake in Waystar.

Private Equity Asia

In fiscal 2020, the Asia-Pacific private equity market experienced a challenging macro environment, including U.S.-China trade tensions, social unrest in Hong Kong and the outbreak of COVID-19. Private equity investments, exits and fundraising all decreased from the prior fiscal year. Greater China, the largest market in the region, suffered a drop of investment activities after historical highs in fiscal 2019. However, the impact was partially mitigated by solid investment growth in other key country markets such as India, South Korea and Japan. The private equity asset class remained an important source of capital in the region.

The Private Equity Asia (PE Asia) portfolio grew from $13.6 billion to $15.3 billion in carrying value during the fiscal year. The portfolio consists of $9.0 billion (or 59.0%) in funds, $5.8 billion (or 38.1%) in direct investments, and $0.5 billion (or 2.9%) in secondary investments. The majority of PE Asia's investments were based in emerging markets, with $8.0 billion in Greater China, up from $7.1 billion in fiscal 2019, and $1.8 billion in India, in line with fiscal 2019. Growth in the portfolio was primarily driven by $2.4 billion in new invested capital, $0.4 billion in valuation gains, and $0.9 billion in foreign exchange gains. This was partially offset by distributions totalling $2.1 billion. The group currently has relationships with 35 fund managers across 75 funds, with $17.3 billion of total exposure. During the year, it selectively expanded its GP network by adding six new managers, committed $2.5 billion to funds in Asia, and closed 10 direct investments worth $0.7 billion.

Notable highlights for the fiscal year:

- Closed a A$150 million investment in Navitas Ltd., a global leader in the provision of university pathway programs for international students. CPP Investments acquired an 11% stake in Navitas;
- Committed US$500 million to MBK Partners Fund V. This fund will target control buyout investments in Korea, China and Japan with a focus on market leaders in its core sectors of retail, media, industrials and financial services; and
- Committed up to JPY13,800 million to Polaris Capital Fund V. This fund focuses on control buyouts in middle-market cap companies with a focus on corporate carve-outs and succession situations in Japan.

Private Equity Funds

During the year, the Private Equity Funds (Funds) portfolio grew from $32.7 billion to $33.4 billion. The growth in the portfolio was primarily driven by $6.9 billion in new invested capital and $2.3 billion in foreign exchange gains. This was partially offset by distributions totalling $7.8 billion and valuation losses of $0.7 billion. The Funds group currently has relationships with 81 fund managers across 208 funds, with $57.0 billion of total exposure, up 4.0% from fiscal 2019.

The group reviewed 72 relevant, on-strategy opportunities and after prudent judgment, made commitments to 22 funds for a total of $6.9 billion. Of these, 14 represented existing relationships, including two that backed adjacent strategies of a General Partner's (GP) core platform. There were eight new relationships to the program. In addition, the Funds group invested $203 million in the Venture Capital strategy, developing four GP relationships.

The Funds group continued to focus on actively managing its relationships with GPs to generate deals for other investment programs. Over the year, the group's GPs offered CPP Investments 155 direct opportunities, of which 24 had closed as of March 31, 2020. The total dollar amount of closed opportunities represented $5.3 billion of CPP Investments' invested capital, which was invested on a no-fee, no-carry basis.

Secondaries

The Secondaries group assets totalled $7.9 billion, compared to $8.6 billion at the end of fiscal 2019. The decrease in the size of the portfolio was driven by $2.8 billion of distributions. This was partially offset by $1.6 billion in new invested capital and $0.5 billion in foreign exchange gains. Unfunded commitments are $2.9 billion, bringing the total exposure to $10.8 billion. As at March 31, 2020, 64.8% of the total exposure was in North America, 24.4% in Europe, 6.9% in Latin America and 3.9% in Asia.

Secondaries implemented an expanded program where, in conjunction with Funds, it leads the identification and execution of opportunities to proactively manage exposures to older vintages. In this context, Secondaries led the full or partial sale of $2.5 billion of net asset value in Limited Partnership interests in the Funds portfolio across five transactions.

Secondaries moderated the pace of investment during the year, following two very active deployment years and a cautious market outlook. It invested $0.7 billion across six transactions.

Notable highlights for the fiscal year:

- Completed LP secondary transactions totalling $420 million;
- Completed a US$280 million GP-led transaction involving recapitalization of 13 private assets in TPG Growth II; and
- Completed US$180 million Structured Secondary transaction to provide financing to a large U.S. fund-of-funds manager.

Looking ahead

As the economic impact of COVID-19 unfolds, the Private Equity department will focus on navigating the downturn, and at the same time, continue to pursue initiatives in support of CPP Investments' 2025 strategy. Specifically, PE will:

- Ensure the resilience of its portfolio by demonstrating investment discipline and leveraging comparative advantages;
- Strategically deploy capital to support existing portfolio companies and to seek new attractive investment opportunities;
- Assist in CPP Investments' development of advanced data, analytics and technology to drive better investment decision-making and enable value creation and enhanced returns;
- Continue to actively manage the department's mature private equity funds portfolio; and
- Foster a global-operating mindset, demonstrate agility in resourcing, and support knowledge sharing across the organization.

Real Assets

Investment Department

Fiscal 2020 Net Return

-$0.3 billion
-0.2%

Net Investments

$97.6 billion

Key Focus this Year

- Increased focus on investment opportunities in emerging markets
- Leveraged information-sharing capabilities for optimal capital deployment and enhanced investment returns
- Led the Security Selection work stream within the Climate Change Security Selection Framework. Efficiently identified, assessed and priced key climate change risks and opportunities at the individual entity level
- Launched a focused strategy on energy Innovation, Technology and Services, and completed the first three investments

Real Assets (RA) has a globally diversified portfolio of investments that delivers stable and growing income to the Fund. The RA portfolio consists of investments in the real estate, infrastructure, power and renewables and energy and resources sectors.

Summary

The Real Assets (RA) portfolio increased from $94.1 billion at the end of fiscal 2019 to $97.6 billion at the end of fiscal 2020. This growth was primarily driven by new investment activities totalling $15.7 billion and foreign exchange gains of $0.1 billion. This was partially offset by asset dispositions and return of capital of $10.0 billion, distribution income of $0.9 billion, and valuation losses of $1.5 billion.

RA's net assets represent 23.8% of the Fund, managed by 219 professionals located across eight offices globally. The geographic footprint of the department's 179 investments spans five continents.

The table below summarizes aggregated returns in absolute terms. Rates of return are calculated on an unhedged time-weighted basis, as well as currency-neutralized dollar value-added.

Real Assets

(%)	Fiscal 2020	Fiscal 2019
Returns		
1-year excluding foreign currency impact	**0.1**	9.5
1-year	**0.1**	8.0
1-year net	**(0.2)**	7.7
1-year return comparator[1]	**(6.8)**	5.3

($ billions)	Fiscal 2020	Fiscal 2019
Contribution to Portfolio Net Value-Added[1,2]		
1-year	**5.3**	2.1
5-year	**14.0**	8.6

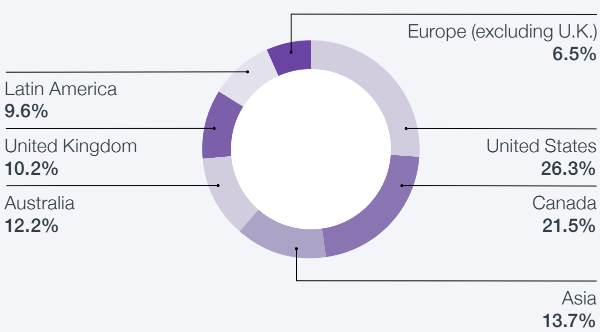
1. Return comparator is the weighted return of return-risk factors representative of the department's investment programs. Dollar value-added is relative to the return comparator.
2. Foreign currency fluctuations have no impact on departmental value-added. See page 29 for more details.

In fiscal 2020, the RA department's four investment programs performed well against their respective objectives. Despite the overall negative net return for the department, largely attributable to the negative market sentiment resulting from COVID-19 and depressed energy markets, there were areas of positive performance. In particular, the Real Estate program had gains due to valuation increases. This reflected trends in industrial and office sectors and the diverse nature of the portfolio.

During fiscal 2020, RA delivered a net loss of $0.3 billion including costs of $622 million to support its investing activities. Investment management fees of $190 million have decreased over last year, as fiscal 2019 included one-time performance-based fees relating to dispositions and valuation gains. Transaction costs of $136 million primarily represent professional and advisory services incurred during due diligence related to investment acquisitions and dispositions. Transaction costs are lower than last year due to the high volume of investing activity that occurred in fiscal 2019 for Energy & Resources. Operating expenses of $296 million are higher than last year driven by the growth of Real Assets' portfolio.

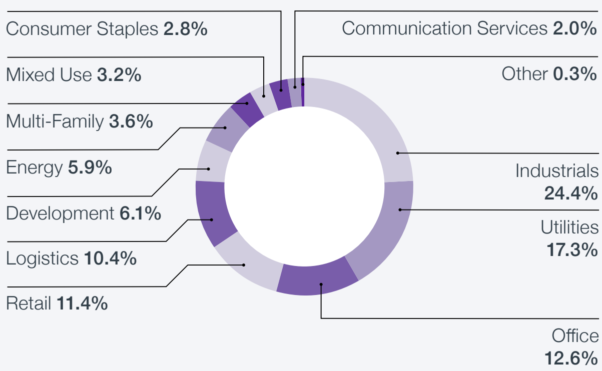
Real Assets – Geographic Diversification

As at March 31, 2020



Real Assets – Sector Diversification

As at March 31, 2020



Net Income (Loss) for Real Assets

($ millions)	Fiscal 2020	Fiscal 2019	5-Year
Adjusted Investment Income	**347**	7,417	26,169
Investment Management Fees	**190**	258	862
Transaction Costs	**136**	159	692
Net Investment Income	**21**	7,000	24,615
Operating Expenses	**296**	277	1,220
Net Income (Loss)	**(275)**	6,723	23,395

Fiscal 2020 activities

Global interest rates continued to remain historically low and global real assets continued their more than decade-long expansion. Amid international trade tensions, the COVID-19 pandemic that led to a market sell-off, steeply declining commodity prices and the transition in energy dynamics, income-seeking investors continued to allocate additional capital into real assets. RA groups still matched the pace of fiscal 2019 capital deployment, despite a competitive landscape that has pushed asset prices upward and put downward pressure on future return expectations. The department accomplished this by continuing to seek situations where strong partnerships and the ability to offer scale, speed and certainty of execution are key differentiators. This allowed access to complex, non-traditional deals with attractive return profiles.

RA remained focused on asset management, including expanding exposures in emerging markets, while managing dispositions when business plans were complete. RA increased its exposure to emerging markets such as India, Greater China and Brazil. The department has also been ready to sell certain assets where the market's view on future returns was misaligned with its own or to take advantage of high valuations. To that end, the RA programs set a new record for the department and repatriated $10.0 billion of capital to the Fund in fiscal 2020, primarily from the Real Estate portfolio.

Energy & Resources

At year end, the Energy & Resources (E&R) portfolio consisted of 15 investments valued at $7.3 billion compared with $8.2 billion at the end of fiscal 2019. Growth in the portfolio was driven primarily by $2.2 billion in new investment activity and $0.4 billion in foreign exchange gains. However, this was more than offset by $2.7 billion in valuation losses as the energy markets experienced steep declines and increased volatility in the fourth quarter of the fiscal year.

The past year was one of expansion, diversification and growth for E&R. The team completed its first three investments in the newly created Innovation, Technology & Services strategy. It also diversified its midstream portfolio into the competitive U.S. market and expanded its investment team through internal transfers and new hires in London, San Francisco and New York. Amidst a broader energy sector that continues to experience intense change, the team sees tremendous opportunity for investors with patience, flexibility and scale. The shift towards a low-carbon economy will continue to drive the energy industry to new heights of innovation and efficiency, and E&R is well positioned to invest around the global energy transition.

Notable highlights for the fiscal year:

- Closed the formation of a US$3.8 billion joint venture with The Williams Companies, Inc. The joint venture includes Williams' 100% owned Ohio Valley Midstream system and 100% of the Utica East Ohio Midstream LLC system. E&R invested US$1.3 billion for a 35% ownership stake in the joint venture with Williams retaining a 65% interest.
- Invested an additional US$273 million in Crestone Peak Resources (Crestone), a 96%-owned CPP Investments portfolio company, to support Crestone's acquisition of oil and gas assets in the Denver-Julesburg Basin in Colorado.
- Made three new Fund commitments as part of the Innovation, Technology and Services strategy. These include McRock Fund II (C$10 million), CVP Energy Tech Fund (US$10 million) and ArcTern Fund II (C$20 million).

Infrastructure

At year end, the Infrastructure portfolio consisted of 22 direct investments valued at $35.1 billion, compared with $33.3 billion at the end of fiscal 2019. The growth in the portfolio was primarily the result of $4.4 billion in new investment activities, and $0.4 billion in valuation increases. This was offset by a $1.4 billion return of capital and dispositions, distribution income of $0.9 billion and $0.6 billion in foreign exchange losses.

The Infrastructure portfolio is diversified globally, with 78.1% in developed markets such as North America, Western Europe and Australia and 21.9% in emerging markets, primarily in Latin America and India. Infrastructure investments represent 36.0% of the RA portfolio. A team of 48 professionals located across six international offices manages the Infrastructure portfolio.

During the year, the Infrastructure group was active across its core geographies and markets and continued to focus on increasing its emerging markets exposure by investing in quality, large-scale core opportunities with like-minded partners.

Notable highlights for the fiscal year:

- Acquired an additional 10.01% equity stake in 407 International Inc., which holds a concession over the 407 Express Toll Route toll road in the Greater Toronto Area, from SNC-Lavalin Group Inc. for C$3.0 billion, with up to an additional C$250 million to be paid over 10 years, conditional on achieving certain financial targets related to the performance of the toll highway. CPP Investments controls a 50.01% stake in 407 International Inc.
- Acquired a 45% interest for C$550 million in PT Lintas Marga Sedaya, the concession holder and operator of the 117-kilometre Cikopo-Palimanan (Cipali) toll road in Indonesia, alongside PT Baskhara Utama Sedaya, a wholly owned subsidiary of PT Astra Tol Nusantara, who will hold 55%. This is CPP Investments' first infrastructure investment in Indonesia.
- Sold our 39% stake in Interparking, a pan-European car-park owner and operator, for net proceeds of approximately C$870 million, and our 40% stake in Solveig Gas HoldCo A/S, a company that held a 25.6% stake in Norwegian natural gas transport network Gassled, for net proceeds of C$197 million.

Portfolio Value Creation

This year, Portfolio Value Creation (PVC) continued to collaborate with investment teams across the organization. Over the course of this year, PVC further strengthened the active asset management approach to holdings in which CPP Investments has material governance rights. PVC worked closely with investment teams to enhance best practices in value creation planning, management and director evaluation and selection, and investment monitoring across the portfolio. PVC expanded its presence to the CPP Investments offices in Hong Kong and San Francisco. The Hong Kong move reflects CPP Investments' strong presence and investment activities in Asia while the San Francisco presence reflects continued strategic focus on digital initiatives.

In addition, PVC worked with investment teams, portfolio management teams, Technology & Data, Investment Analytics and Insights and the Alpha Generation Lab to proactively identify and execute opportunities for driving value creation through:

- Digital transformation; and
- Tools that include the use of advanced data, analytics and emerging technologies.

The group played an integrated role in CPP Investments' response to the COVID-19 pandemic, including leading a targeted portfolio impact assessment that evaluated potential liquidity needs for the Fund's active investments. In addition, PVC works alongside the investment teams to share information and best practices on topics such as financial, operational and employee matters with management teams of investee companies.

Lastly, PVC continued to provide onboarding support and 100-day planning for newly acquired companies to establish robust value-creation plans, long-term governance and controls. PVC continued to collaborate with investment teams and CPP Investments' Legal Department to ensure a rigorous process for selecting portfolio company directors, focusing on required skills and diversity. The group continued to execute a thorough monitoring process across major CPP Investments portfolio companies and targeted support for commercial and operational due diligence of potential investments.

Power & Renewables

At year end, the Power & Renewables (P&R) portfolio consisted of seven direct investments valued at $8.7 billion compared with $5.1 billion at the end of fiscal 2019. The growth in the portfolio was driven primarily by $3.5 billion in new investments, specifically the Pattern Energy acquisition, and nearly $0.1 billion in valuation gains due to strong operational performance.

Fiscal 2020 continued an acceleration of long-term changes in the power market and this trend, coupled with available private capital, continue to create meaningful investment opportunities for the P&R team.

Notable highlights for the fiscal year:

- Acquired Pattern Energy Group Inc. (Pattern Energy) for an enterprise value of approximately US$6.1 billion, including net debt. Following the acquisition, combined Pattern Energy with its affiliated development entity, Pattern Energy Group 2 LP (Pattern Development). Pattern Energy has a portfolio of 28 renewable energy projects in North America and Japan while Pattern Development has a development pipeline of more than 10 GW across North America and Japan.
- Completed construction on Hohe See and Albatros, two German offshore wind assets totalling more than 600 MW. In addition, executed a financing of CPP Investments' stake in the projects via institutional notes that qualify as green bonds under CPP Investments' Green Bond Framework. CPP Investments acquired a 49% stake in these projects in 2018 as part of our joint venture with Enbridge.

Real Estate

At year end, the Real Estate (RE) portfolio totalled $46.5 billion, compared to $47.5 billion at the end of fiscal 2019. The change in portfolio value was primarily the net result of several factors: new investment activity totalling $5.6 billion, $0.8 billion in valuation increases due to strong performance from the industrial and office sector investments, and $0.3 billion in foreign exchange gains. This was offset by $7.8 billion in return of capital from asset sales.

At year end, the RE portfolio consisted of 136 investments with 60 operating partners, managed by a team of 79 CPP Investments professionals across seven offices globally. This portfolio remains diversified across major markets globally. It has 80.4% in developed markets such as the U.S., U.K., Canada and Australia, and 19.6% in emerging markets, including Greater China, India and Brazil. Almost 88% of RE's professionals are located in CPP Investments' international offices.

RE continued to increase its investments in emerging markets. The group executed on the newly established Listed Real Estate (LRE) program to gain exposure to countries and sectors that are absent or under-represented in the current portfolio. The group also entered sectors such as Brazilian multi-family property through traditional joint venture arrangements. RE took advantage of a robust pricing environment for high-quality real estate and sold its stake in several top-tier assets worth $7.8 billion, crystallizing gains of $0.5 billion in fiscal 2020.

RE remains committed to growing its long-standing relationships with many best-in-class operating partners who are a valuable source of deals. More than 64% of the investment activity this year was made with existing partners such as Goodman Group, Longfor Properties, Global Logistic Properties, ESR and Lendlease.

Notable highlights for the fiscal year:

- Formed a new joint venture with Cyrela Brazil Realty for an initial allocation of up to R$1 billion in combined equity to develop a portfolio of residential real estate in São Paulo, Brazil. Four development projects located on premium sites in São Paulo have been secured to seed the joint venture.
- Formed a joint venture with Boston Properties to develop Platform 16, a 1.1 million-square-foot, Class-A urban office campus in San Jose, California. CPP Investments has a 45% ownership in the venture.
- Sold Liberty Living, CPP Investments' wholly owned student accommodation business to The Unite Group plc, the largest manager and developer of purpose-built student accommodation in the U.K. CPP Investments received a portion of the sale consideration in shares equivalent to 20% of the combined group, in addition to net cash proceeds of approximately C$1.3 billion.

Looking ahead

As we look forward, the unfolding economic and social impact of the COVID-19 pandemic is top of mind. In the near future, RA's primary focus will be to:

- Ensure the resilience of RA's portfolio, positioning it to weather the downturn and emerge on the other side of the pandemic in good order; and
- Identify the best opportunities to deploy capital into existing portfolio companies and new investment opportunities, as the full extent of the COVID-19 pandemic becomes clearer.

We will also continue to pursue initiatives that we expect to deliver strategic advantage in the longer term:

- Grow RA's emerging markets exposure, primarily in China, Brazil and India;
- Collaborate with other CPP Investments teams to take advantage of public market opportunities in sectors where we have knowledge advantage; and
- Advance RA's information technology initiatives, actively embracing enterprise-wide initiatives and enhancing them with RA's own dedicated data solutions.

Risk Management

CPP Investments' activities expose us to a broad range of risks. Our Integrated Risk Framework considers all key risks. This includes both investment risks and non-investment risks. It ensures that the risks we take are prudent and commensurate with the long-term benefits we expect to receive.

We define a key risk as one that could have a significant impact on CPP Investments' ability to achieve our statutory objective: to seek a "maximum rate of return, without undue risk of loss, having regard to the factors that may affect the funding of the Canada Pension Plan (CPP) and the ability of the CPP to meet its financial obligations on any given business day."

Risk environment – top and emerging risks

The environment in which CPP Investments operates is dynamic and the pace of change is rapid. These changes may have an impact on our risk profile, the development of our risk management practices and our ability to achieve our statutory objectives. In our assessment of key risks, we consider how different risks are interconnected and how they are correlated. This past year, we closely monitored the following developments to assess their potential impact on our investments and operations over time:

- **Pandemic risk** ↑ materialized through the COVID-19 pandemic. The scale of the pandemic resulted in severe global, societal and economic impacts, which have contributed to exceptional volatility and significant dislocations in capital markets. These events have financial impacts on our Investment Portfolios and operational impacts for our offices and employees. We activated crisis management and business continuity plans to ensure the safety and wellness of our employees and mitigate impacts to our operations. We also activated our Financial Crisis Management Team to inform decision-making at the Senior Management Team level, enhanced daily and intra-day monitoring of the portfolio and continue to conduct scenario analysis to assess the potential impact on the Fund. We also increased the frequency of information updates to government officials nationwide holding direct responsibilities related to the CPP.

  The full extent and duration of the impacts is still highly uncertain. Over the short to medium term, while the market dislocation caused by the COVID-19 pandemic may present attractive investment opportunities, CPP Investments may experience disruptions to the ability to complete new investments or successfully exit existing investments. Investments in certain industries, including but not limited to travel, entertainment, retail, real estate and oil & gas, are disproportionately affected and we may realize further losses. We continue to monitor the evolving situation and its impact on the Fund.
- **Geopolitical risk** ↑ remained a top risk throughout fiscal 2020. The COVID-19 pandemic had an impact on geopolitical risks, such as United States-China relations, protests in Hong Kong, and the growth of nationalism. The role of the Organization of the Petroleum Exporting Countries (OPEC) in influencing oil and gas prices is evolving during the global economic slowdown. In the U.K., the political climate changed significantly when it formally exited the European Union in January 2020. Within Canada, increased inter-jurisdictional tension between the Government of Canada and the Province of Alberta, related to multiple economic policies, is a source of political risk. Alberta signalled its intent to assess the merits of withdrawing from the CPP. Even as the likelihood, nature and timing of Alberta leaving the CPP remains uncertain, we are monitoring developments and their potential impacts.

Legend

— no change in risk from prior year
↑ increasing risk from prior year
↓ decreasing risk from prior year

Strategy
Management's Discussion and Analysis
Compensation Discussion and Analysis
Governance
Consolidated Financial Statements and Notes

- **Climate change** presents a complex array of physical and non-physical risks and opportunities across our investment activities. This year, we launched a climate change evaluation framework to analyze the risks and opportunities for each major investment we are considering. CPP Investments also performed scenario analysis to determine the potential impact of climate change on our Investment Portfolios. We expanded our carbon footprint reporting to include private holdings. See Climate Change section on page 30 for additional details.
- **Increasing capital inflows into alternative assets** has resulted in higher valuations in private markets prior to the market dislocations in the fourth quarter in relation to COVID-19. This has made it increasingly difficult to source opportunities with attractive risk-adjusted returns. We continue to leverage our inherent comparative advantages – long horizon, certainty of assets and size – to help us mitigate this risk. A further discussion of this topic can be found in the Our Investment Strategy section on page 24.
- **New technologies and business models** are creating growing competitive pressures in the asset management industry, where decision-making is increasingly informed by complex data sets and advanced analytic techniques. Our investments and operations could be impacted if we fail to adapt. This is particularly true in the medium to long term. In fiscal 2020, we began to execute our 2025 strategy. One of the focuses of the strategy is to increase the use of technology and data to empower employees and drive better investment decisions.
- **Cyber security breaches** in both the public and private sectors have illustrated the difficulties organizations face with the rapidly evolving cyber threat environment. While the nature of our exposure to breaches differs from many financial institutions, particularly those that hold client data, we must stay vigilant. Sources of risk include: phishing attacks, malware, leakage of confidential data and cyber fraud. We could be exposed if our partners or service providers experience a cyber breach. A breach could result in investigation and containment costs, legal and regulatory fines, and negative reputation impact. Over the past five years, we have incurred costs to investigate and remediate the cyber incidents we have experienced. To date, none of these incidents have had a significant impact on CPP Investments.

  This year, we conducted a cyber security maturity assessment. It focused on safeguarding the integrity, availability and confidentiality of our assets. We also engaged an external partner to quantify the potential impacts of a cyber incident.
- **Changes in the regulatory environment** require us to stay up-to-date on developments, regularly assess the investment and operational impact to CPP Investments and respond accordingly. For example, we are monitoring the implementation of the Organization for Economic Co-operation and Development's recommendations to address certain tax avoidance strategies (known as the Base Erosion Profit Shifting project), and the global transition away from the London Interbank Borrowing Rates, which are a set of published interest rates widely used as a basis for lending agreements and other financial arrangements. In addition, due to severe economic shocks from COVID-19, many jurisdictions are seeking to add barriers to restrict foreign investors from buying local assets at reduced values. We are assessing their potential risks and impacts to CPP Investments.

Risk management objectives

CPP Investments' risk management objectives are to ensure that we:

1. Understand and clearly articulate the organization's appetite for risk. This includes defining "undue risk of loss" in the context of our objectives, considering both the short and long term;
2. Are appropriately rewarded for risks we undertake in pursuing both our overall investment strategy and specific investment opportunities;
3. Operate within our stated risk appetite by monitoring our risk exposure and by evaluating the design and operating effectiveness of our controls; and
4. Clearly define who is accountable for various risks and the related controls.

Risk culture

Our risk culture is what helps us ensure that risk-taking is appropriate given our mandate, risk appetite and strategy. Risk culture permeates all aspects of our Integrated Risk Framework. Our risk culture:

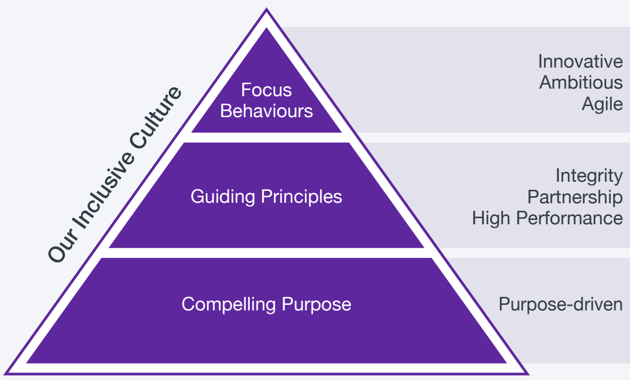
- Starts with the "tone from the top" and applies to all levels in the organization;
- Must align with CPP Investments' strategy; and
- Drives the effectiveness of risk governance.

We believe that formally documented controls and processes can only be effective with a sound organizational risk culture. This is characterized by open dialogue, a willingness to raise concerns and clear accountabilities.

Our Code of Conduct and Guiding Principles provide a strong foundation for our overall organizational culture, including our risk culture. All employees formally acknowledge, at least twice a year, that they have read, understood and complied with the Code. Annually, we hold a *Living our Guiding Principles* day where all employees discuss, in small groups, scenarios that put our Guiding Principles of Integrity, Partnership and High Performance into action (see page 47).

Key elements of our culture are shown in the figure below. For more information on our culture and our whistleblower hotline, see pages 47 and 50, respectively.

Key Elements of Culture



Enhancing our risk management practices

We believe effective risk management, along with our comparative advantages, allows us to capitalize on opportunities when others cannot. As part of our efforts to continuously improve our risk management practices, we made several enhancements to existing processes this year.

- In late fiscal 2019, we formally established a standing Risk Committee of the Board with a specific focus on providing risk management oversight and advising the Board on related matters. The Committee is chaired by Jo Mark Zurel. This year, we fully operationalized the Risk Committee.
- We made changes to our management committee structure to enhance oversight of key risks. The changes took effect in the first quarter of fiscal 2021. (See the description of the Investment Strategy and Risk Committee on page 37.)
- We developed new measures to monitor and manage leverage risk. We report on these new measures to Management and the Board's Risk Committee. See the "Liquidity and leverage risk" section on page 98 for additional details.
- We enhanced existing processes in order to identify, assess and monitor risks that could cause significant harm to the reputation of CPP Investments.
- We enhanced our crisis management framework by expanding plans to cover a range of operational and financial stress scenarios.

These changes will position us for the future growth of the Fund amidst a changing risk environment.

Risk governance

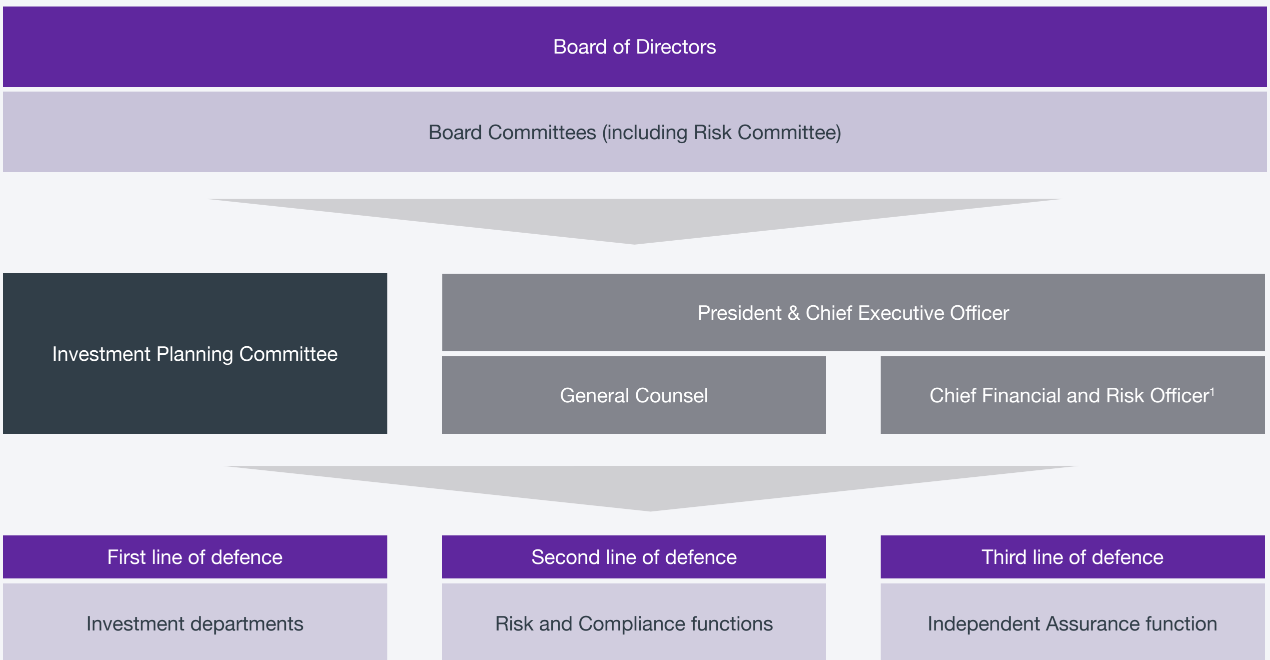
The Board, Management and their respective committees are responsible for risk governance at CPP Investments. The Board of Directors oversees our efforts to act in accordance with CPP Investments' statutory objective to maximize returns without undue risk of loss.

To this end, the Board is responsible for the oversight of risk. It ensures that Management has identified key risks and has established a separate risk appetite for each key risk and appropriate strategies to manage them. Board committees have the following risk-related responsibilities:

- The Risk Committee oversees risk governance and management practices.
- The Investment Committee recommends investment policies to the Board and oversees investment activities and associated risk levels.
- The Audit Committee oversees financial reporting, tax, external and internal audit and internal control policies and practices.
- The Human Resources and Compensation Committee (HRCC) oversees risks related to our employees and employment practices. The HRCC reviews and recommends the compensation framework, reviews organizational structure and ensures that a succession planning program is in place.
- The Governance Committee ensures that CPP Investments follows appropriate governance best practices. It monitors the application of the Code of Conduct and conflict of interest guidelines.

For a more detailed description of these responsibilities, see page 121. The diagram below shows CPP Investments' risk management structure.

Risk Management Structure



1. The Chief Financial and Risk Officer is a member of the Investment Planning Committee.

The President & CEO, delegated by the Board of Directors, is accountable for all risks beyond those matters specifically reserved for the Board or Board committees. Responsibility for risk management is further distributed throughout the organization, starting with the Chief Financial and Risk Officer (CFRO) and the Senior Management Team.

The CFRO ensures that risk management is integrated with strategic and business planning. Through the business planning process, the CFRO ensures that plans align with our overall strategy and risk appetite. The CFRO also makes sure that adequate resources and processes are in place to identify and effectively manage key risks.

As shown on page 94, we follow the three lines of defence model to ensure clear separation between front-line management, risk oversight functions and independent assurance:

- First line of defence: The leaders of each department are responsible for managing the risks assumed within their areas of responsibility;
- Second line of defence: The CFRO is responsible for risk oversight at CPP Investments. The Risk group is responsible for independently challenging the first line's identification, assessment and management of risks. It also develops, measures and monitors compliance with all approved risk appetites. In addition, the Risk group assesses emerging risks for the organization. Other groups also provide independent oversight, including the Legal and Compliance functions; and
- Third line of defence: The Assurance & Advisory group provides independent assurance over risk governance and internal controls.

Investment Risk Governance

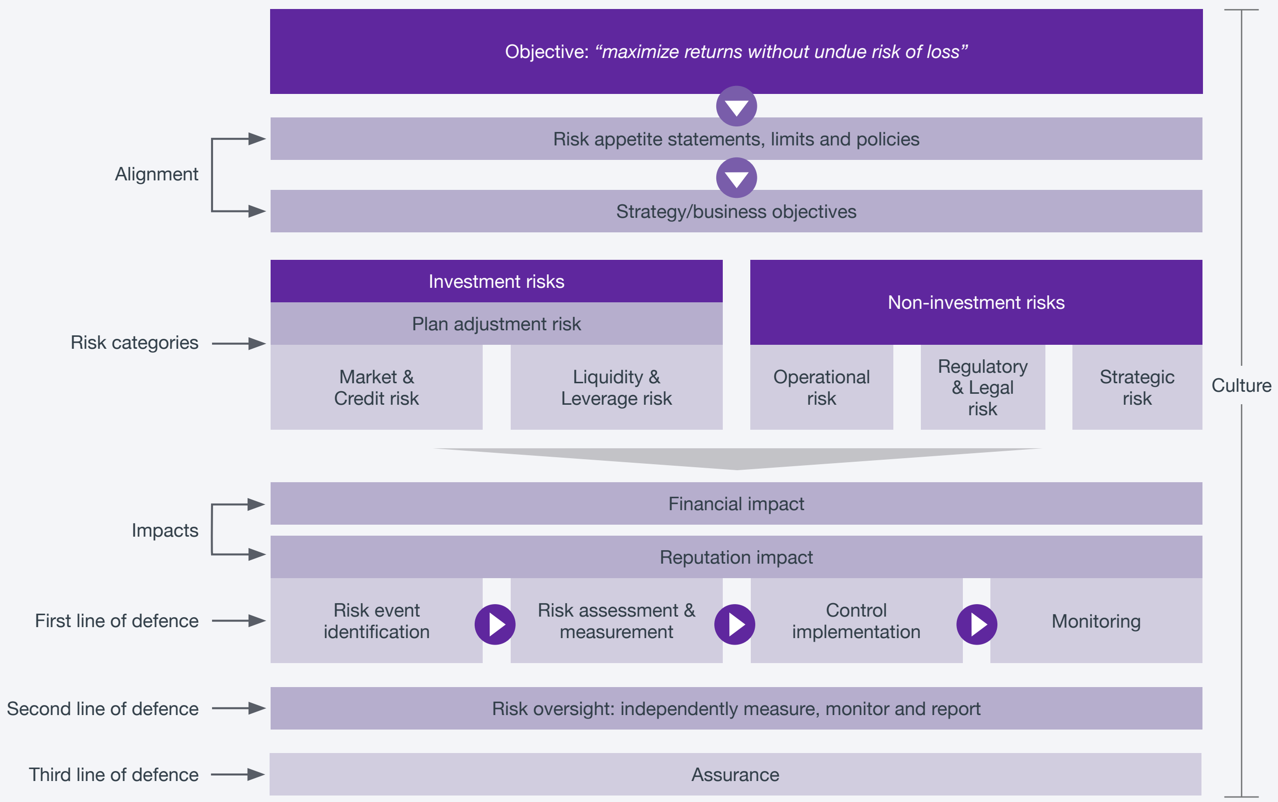
We have committees to oversee our various investment risks and exposures. The Risk Committee of the Board receives regular reporting on our risk measures and stress-testing results. Management's Investment Planning Committee (IPC) receives risk-related information weekly. It reviews the risks in the Investment Portfolios at least monthly through commentaries prepared by the Total Portfolio Management department and the Risk group. In fiscal 2021, the IPC will be replaced with an Investment Strategy & Risk Committee along with certain subcommittees designed to enhance and better integrate the governance of investment strategy and risk across CPP Investments.

See page 37 for more details about the IPC.

Additional information related to our investment risk exposures and our risk measurement and management processes is included in the section called How Management is accountable for risk-taking and performance on page 37. There is also further information in Note 8 to the Financial Statements on page 162.

The diagram below shows CPP Investments' Integrated Risk Framework.

Integrated Risk Framework



Risk categories and management strategies

Plan adjustment risk: This is the risk of increases in the Minimum Contribution Rates applicable to CPP contributors due solely to adverse investment experiences. It is an overarching risk to market, credit, liquidity and leverage risks. Each of these risk categories is further described in the following sections. The Minimum Contribution Rates are the minimum rates at which employees and employers in Canada must contribute in order to sustain the base CPP and the additional CPP payments over the next 75 years. The rates are calculated at least every three years in the Actuarial Reports on the CPP published by the Office of the Chief Actuary.

We manage the plan adjustment risk by designing Investment Portfolios for the base CPP and additional CPP that target appropriate levels of market risk for each portfolio. We then seek to maximize returns at those target risk levels. We also set limits on liquidity risk to ensure we can always rebalance our portfolios back to target risk levels and fulfil our payment obligations. These concepts are further discussed in the following sections.

Market and credit risk: This risk category captures investment losses arising from the following:

- Fluctuations in market prices and rates. This includes equity prices, interest rates, currency exchange rates and credit spreads.
- Loss in value due to factors driving the risk of permanent impairment. This includes losses due to defaults and credit rating migrations. It also includes counterparty exposure where CPP Investments assumes indirect exposure to counterparty defaults via "over-the-counter" derivative transactions.

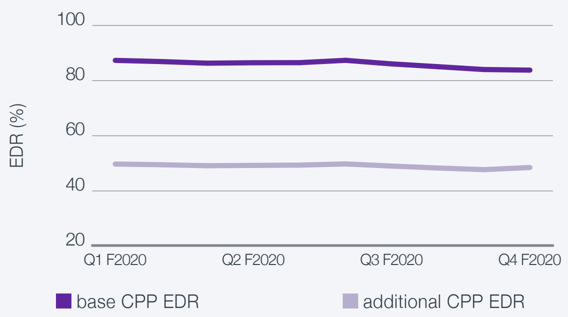
CPP Investments targets a level of market risk for each of the base CPP and the additional CPP that provides long-term expected returns exceeding the minimum rates of return required to sustain each part of the CPP (as implied in the Chief Actuary's latest Actuarial Report). At the same time, CPP Investments balances the trade-off between potential losses and expected returns. The higher the risk target, the higher the long-term expected return and the lower the risk of plan adjustments (i.e., adjustments to contribution rates); however, there would also be a higher potential for short-term investment losses.

CPP Investments mitigates the risk of market and credit losses by investing across a wide spectrum of asset classes and investment strategies. This enables us to earn returns on a diversified set of factor exposures and active management activities over the long term.

Market risk targets are sometimes expressed in terms of equity equivalent content (i.e., the equity/debt risk equivalence ratio or EDR). We also express our appetite for market and credit risks in terms of the probability of plan adjustments and acceptable reported losses over short- and longer-term time horizons. See Note 8.2 to the Financial Statements on page 163 for additional details on these measures.

The chart below shows our EDR for the base CPP and additional CPP Investment Portfolios over the past year. The ratios remained stable throughout the year as we always seek to rebalance the portfolios back to the target equity equivalent content that has been established, subject to managing high transaction costs that would result from rebalancing very small movements.

Market and Credit Risk



We measure potential losses in our Investment Portfolios against our appetite for acceptable reported losses over short and longer time horizons. Given our targeted level of market risk, the one-year potential loss as at March 31, 2020 for the base CPP was estimated to be $69.4 billion, representing an increase of $2.6 billion compared to the prior year. This was mainly due to the increase in Fund value offset by the significant decline in global equity markets during the fourth quarter. The one-year potential loss was estimated to be $252 million for the additional CPP. The table on page 97 provides an attribution of the total one-year potential loss estimate for both the base CPP and additional CPP to each investment department.

Contribution to One-Year Potential Loss by Investment Departments

	base CPP		additional CPP	
	($ millions)	(%)	($ millions)	(%)
Total Portfolio Management	24,219	30%	127	40%
Capital Markets and Factor Investing	1,422	2%	5	1%
Active Equities	3,406	4%	11	4%
Credit Investments	4,989	6%	17	5%
Private Equity	26,062	32%	87	27%
Real Assets	21,978	27%	74	23%
Total One-Year Potential Loss[1]	**$69,377**		**$252**	

1. Potential Loss measures are not additive across departments, as the diversity of their activities has the effect of reducing total market risk.

The largest contributor to one-year potential loss is Private Equity due to the riskier nature of the underlying businesses and the amount of leverage used within the capital structure of these businesses. Total Portfolio Management is also a large contributor given its large public equity portfolio.

As part of our ongoing monitoring, we perform scenario analysis to quantify the impact of potential stress events, including how severe market or geopolitical events could affect CPP Investments' portfolios. The monitoring of key stress scenarios, which are run on a quarterly basis, includes:

1. A repeat of the Global Financial Crisis of 2008 – We estimate that if an event like the Global Financial Crisis were to reoccur, the reported value of the Investment Portfolios would decline by approximately $49.4 billion or 12%. Under this scenario, our reported loss is expected to be within our stated appetite for shorter term losses.
2. Hypothetical Severe Case – This scenario is an aggregation of the more severe historical market stress events. This scenario also removes the currency gains that have occurred during past market stress periods where some of our losses were partially offset by the depreciation of the Canadian dollar against the United States dollar. Realization of this more extreme scenario would result in losses of approximately $84.3 billion or 21%. This potential loss would exceed our standard estimate of losses that are expected to occur every one in 20 years based on our market risk target.
3. COVID-19 Pandemic – We have developed a series of scenarios in an attempt to assess the potential economic and financial impacts on our Investment Portfolios arising from COVID-19. This includes the impacts of lower CPP contributions due to increasing unemployment in Canada on our liquidity, as well as impacts on investment losses. Initial results indicate potential severe-case losses similar in magnitude to our historical market-stress scenarios. However, these estimates are highly sensitive to the assumptions we make regarding the length and severity of the pandemic. The actual impacts could differ materially from this estimate. We will continue to refine the views and assumptions underlying the assessment as the situation unfolds.

CPP Investments also performs sensitivity analysis on specific components of market risk including equity risk, interest rate risk, spread risk and currency risk – see Note 9 to the Financial Statements on page 164. In addition, CPP Investments monitors standalone measures for credit risk including counterparty exposures and potential losses due to defaults and credit rating migration – see Note 10 on page 166.

Liquidity and leverage risk: Liquidity risk is the risk of failing to obtain the funds needed to meet our payment obligations as they become due, to fund investment programs, or to rebalance our portfolio back to our target levels of market risk and leverage during periods of stress, all without realizing unacceptable losses. Leverage risk is a related concept. It is the risk of the build-up of excessive on- and off-balance sheet leverage (i.e., borrowing). Excessive leverage may accelerate the worsening of market and liquidity risk factors during periods of stress.

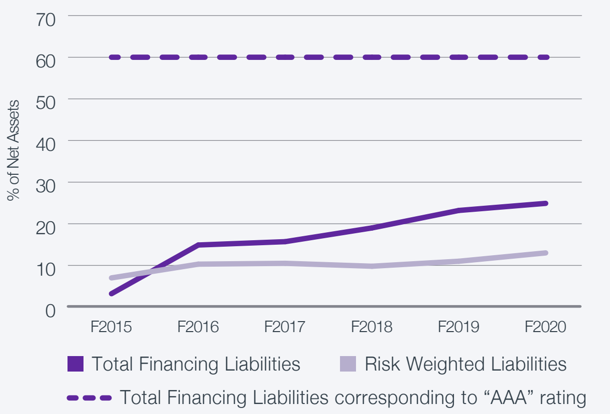
Leverage is the amount of borrowed funds (on-balance sheet) and synthetic financing (off-balance sheet) used to increase the amount of physical and synthetic assets we are invested in. On-balance sheet leverage includes the issuance of medium- and long-term debt, commercial paper, and secured borrowing where CPP Investments pledges collateral. Synthetic financing includes derivatives, primarily swaps and futures across various asset classes.

CPP Investments targets the level of recourse leverage used at a given level of market risk (i.e., equity equivalent content) to further diversify the Investment Portfolios. Recourse leverage represents borrowed funds that are direct legal obligations of CPP Investments. While we recognize that there are multiple ways to define leverage, CPP Investments monitors leverage risk against the following two metrics. Together, these capture different aspects of leverage across the Investment Portfolios.

- **Total Financing Liabilities** is a notional-based measure. Notional amounts represent the contractual amounts to which a rate or price is applied for the purposes of computing the cash flows to be exchanged. The Total Financing Liabilities measure represents all financing activities that are undertaken to obtain leverage using both on-balance sheet and off-balance sheet items. This measure captures all forms of leverage that enable CPP Investments to increase the amount of physical and synthetic assets we are invested in. This measure represents Management's view of leverage and deviates from the definition under International Financial Reporting Standards (IFRS). This measure captures all leverage elements that result in increased portfolio exposure such that it can be used as an input to portfolio construction.
- **Risk Weighted Liabilities** is a measure that represents the risk of the underlying leverage products, including derivatives, used by the Fund. It is determined by assigning risk weights to all forms of recourse leverage across the Fund and aggregating the resulting risk-weighted notional amounts across asset classes with similar characteristics.

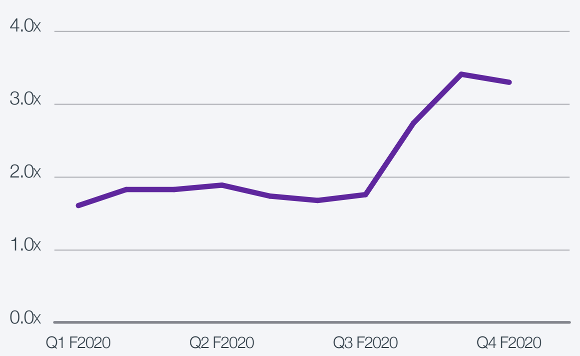
A historical five-year trend for both measures is shown in the chart at the top. The increase in Total Financing Liabilities can be attributed to the increased use of synthetic equity financing and secured debt. The additional funds raised are used to increase diversification of the portfolio at a target level of market risk. Compared to Total Financing Liabilities, the Risk Weighted Liabilities remain relatively steady over time as derivative positions increased in proportion to net assets. The chart also shows the level of Total Financing Liabilities we need to stay within in order to maintain a "AAA" credit rating. See Note 11.2 to the Financial Statements on page 168 for additional details on leverage risk.

Total Financing Liabilities and Risk-Weighted Liabilities



Finally, we must always have enough liquidity to meet our payment obligations as they become due, fund investment programs and rebalance the Investment Portfolios by buying and selling securities to maintain the target market risk and leverage levels; hence we establish liquidity limits to do so. Our payment obligations include the payments to the CPP, unsecured debt repayments, and collateral and margin requirements. CPP Investments manages liquidity risk through its ability to raise funds through various sources by issuing commercial paper and term debt, and by transacting in securities sold under repurchase agreements. CPP Investments also maintains unsecured credit facilities to meet potential liquidity requirements. In addition, CPP Investments maintains sufficient liquid assets, including developed market government bonds and money markets, which can be easily converted to meet liquidity requirements. We measure and monitor our liquidity coverage at various time horizons (e.g., 10 days, 6 months). Despite the market movements related to COVID-19 during the fourth quarter, we continue to maintain a strong liquidity position. The following table shows our 10-Day Liquidity Coverage Ratio over the past year.

10-Day Liquidity Coverage Ratio



See Note 11.1 to the Financial Statements on page 167 for additional details on liquidity risk.

In targeting a level of recourse leverage and setting limits on liquidity, CPP Investments seeks to maintain leverage and liquidity ratios that are consistent with an issuer credit rating of "AAA".

Operational risk: This is the risk of loss due to actions of people or inadequate or failed internal processes or systems. It can be the result of either internal or external factors. Operational risk encompasses a broad range of risks, including those associated with:

- Flawed or misused investment models;
- Human capital management;
- Technology and data;
- Information integrity and cybersecurity;
- Business interruptions;
- Process management and execution;
- Service providers; and
- Integrity of valuations and financial reporting.

The impacts can take the form of:

- Direct financial losses;
- Indirect financial losses appearing as operating inefficiencies;
- Regulatory sanctions or penalties; and
- Damage to our reputation.

Operational risk can also directly impact our ability to manage other key risks.

Each member of the Senior Management Team bears primary accountability for managing operational risks within their department. CPP Investments manages operational risk through internal controls that are subject to internal audit reviews. We also conduct an annual review as part of the CEO/CFRO certification of internal control over financial reporting.

The Finance, Analytics and Risk department and the Technology & Data department maintain formal protocols for:

- Implementing new investment products and technologies;
- Managing data, models and user-developed applications;
- Ensuring information security;
- Tracking and reporting on operational, regulatory and legal incidents; and
- Establishing continuity plans for potential business interruptions.

In addition, we purchase property and casualty insurance and director and officer liability coverage.

Regulatory and legal risk: This is the risk of loss due to changes in, or failing to comply with, applicable laws, regulations, rules, contractual obligations, CPP Investments' Code of Conduct or other internal policies, including those defined in the *Canada Pension Plan Investment Board Act*. Failure to comply could result in fines, regulatory sanctions and/or harm to our reputation. It also includes internal and external fraud.

Our compliance program is designed to promote adherence to regulatory obligations worldwide. It helps ensure awareness of the laws and regulations that affect CPP Investments and the risks associated with failing to comply. We monitor emerging legal and regulatory issues as well as proposed regulatory changes. We also take a constructive role in these developments when appropriate. CPP Investments regularly seeks input from external legal counsel to keep us informed on emerging issues.

Non-compliance with tax laws is a particular type of risk under this category. As with any other risk, we aim to mitigate tax risk while considering our investment objectives. CPP Investments does this by adhering to the controls and procedures embedded in our internal policies. Tax risks can be technical, operational or regulatory in nature and can have financial or reputation implications.

To help ensure that CPP contributors and beneficiaries do not pay tax twice on income earned by CPP Investments, we employ judicious and prudent investment structures. These are designed to maximize after-tax investment returns. Our Tax group plays a key role in evolving CPP Investments' tax strategy. This group supports decision-making, oversees tax risk management and evaluates overall tax practices. We review key tax risks both as part of due diligence for individual transactions and at the total Fund level. CPP Investments' CFRO is responsible for the organization's tax strategy. Day-to-day management of tax risk is the responsibility of the Head of Corporate Finance and Tax. Periodic updates are also provided to the Audit Committee. For more information about CPP Investments' tax strategy, please visit our website at www.cppinvestments.com.

Strategic risk: This is the risk that CPP Investments will make inappropriate strategic choices, will be unable to implement strategies or will fail to be agile enough to respond to changes in the external environment over the long term. Managing strategic risk effectively is critical to achieving our objectives.

Several important processes have been established to control and mitigate strategic risks.

- The Board and Management review key elements of our strategy throughout the year, at least annually, including through implementation updates, outlining progress, key milestones and any updates to the strategic plan;
- The Board and Management review our business plan annually, and each department carries out detailed business planning that considers our strategy and longer-term objectives;
- Through our governance framework, we provide specific investment guidance for each investment program. This ensures alignment with CPP Investments' overall strategy and comparative advantages;
- We complete quarterly reviews of the portfolios and associated investment risks in the context of capital market and emerging economic conditions; and
- Both Management and the Board review quarterly reporting and discuss progress, challenges and risks related to achieving the approved business plan.

Financial and reputation impacts to CPP Investments

The investment and non-investment risks listed above can have both financial and reputation impacts on CPP Investments.

Financial: Financial impacts can take many forms, including investment losses, unplanned operational expenses and regulatory fines. The higher we set our risk target, the higher the long-term expected returns but also the greater shorter-term volatility and potential for reported losses. Please refer to Our Total Portfolio Investment Framework on page 35 for a description of how we achieve long-term total returns that will help sustain the CPP and pay pensions while ensuring that we manage CPP Investments' portfolio responsibly for current and future generations.

Reputation: In managing our reputation, we seek to avoid the loss of credibility due to internal or external factors. Many types of events have the potential to negatively shape perceptions of our organization and impact our reputation among a diverse group of stakeholders, including contributors and beneficiaries. Our business practices, or those of our business partners or the companies in which we invest, may harm our reputation. Consequences include diminished brand efficacy in our markets and weakened ability to execute our strategy. It would also affect our status as investor, partner and employer of choice.

The responsibility to protect our reputation extends to every employee, Management and the Board of Directors – it is embedded in our organizational culture. This ensures that reputation impacts are considered across the organization, allowing for an integrated approach to anticipating and managing potential issues. We continue to build our reputation and brand proactively with key stakeholders globally to support our business objectives and mitigate risk. The Senior Managing Director & Global Head of Public Affairs and Communications oversees CPP Investments' corporate reputation and brand management activities.

We conduct reputation impact assessments as part of the investment decision-making process. This year, we continued to enhance our process to monitor and manage areas of our Investment Portfolios that may pose outsized impacts to the reputation of CPP Investments. This ongoing work to extend existing reputation management activities allows us to uncover and address issues that could significantly impede efforts aimed at projecting an admired corporate image by altering the perceptions stakeholders hold about the organization's most important attributes. Such assessments also help ensure consistency across the various dimensions of risk across the organization at any point in time and through time.

Our Issues Management Executive Committee also addresses significant issues as they arise.

Financial Policies and Controls

CEO/CFRO Certification

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. However, because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements on a timely basis.

Management assessed the effectiveness of CPP Investments' internal control over financial reporting as of March 31, 2020, based on the criteria set forth in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Management is also responsible for the design of disclosure controls and procedures that provide reasonable assurance that all material information is gathered and reported on a timely basis.

As of March 31, 2020, under the supervision of the CEO and CFRO, we completed an evaluation of internal control over financial reporting and disclosure controls and procedures and concluded that they were properly designed and operated effectively throughout the year. CPP Investments is not required by law or regulation to perform this annual evaluation. We do so voluntarily as part of our commitment to strong corporate governance and accountability.

In response to the COVID-19 pandemic, effective March 31, 2020, CPP Investments transitioned to remote working for global employees. The move was carefully managed with the support of finance, human resources, compliance and operations and, as at March 31, 2020, we have concluded that there was no impact on the effectiveness of internal control over financial reporting as a result of this change. We will continue to monitor the impact that this working arrangement has on our control environment.

Accounting policies and critical accounting estimates

Significant accounting policies

The Financial Statements are prepared in accordance with International Financial Reporting Standards (IFRS), the requirements of the *Canada Pension Plan Investment Board Act* and regulations of CPP Investments. The preparation of the Financial Statements requires the selection of appropriate accounting policies. Processes have been established to ensure accounting policies and methodologies are applied consistently and any changes are well-controlled.

Future changes in accounting policies

Developments and changes in accounting standards from the International Accounting Standards Board (IASB) are actively monitored. The impact of adopting new standards issued by the IASB is continuously assessed, as is any impact to the presentation of the Financial Statements, including evaluating alternative presentation choices upon transition, where applicable.

There are no issued IFRS standards, changes in existing standards or new interpretations with effective dates on or after April 1, 2020 that are expected to have a material impact on the Financial Statements.

Fair value measurement of financial instruments

Management's most critical accounting estimate is the determination of fair value for investments and investment liabilities. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is a market-based measurement and therefore incorporates those factors that market participants would consider when selling an asset or paying to transfer a liability. The fair value of investments and investment liabilities is categorized in a hierarchical manner according to the level of reliance on unobservable inputs in determining their fair value measurement.

It includes:

- Level 1 – Quoted prices in active markets for identical assets or liabilities;
- Level 2 – Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (as prices) or indirectly (derived from prices); and
- Level 3 – Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The Fund's net assets classified by the fair value hierarchy are described in Note 3 of the Financial Statements on page 147.

The investment departments' percentage contribution to each hierarchy level is outlined as follows:

	Fiscal 2020			Fiscal 2019		
	Level 1	**Level 2**	**Level 3**	Level 1	Level 2	Level 3
Public Market Strategies	**95%**	**85%**	**4%**	97%	86%	3%
Credit Investments	**1%**	**13%**	**13%**	0%	12%	14%
Private Equity	**1%**	**2%**	**41%**	1%	2%	40%
Real Assets	**3%**	**0%**	**42%**	2%	0%	43%
Total	**100%**	**100%**	**100%**	100%	100%	100%

Public Market Strategies consist of Total Portfolio Management, Capital Markets and Factor Investing and Active Equities, all of which invest mainly in Level 1 and Level 2 assets. The majority of our Level 3 assets consist of private equity, private debt and real asset investments where fair values are determined using unobservable multiples of earnings before interest, taxes, depreciation and amortization, or discount rates. Our valuation methodologies for investments and investment liabilities are summarized in Note 2 to the Financial Statements on page 144.

Robust valuation processes have been developed to ensure the fair value of our investments is reasonably presented in the Financial Statements. These processes include objective procedures and targeted use of external appraisers and valuation experts. CPP Investments' Finance team includes accredited professionals who prepare or approve fair values independently from investment teams. In addition, for most of the direct investments, independent third-party appraisals and external valuations are sought to support the valuation process. Assets are selected for third-party appraisals through a risk-based approach that is based on both the materiality and complexity of the investments.

For CPP Investments' fund investments in private equity, credit and real assets, net asset values (NAVs) are obtained directly from investment managers and represent fair value. CPP Investments performs certain procedures to validate reliance on the NAVs provided by the Investment Managers.

The COVID-19 pandemic has disrupted global economic systems and the duration and severity of resulting financial consequences remain uncertain at the time of writing. CPP Investments used extensive sources of available information to provide its best estimate of the impact the pandemic has had on the valuations of investments and investment liabilities at the end of the fiscal year. These estimates are sensitive to key assumptions and drivers that may change materially depending on the pandemic's outcome.

Related-party transactions

CPP Investments regularly enters into transactions with related parties, such as subsidiaries, joint ventures and partners. Related-party transactions with subsidiaries that provide investment-related support and administrative services to support the Fund are eliminated upon inclusion of the subsidiaries' results within CPP Investments reported results. (See Note 17 on page 174 of the Financial Statements.)

Commitments and contingencies

CPP Investments and its investment holding subsidiaries have entered into commitments related to the funding of investments. At the end of our fiscal year, these commitments remain off-balance sheet, with the unfunded commitments for CPP Investments totalling $1,940 million in fiscal 2020, compared to $1,779 million in the prior year. Unfunded commitments for investment holding subsidiaries totalling $53,453 million in fiscal 2020, compared to $45,629 million one year earlier. The increase compared to last year was due to new investments in the year primarily in Private Equity and Real Assets. (See Note 16 of the Financial Statements on page 174.)

In the normal course of business, CPP Investments and its investment holding subsidiaries also enter into various guarantee contracts. These contracts ensure that subsidiaries are supported in the event of a default based on the terms of the respective loan or other agreements. At the end of fiscal 2020, the maximum amount payable in relation to these guarantees was approximately $263 million by CPP Investments directly, compared to $359 million in the prior year, and $4,832 million by the investment holding subsidiaries, compared to $4,078 million one year earlier. The combined increase of $658 million was primarily due to new guarantees relating to private investments during the fiscal year. (See Note 18 of the Financial Statements on page 174.)

Key performance and non-IFRS measures

The disclosure of certain non-International Financial Reporting Standards (IFRS) measures, as described below, is intended to provide readers with a better understanding of Management's perspective on the Fund's performance. These measures enhance the comparability of the financial performance for the fiscal year ended March 31, 2020 with the results from previous years. Non-IFRS measures do not have a standardized meaning under IFRS and may not be comparable to similar measures disclosed by other institutions.

In alignment with the Fund's long-term investment approach, Management discloses five- and 10-year performance measures that extend beyond the year-over-year comparison in the Financial Statements and Notes. The Management's Discussion and Analysis discloses select financial results both on a dollar and percentage basis. Financial measures reported as percentages are calculated relative to average asset balances.

Financial Statement Definition	Management's Discussion and Analysis (MD&A) Definition	IFRS value $M	MD&A value $M
Investment liabilities on the Consolidated Balance Sheet that are related to borrowings include: • *Debt financing liabilities*, which consists of commercial paper payable and term debt; • *Securities sold under repurchase agreements and cash collateral received on securities lent*, which consists of secured borrowings under repurchase agreements and the *cash collateral payable on securities lending transactions*; and • *Short-term secured debt*, which consists of cash advances from prime brokers that are fully collateralized by securities.	As disclosed in the Risk Management section of the MD&A, the *Total Financing Liabilities* measure includes all financing activities that are undertaken to obtain leverage using both on-balance sheet and off-balance sheet items. On-balance sheet leverage includes the issuance of medium- and long-term debt, commercial paper and secured borrowing where CPP Investments pledges collateral. Off-balance sheet financing includes derivatives, which consist primarily of swaps and futures across various asset classes.	$92,172	$102,155
Borrowing costs is reported in the *Consolidated Statement of Comprehensive Income*. *Borrowing costs* is composed of expenses from debt financing liabilities, securities sold under repurchase agreements, prime brokerage and other securities borrowing transactions, as well as securities lending transactions where cash is received. Gains and losses associated with certain interest rate derivatives used as part of financing activities are also included in *borrowing costs*.	*Financing costs* represents the costs associated with the leverage measurement defined in *Total Financing Liabilities*, as described above. *Financing costs* include borrowing costs, as well as the leverage-generating elements of additional derivative transactions.	$1,523	$2,429
Net currency exposures reported in Note 9.4 of the Financial Statements is calculated based on currency in which the investments are denominated. Monetary items on the balance sheet are revaluated based on reporting date rate and investment-related activities (for example: sales, purchases) are converted based on transaction date rate.	*Currency diversification* and *currency return*, disclosed in the Total Fund Performance section of the MD&A, are calculated based on the underlying currency denomination that a particular asset or security is exposed to. For example, an American Depository Receipt (ADR) equity security from Mexico is traded in U.S. dollars. While the investment is denominated in U.S. dollars, the underlying currency is Mexican pesos and that is the basis for calculating measures of *currency diversification* and *currency return*.	$347,617	$348,297
As reported in Note 6 of the Financial Statements, *investment management fees* include payments to external managers who invest and manage capital committed by CPP Investments, whether directly or through funds. They also include performance fees paid when CPP Investments earns a return above a pre-determined hurdle. *Transaction costs* are incremental costs that are directly attributable to the acquisition or disposal of an investment. These costs comprise a variety of non-recurring expenses, including due diligence consulting services, legal and tax advisory fees required to support the acquisition and disposition of private market assets, and, in the case of public markets, commissions paid when trading securities. Under IFRS, *investment management fees* and *transaction costs* reflect costs incurred directly by CPP Investments and exclude those same costs incurred by investment holding subsidiaries.	*Investment management fees* and *transaction costs* disclosed in the Managing Costs section of the MD&A and further referenced in the discussion of the performance of each investment department, reflect the combination of costs directly incurred by CPP Investments and costs incurred indirectly through its investment holding subsidiaries. See Note 6 of the Financial Statements for further details.	$847	$2,198
Investment income, as reported on the *Consolidated Statement of Comprehensive Income*, is the total investment income before any investment-related expense incurred by CPP Investments. It also includes changes in fair value of investment holding subsidiaries, inclusive of investment management fees and transaction costs of these subsidiaries.	*Adjusted investment income* as disclosed in the Managing Costs and the Performance of the Investment Departments sections of the MD&A is investment income, as reported in the *Consolidated Statement of Comprehensive Income* excluding: • Investment management fees and transactions costs incurred by investment holding subsidiaries, and • The difference between financing costs and borrowing costs, as defined in this table.	$15,721	$17,978

ANNEX A-4: 2019 FINANCIAL STATEMENTS

FINANCIAL REVIEW

This annual report contains forward-looking statements reflecting Management's objectives, outlook and expectations as at May 8, 2019.

These statements involve risks and uncertainties. Therefore, our future investment activities may vary from those outlined herein.

03

Performance and Governance

The following information provides analysis of the operations and financial position of the Canada Pension Plan Investment Board and should be read in conjunction with the Financial Statements and accompanying notes for the year ending March 31, 2019. The Financial Statements have been prepared in accordance with International Financial Reporting Standards.

FINANCIAL PERFORMANCE

Fiscal 2019 produced positive returns across all major asset classes despite an equity market downturn in the third quarter of our fiscal year. The fiscal year began on a positive note with global equity markets broadly rising as key economic indicators outlined continued momentum in the economic cycle, particularly in North America. Central banks in both the U.S. and Canada recognized those economic conditions by slowly raising interest rates toward more neutral levels. However, sentiment changed direction in the third quarter as growing concern surrounding the U.S.-China trade conflict, as well as the global economy's vulnerability to higher interest rates in the U.S., and rich valuations led to a stock market sell-off. Third-quarter losses in global equity markets reversed the gains from the previous two quarters and put major indexes in negative territory. Government bonds benefited from a flight to safety, while the outlook for interest rates reversed, as the market consensus shifted from expecting further interest rate hikes from central banks, to anticipating near-term interest rate cuts, which resulted in yield curve inversions in both the U.S. and Canada. In the fourth quarter, global equity markets rebounded, bringing broad indexes back into positive territory, while government bonds extended their gains from December. The Canadian dollar's performance was mixed this year, having little overall impact on Fund results, weakening slightly against the U.S. dollar, while strengthening against the euro and British pound.

The total CPP Fund earned a net return of 8.9% for the year, delivering net income of $32.0 billion after all CPPIB costs. Starting in January 2019, CPPIB received and invested its first contributions to the additional Canada Pension Plan (additional CPP) account. The base Canada Pension Plan (base CPP) account, which at $391.6 billion represented 99.9% of the net investments at the end of the fiscal year, earned a return of 8.9%, or $32.0 billion, net of all costs. The additional CPP account, which at $0.4 billion comprised 0.1% of the net investments, earned a net return of 5.0% since January 2019, or $11.0 million (exclusive of start-up expenses of $9 million). The chart below provides the weightings of the CPP Fund by asset category, as described on page 32.

Asset Mix

	As at March 31, 2019		As at March 31, 2018[1]	
Asset Class	($ billions)	(%)	($ billions)	(%)
Public Equities				
Canadian	7.9	2.0%	8.7	2.4%
Foreign	82.7	21.1%	103.3	29.0%
Emerging	39.4	10.1%	26.4	7.4%
	130.0	33.2%	138.4	38.8%
Private Equities				
Canadian	1.0	0.2%	1.0	0.3%
Foreign	80.0	20.4%	61.8	17.3%
Emerging	12.1	3.1%	9.6	2.7%
	93.1	23.7%	72.4	20.3%
Government Bonds				
Non-marketable	22.2	5.7%	23.6	6.6%
Marketable	63.9	16.3%	53.2	15.0%
	86.1	22.0%	76.8	21.6%
Credit Investments	35.8	9.1%	22.6	6.3%
Real Assets				
Real estate	47.5	12.1%	46.1	12.9%
Infrastructure	33.3	8.5%	28.6	8.0%
Energy and Resources	8.2	2.1%	6.1	1.7%
Power and Renewables	5.1	1.3%	3.0	0.9%
	94.1	24.0%	83.8	23.5%
External Debt Issuance	(30.9)	(7.9%)	(24.1)	(6.7%)
Cash and Absolute Return Strategies[2]	(16.2)	(4.1%)	(13.6)	(3.8%)
Net Investments[3]	392.0	100.0%	356.3	100.0%

1 Certain comparative figures and percentages have been updated to be consistent with the current year's presentation.

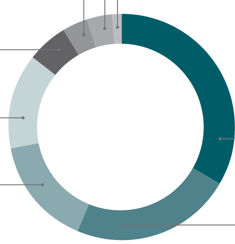
2 The negative balance of $16.2 billion in Cash & Absolute Return Strategies represents the net amount of financing through derivatives and repurchase agreements, and the current net position from Absolute Return Strategies.

3 Includes $391.6 billion of base CPP and $0.4 billion of additional CPP.

The charts below illustrate the global diversification of our portfolio, by region or country and by currency exposure. Canadian assets represented 15.5% of the Fund at the end of fiscal 2019, and totalled $60.9 billion. Foreign assets represented 84.5% and totalled $331.1 billion. Foreign currency exposures represented 84.7% of the Fund. Currency diversification represents the underlying currency exposure of our investments whereas global diversification represents the geographic markets exposure. Private assets made up 54.7% of the portfolio.

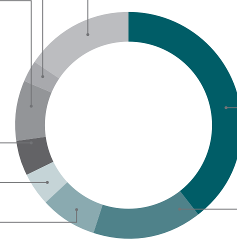
Global Diversification

As at March 31, 2019



Currency Diversification

As at March 31, 2019



Total Fund performance

The CPP Fund ended its fiscal year on March 31, 2019, with net assets of $392.0 billion, an increase of $35.9 billion from the prior year. This increase consisted of $32.0 billion in net income after all CPPIB costs and $3.9 billion in net CPP contributions.

The base CPP net return of 8.9% was driven by strong results from our active programs, as well as a moderate contribution from the Balancing Portfolio, which saw gains across equities, fixed income and credit investments. While global equity markets sold off sharply in Q3, a strong rebound in Q4 put most major indexes firmly in positive territory for the year. The S&P Global LargeMidCap Index gained 6.1% in local currency terms, with most of those gains driven by developed markets, which outperformed emerging markets this year. Among developed markets, the United States and Canada earned 9.5% and 8.1%, respectively, in local currency terms. China's CSI 300 Index was relatively unchanged, with a gain of 1.6% in local terms, and largely contributed to a decline in broader emerging markets measures. China's underperformance reflected ongoing U.S.-China trade tensions, as well as a slowdown in economic growth and domestic deleveraging. India and Brazil earned local gains of 13.2% and 13.3%, respectively.

Fixed income investments performed well this year, reflecting the flight to safety and a reversal in the interest rate outlook in North America. The Canadian and U.S. government bond markets returned 5.4% and 4.2%, respectively, in local currency terms. The U.S. Federal Reserve raised its benchmark interest rate three times for a cumulative increase of 75 basis points to 2.50%, while the Bank of Canada raised its benchmark rate twice for a cumulative increase of 50 basis points to 1.75%. Despite higher rates at the short end of the term structure, medium and long-term rates moved significantly lower in the latter portion of the year, driving positive bond returns and leading to the inversion of yield curves in both the U.S. and Canada.

The impact from foreign currency was small this year, contributing a $0.7 billion gain to the CPP Fund, as the Canadian dollar was slightly weaker against the U.S. dollar in fiscal 2019. Gains from exposure to the U.S. dollar were reduced by losses in the euro and British pound, which weakened against the Canadian dollar. The CPP Investment Portfolio is a global portfolio that holds assets denominated in many foreign currencies. We generally do not hedge these widely diversified currency exposures back to the Canadian dollar – our view on currency hedging is explained on page 27.

The very first contributions related to additional CPP started at the beginning of January 2019. As such, all sums associated with the additional CPP account are very small in absolute terms, and especially in relation to the base CPP account managed by CPPIB, which has benefited from 20 years of cumulative net inflow contributions, not immediately needed to meet current pension obligations, cumulative investment income, and the legacy bond portfolio in place before inception of CPPIB. The amounts of contributions related to additional CPP are also scheduled to be phased in gradually over seven years.

For the first three months of calendar 2019 the additional CPP account delivered an investment return of $11.0 million or 5.0% after all costs, excluding start-up expenses of $9 million. The additional CPP delivered lower net returns compared to the base CPP, mainly due to additional CPP's higher fixed income composition of 53.7% consistent with its structural design to meet its lower risk target.

As a long-term investor, five- and 10-year periods provide a more meaningful assessment to evaluate the performance of CPPIB's investment strategy. For the five-year period ending March 31, 2019, the CPP Fund generated total net income of $152.0 billion or an annualized nominal return of 10.7% after deducting all CPPIB costs. For the 10-year period, the CPP Fund generated $239.0 billion or an annualized nominal return of 11.1% after all CPPIB costs. In the 27th Actuarial Report on the CPP, it was assumed that the base CPP Fund's long-term prospective net real rate of return will average 3.9% over the 75-year projection period of the Report, after all CPPIB costs and adjusting for inflation. The CPP Fund generated annualized net real returns of 8.9% and 9.2% for the most recent five- and 10-year periods. The next Actuarial Report by the Chief Actuary, expected before the end of the calendar 2019 year, will reflect projections including the additional CPP.

Total Fund Returns[1]

Asset Class	Fiscal 2019	Fiscal 2018
Public Equities		
Canadian	**7.9%**	2.2%
Foreign	**7.5%**	11.0%
Emerging	**(1.7%)**	18.6%
Private Equities		
Canadian	**5.7%**	1.8%
Foreign	**18.0%**	16.0%
Emerging	**11.8%**	19.5%
Government Bonds		
Marketable	**5.3%**	1.6%
Non-marketable	**4.8%**	2.7%
Credit Investments	**8.7%**	6.9%
Real Assets		
Real estate	**6.4%**	9.4%
Infrastructure	**14.0%**	15.2%
Other[2]	**0.0%**	(9.8%)
Total Fund[3]	**9.3%**	11.9%

1 Total Fund returns by asset class are inclusive of both the base and additional CPP accounts, before CPPIB operating expenses.

2 Other real assets consist of Energy & Resources and Power & Renewables investments, including Agriculture.

3 The total Fund return in fiscal 2019 includes performance of $(1.2) billion from currency management activities ($1.5 billion in fiscal 2018), $(0.7) billion from cash and liquidity management activities ($(0.6) billion in fiscal 2018), and $0.6 billion from absolute return strategies ($2.9 billion in fiscal 2018). They are not attributed to an asset class return reported in this table.

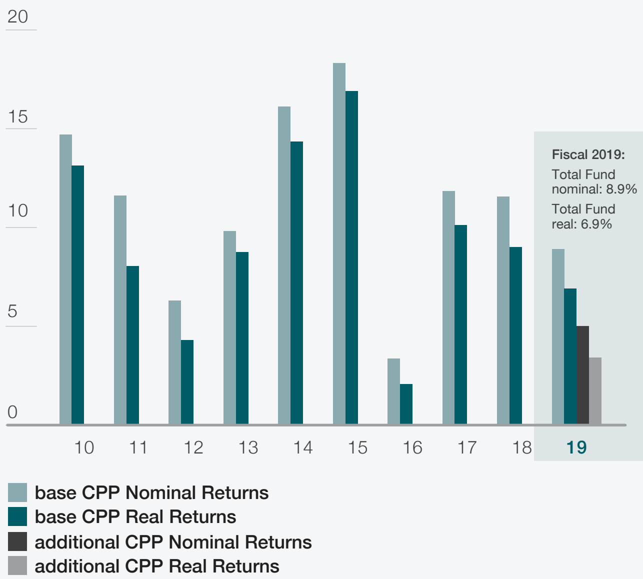
Net Returns

	Fiscal 2019		Fiscal 2018	
	% (annualized)	**$ billions (cumulative)**	% (annualized)	$ billions (cumulative)
base CPP				
1-year return	**8.9%**	**32.0**	11.5 %	36.7
5-year return	**10.7%**	**152.0**	12.1%	150.1
10-year return	**11.1%**	**239.0**	7.9%	183.3
additional CPP				
1-year return[1]	**5.0%**	**0.0**		

1 Return is not annualized given additional CPP inception in January 2019. Additional CPP net return excludes $9 million in start-up expenses.

Rate of Return (Net)

For the years ended March 31 (%)



Reference Portfolios returns

The CPP Reference Portfolios are two-asset passive portfolios comprising public market global equities and nominal bonds issued by Canadian governments, each represented by broad market indexes. As such, they provide a clear benchmark for long-term total returns on the additional CPP and base CPP Investment Portfolios at their respective targeted level of risk. The Reference Portfolios differ between the additional and base CPP accounts to reflect the different risk levels prudently targeted for each of their long-term investment portfolios. See page 22 for more information.

On a longer-term basis, Reference Portfolios rates of return have been as follows:

% (annualized)	Fiscal 2019	Fiscal 2018
base CPP Reference Portfolio Returns		
1-year	6.6%	9.8%
5-year	9.3%	11.2%
10-year	10.7%	7.7%
additional CPP Reference Portfolio Returns		
1-year[1]	7.0%	

1 Return is not annualized given additional CPP inception in January 2019.

Performance against Reference Portfolios

The CPP Fund earned a net return of 8.9% and net income of $32.0 billion in fiscal 2019 after deducting all costs. This result is above the aggregated Reference Portfolios' returns of both base and additional CPP accounts leading to a net dollar value add of $6.4 billion. The gain of the aggregated Reference Portfolios reflected the moderate return from global equities for the year and the relatively strong performance of Canadian government bonds.

To quantify the value generated by CPPIB's active management, each year we measure the difference between the annual performance of each account and that of its Reference Portfolio in dollar terms, or dollar value-added (DVA), after deducting all costs. For the year ending March 31, 2019, the base CPP Reference Portfolio return of 6.6% resulted in a net DVA of $6.4 billion. The additional CPP account had a very minor effect on this year's DVA result given its recent inception date and relative small asset size. See page 24 for more details on active management and the sources of return.

In single years, differences between the actual net returns and Reference Portfolios' returns are often substantially affected by three factors:

1. Diversification – By design, the Investment Portfolios are more broadly diversified than the Reference Portfolios. The base CPP Investment Portfolio includes major commitments to private asset classes such as private equity, real assets, compared to only two asset classes in the Reference Portfolio with a heavy weight in public equities (85% for fiscal 2019). The additional CPP Investment Portfolio also participates in the same broad range of asset classes and strategies, tempered by its higher weight in government bonds.

Asset Class	Benchmark	2019 Return (%)	2018 Return (%)
Equity	S&P Global LargeMidCap Index[1]	6.7%	11.6%
Fixed Income	FTSE TMX Canada All Governments Nominal Bond Index	5.4%	1.2%
Total base CPP Reference Portfolio[2]		6.6%	9.8%
Total additional CPP Reference Portfolio[2]		7.0%	

1 Net of CPPIB withholding tax, unhedged.

2 Component returns for base CPP and additional CPP Reference Portfolios are the same, but the aggregated returns differ due to different component weighting between the two benchmarks (Equity/Fixed Income weights of 50/50 and 85/15 for additional CPP and base CPP, respectively). In addition, additional CPP Reference Portfolio has partial year results given additional CPP inception in January 2019.

The diversified allocation of CPP Fund assets to major asset classes on average in fiscal 2019 is shown below:

	Fiscal 2019	
Average Asset Class Weights	base CPP	additional CPP[1]
Public Equities	36%	19%
Private Equities	22%	13%
Government Bonds	22%	53%
Credit Investments	8%	5%
Real Assets[2]	24%	14%
Cash and Absolute Return Strategies[3]	(12%)	(4%)
Total	100%	100%

1 Three months average.
2 Includes 13% for real estate, 8% for infrastructure, 2% for energy and resources, and 1% for power and renewables for base CPP, and 7% for real estate, 5% for infrastructure, 1% for energy and resources, and 1% for power and renewables for additional CPP.
3 Net of external debt issuances.

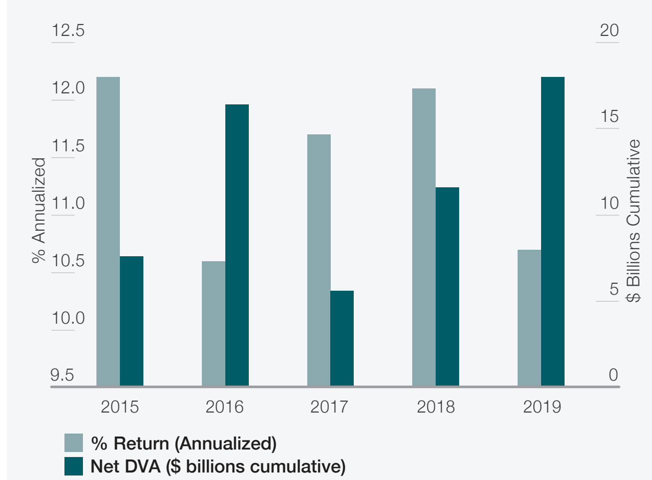
When global public equity markets have a strong year, the public equities-dominated Reference Portfolios' returns will naturally tend to be higher than the more diversified Investment Portfolios. In years when asset class returns are more mixed across the spectrum, and especially when public equity markets are falling, the Investment Portfolios will tend to outperform. Combining a limited degree of leverage in the Fund with much more widely diversified asset class allocations leads to overall positive dollar value-added expected from diversification over the long term.

2. **Investment selection** – Investment selection refers to how we select, buy, sell and weight individual assets in line with their program's mandates and intended factor-exposure appetite, through internal or external management. Generating value-added in the wide set of opportunities in both private and selected public markets requires manager skills. Outperforming markets sustainably is a very challenging task. Nevertheless, we believe that the variety and breadth of our investment programs help stabilize our overall performance.

3. **Valuations** – The values placed on private investments are determined by processes that include independent valuation procedures and the use of external appraisers and valuators. See page 86 for more details about the valuation process. In the short term, private assets tend to exhibit reported investment values that are less volatile than the daily-moving prices of comparable public market equivalents. In periods when public equities rise rapidly, we expect little or even negative reported dollar value-added in private investments, which now comprise 54.7% of the portfolio. Conversely, in periods of sharp public market losses, we expect reported private investments values to be relatively resilient, and thus generate positive reported value-added versus public market equivalents.

We do not place undue emphasis on results in any single year, whether positive or negative. Our investment strategy and decisions intentionally look through horizons spanning multiple years and decades. We focus on tracking absolute and dollar value-added performance over rolling five-year periods. This measurement period aligns with our long-term investment mandate and our compensation framework, as described on page 87. While it does not necessarily represent a full-market cycle, based on historical patterns the five-year period provides a reasonable basis for assessing longer-term performance over multiple such periods.

5-Year Rolling Net Return and DVA



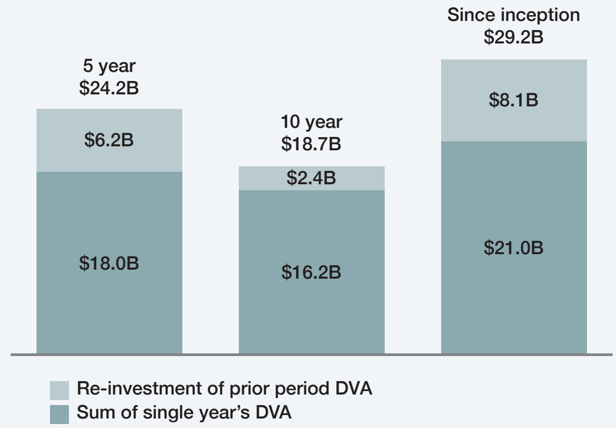
At March 31, 2019, CPPIB has generated $29.2 billion of compounded DVA since inception of active management at April 1, 2006.

The chart at right shows the compounded DVA for the full period since inception, and for the past 10 and five years.

Compounded Dollar Value-Added

Over multiple years, the dollar value-added is not only the sum of every single year's value-added but also the compounding effect of continuous reinvestment of gains (or losses). We therefore calculate compounded dollar value-added as the total net dollar value that CPPIB has added to the Fund over the long term through all sources of active management, above the value that the Fund would have generated had it earned Reference Portfolio returns alone.

Compounded Dollar Value-Added from Active Management



Figures do not add up due to rounding.

Managing total costs

Building CPPIB today and for the future

CPPIB seeks to maximize investment returns without undue risk of loss having regard to the factors that may affect the funding of the CPP. This objective guides all decisions, whether it is creating a new investment program, investing in technology systems, or opening a new office. As a result, we only incur internal or external costs when we are sufficiently confident of enhanced long-term returns for the Fund net of all costs. Further, a decision to either carry out activities with internal resources, or to do so through external partners, is purely an economic calculation in the best interest of the Fund. If we can achieve higher returns using internal resources, we will do so. If the particular program requires more unique capabilities not cost-effectively available internally, we will seek partners. We remain vigilant as we continue to build an organization designed to realize our public purpose.

In 2006, CPPIB made the decision to adopt an active management strategy to build value and generate investment returns that will exceed passive management in the long run after all costs. Our decision to manage the Fund actively was not made lightly. This approach presents significant complexity and comes with costs as it requires resources to build an enduring, skills-based organization with diverse, internationally competitive investment programs each designed to maximize long-term, risk-adjusted returns after all costs.

To evaluate active management, we continually measure results relative to risk against available alternatives. This positions us to deliver superior returns over numerous economic cycles and multiple generations. Ultimately, the benefits of our active management can be distilled down to one word: sustainability. Generating above-market returns over time can help cushion the impact of other factors affecting the sustainability of the CPP in the long term. These include wage growth, demographics, fertility rates, immigration and longevity, all of which are outside the control of CPPIB.

Consistent with the growth in the CPP Fund and the development of our active management strategy, CPPIB's costs have also grown correspondingly over the years. We are continuously building the in-house capabilities required to operate as a global investment organization focused on the future. These capabilities include investment skills, expertise in critical corporate functions, new systems, and the establishment of a local presence in key regions to access investment opportunities and closely manage our investments over the ownership period. It is in the CPP Fund's best interest, from both cost and competitive perspectives, to continue building internal investment expertise and capabilities where CPPIB has comparative advantages. Infrastructure investing is a case in point. We estimate that the costs for an externally managed $21.6 billion pool of committed capital would range on average from $900 million to $1 billion per year. By contrast, the fully costed internal management of our infrastructure portfolio is approximately $88 million.

To obtain the diversification and skills we require, it is not practical to build all capabilities in-house. As a result, we use external managers to complement our internal programs. To ensure we derive the appropriate value from managers, we only partner with top-tier managers and fee arrangements are structured to ensure our interests are aligned. See page 61 for more details.

Our global scale allows us to attract and retain expert professionals from across the world, compete realistically for the world's most attractive investments and win against formidable competitors. It has allowed us to establish and effectively manage 25 distinct investment programs, meeting the goal of diversification and to leverage insights from one program to enhance others.

Scale allows CPPIB to realize the financial benefits of spreading costs over an increasing amount of assets under management. One trend that demonstrates economies of scale is the decreasing ratio of core service professionals to investment professionals. Core services represent business areas such as information technology, legal, operations and finance that partner with and support the investment teams. While the assets we manage and oversee have grown significantly over the years, the ratio of core services to investment professionals has declined. In fiscal 2006, the ratio was 1.18 and has decreased to 0.94 in fiscal 2019.

We regularly assess our cost-effectiveness through participation in external benchmarking studies. Results from the 2018 benchmarking study completed by CEM Benchmarking[1] indicates that CPPIB staffing levels for investment departments are aligned with the benchmark. Meanwhile, the number of full-time equivalent[2] staff in CPPIB's core services remains about 8% lower than the peer comparator benchmark developed by CEM. We continue to monitor these relationships closely and we are comfortable that this level of core services staffing provides us with the resourcing necessary to support investment activities and properly govern and administer the assets we manage. This is especially the case considering the overall profile of the Fund, which gives management considerably more certainty about the amount of capital to be deployed in future decades relative to more significant short-term liabilities associated with most peers. While we benchmark our costs to ensure they are reasonable, CPPIB also participates in benchmarking of our net returns through CEM. For the five-year period ended March 31, 2018 (the most recent data available), our net annualized return of 12.1%, after all costs, was 1.9% higher than the median of our global peer groups and 3.3% higher than the Canadian median.

Growth of CPPIB

The CPP Fund assets are expected to grow to approximately $800 billion by 2030. Given this expected growth, we need the capacity to deploy capital prudently to maximize returns, which requires CPPIB to build capabilities today for the growth of tomorrow.

	Fiscal 2019	Fiscal 2006[1]
Net Assets[2]	**$392.0 billion**	$98.0 billion
% foreign investments	**84.5%**	35.7%
Total employees (full-time)	**1,661**	164
Number of offices	**Eight**	One
Number of investment programs	**25**	Six
Number of external partners	**274**	62

1 Current year results are compared to fiscal 2006 prior to implementing our active management programs.
2 Includes net assets of $391.6 billion for base CPP and $0.4 billion for additional CPP in fiscal 2019.

Cost governance framework

We apply the resources required with the objective to deliver above-market returns. At the same time, we are diligent in exercising control and ensuring value for money spent is delivered to the Fund. Our cost governance framework includes expense-management policies and authorities as well as expense reporting to the Senior Management Team and the Board of Directors. This ensures that we pursue growth in a responsible and cost-effective manner consistent with the Board-approved business plan and operating budget.

In addition, enforcement of our employee travel and expense policy ensures that the expenses incurred are appropriate to the needs of our business. Oversight includes regular reviews by the Assurance & Advisory group. To ensure objectivity, Assurance & Advisory is an independent corporate function that reports functionally to the Chair of the Audit Committee and administratively to the Chief Financial and Risk Officer.

Fiscal 2019 costs

To manage the $392.0 billion portfolio (as at March 31, 2019) and to generate the $32.0 billion of net income after all costs, CPPIB incurred costs of $3,266 million for fiscal 2019.

The costs summarized in the diagram on page 60 reflect the internal and external resources required to invest, manage and govern the CPP Fund assets across 25 distinct investment programs, in 52 countries around the world.

1 CEM Benchmarking Inc. is an independent provider of objective and actionable benchmarking information for large pools of capital including pension funds, endowments/foundations and sovereign wealth funds.
2 Full-time equivalent staffing includes full-time CPPIB employees, contractors and interns.

CPPIB Costs to Invest the CPP Fund

INVESTMENT MANAGEMENT FEES

PAID ON COMMITMENTS AND ASSETS INVESTED

PAID WHEN RETURNS REALIZED

Management fees
$1,138 million

What do they pay for?
Payments to external fund managers to pay for the operating costs they incur in managing the fund.

Why do we incur the costs?
External managers help produce exceptional performance, net of all costs, and diversify the Fund through different strategies and regions.

Performance fees
$448 million

What do they pay for?
High performance and alignment of interests between CPPIB and the external fund managers.

Why do we incur the costs?
A form of profit sharing when returns exceed a predefined percentage hurdle.

Transaction costs
$477 million

What do they pay for?
Legal, financial and tax advisors, consultants and trading commissions.

Why do we incur the costs?
Pursuing complex, large investment opportunities in public and private markets requires us to conduct greater due diligence including complying with international regulatory and tax regimes.

Operating expenses
$1,203 million

What do they pay for?
Personnel, global offices, technology, data and other operating costs.

Why do we incur the costs?
To prudently manage the CPP Fund, we employ top-tier talent and have offices in key markets to access and monitor the best investment opportunities.

Management fees, performance fees and transaction costs are incurred by CPPIB or one of its wholly owned investment holding companies.

The table below illustrates the investment income generated and the associated costs incurred by each investment department to support their activities. Further details are available starting on page 63.

Net Income by Investment Department

	Fiscal 2019							Fiscal 2018[1]	5-year[1]
($ millions)	Total Portfolio Management	Capital Markets and Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Total	Total	Total
Investment Income	10,379	143	1,323	3,161	12,853	7,417	35,276	39,931	166,222
Investment Management Fees	–	730	12	24	562	258	1,586	1,738	7,372
Transaction Costs	44	68	76	48	82	159	477	401	2,035
Net Investment Income	10,335	(655)	1,235	3,089	12,209	7,000	33,213	37,792	156,815
Operating Expenses	253	182	173	113	205	277	1,203	1,053	4,858
Net Income	10,082	(837)	1,062	2,976	12,004	6,723	32,010	36,739	151,957

1 Certain comparatives have been updated to conform with the current year's presentation.

Investment management fees

In order to obtain broad diversification, we seek exposure to a wide range of asset classes, geographic markets and active strategies. In some cases, it would not be practical or cost efficient to build a dedicated in-house team. As a result, we seek well-aligned external managers who have demonstrated the highest capabilities and strong prospective returns, net of all costs incurred. In addition to delivering attractive returns through our fund investments, many of our external manager partners generate attractive investment opportunities for our direct investment platforms.

Investment management fees include payments to private equity fund and hedge fund managers who invest and manage capital committed by CPPIB. They also include performance fees paid when CPPIB earns a return above pre-determined hurdle rates.

The $1,586 million in fiscal 2019 reflects $1,138 million in management fees paid primarily to private equity funds and hedge funds, and $448 million related to investment performance. Investment management fees decreased by $152 million in the fiscal year, driven by lower performance fees paid to external fund managers as a result of underperformance in public market strategies in our second and third fiscal quarters.

Net Income by Account

	Fiscal 2019			Fiscal 2018
($ millions)	base CPP	additional CPP	Total	Total
Investment Income	35,265	11	35,276	39,931
Investment Management Fees	1,586	–	1,586	1,738
Transaction Costs	477	–	477	401
Net Investment Income	33,202	11	33,213	37,792
Operating Expenses	1,194	9	1,203	1,053
Net Income	32,008	2[1]	32,010	36,739

1 Additional CPP net income of $2 million includes $9 million of start-up costs in fiscal 2019.

Use of external fund managers

Over the most recent five-year period, external fund managers for both Capital Markets and Factor Investing (CMF) and Private Equity (PE) funds and secondaries programs have delivered $31.8 billion of net investment income relative to the $4.2 billion in management fees as well as $2.3 billion in performance rewards once certain return hurdles were achieved. Our private equity fund partners have also generated a large number of attractive direct investment opportunities for PE, resulting in $32.2 billion of invested capital since inception and $16.7 billion of net investment income over the last five years with no associated fees.

CMF's External Portfolio Management (EPM) group invests in managers that are expected to generate attractive, sustainable results on a risk-adjusted basis, net of all costs. PE invests in funds managed by private equity partners that we expect will outperform public alternatives on a risk-adjusted basis. When negotiating fees and other terms, our primary focus is achieving alignment between the manager's incentives and our investment goals. Some examples of our approach to improve alignment, reduce costs and increase net returns are noted here.

EPM achieves this by:

- Trading lower management fees for higher performance fees;
- Considering longer commitment periods in exchange for lower fee structures;
- Structuring some management fees as an advance on performance fees;
- Making co-investments to increase net returns to the Fund;
- Instituting performance hurdles; and
- Investing in emerging managers, where we can usually achieve lower fees and secure scarce investment capacity.

Fee arrangements are reviewed regularly, and we negotiated improved fees with several of our managers in fiscal 2019.

PE achieves this by:

- Securing direct investment opportunities while paying no fees by being a large investor in the funds that we select;
- Using our scale to secure larger allocations at reduced fees; and
- Making commitments early in the fundraising process when this allows us to obtain lower fee structures.

We can be limited in our ability to negotiate lower fees when managers are unable to accept significant new commitments, but we have declined allocations to potential target managers when we were unable to negotiate acceptable terms.

Transaction costs

Transaction costs for fiscal 2019 totalled $477 million compared to $401 million in the prior year, an increase of $76 million. This year, we completed 69 transactions valued at more than $300 million, each involving complex due diligence and negotiations.

Transaction costs include a variety of non-recurring expenses, including due diligence consulting services. They also include legal and tax advisory fees required to support the acquisition and disposition of private market assets, or, in the case of public markets, commissions paid when trading securities.

Given the nature of these costs, they will vary from year to year according to the number, size and complexity of our investing activities in any given period. These costs are expected to increase over time as we continue to increase our private asset holdings and dispositions, as well as our public markets trading activities in both developed and emerging markets given the expected growth in the Fund.

Further details on transaction costs are included in the investment department performance sections starting on page 63.

Note 5.1 to the Financial Statements provides additional transaction cost information on page 139.

Operating expenses

Total operating expenses were $1,203 million this year representing 32.8 cents for every $100 of invested assets compared to $1,053 million in fiscal 2018 or 31.5 cents.

Total operating expenses increased $150 million year-over-year due to higher personnel costs and general operating expenses as described below.

Total personnel expenses were $802 million in fiscal 2019, an increase of $90 million versus the prior year. The higher personnel costs reflect the increase in staffing levels from 1,498 to 1,661 regular full-time employees in fiscal 2019 required to manage the growing size of the Fund, and for the incentive compensation which reflects the Fund's strong results. The increase also includes the cost of the re-organization of the investment departments to align with CPPIB 2025 strategy.

To support a growing CPP Fund as well as continued diversification of assets across sectors and geographies, CPPIB has expanded its international operations in key markets over the past five years, particularly in the emerging markets of China, India and Latin America. In fiscal 2014, there were fewer than 50 employees in the Hong Kong, Mumbai and São Paulo offices combined. Today, there are almost 140 employees supporting those offices which will continue to grow in the future as CPPIB looks to manage a higher percentage of assets in fast-growth emerging markets.

General operating expenses of $401 million were $60 million higher on a year-over-year basis. This was largely due to increased strategy development work and business initiatives across the organization, and higher investments in technology and data.

Allocation of costs between the base CPP and the additional CPP

In preparation for the investment, reporting and governance responsibilities associated with additional CPP contribution amounts, CPPIB incurred $23 million of start-up costs. These costs were funded by the base CPP during the start-up period in fiscal 2019. To ensure that these costs and the related accrued interest are ultimately borne by additional CPP rather than base CPP, CPPIB has reimbursed the base CPP account, with interest, using funds transferred to CPPIB on account of the additional CPP before March 31, 2019.

In fiscal 2019, $9 million of the start-up costs were expensed. This amount is excluded from the additional CPP's calculation of net investment returns, since it represents one-time, non-recurring costs that will not be part of normal course additional CPP's operations. However, the $9 million start-up costs are included in the calculation of the total Fund net return.

The remaining $14 million of the start-up costs were incurred in connection with system changes required to establish and manage the new unitized pool structure. These costs are capitalized and included in CPPIB's assets as they reflect an enduring benefit.

CPPIB's total costs consist of investment-related expenses and operating expenses (including the amortization of capital expenditures). CPPIB attributes investment-related expenses to the investment programs that directly incur those expenses and attributes operating expenses arising from investment activities to programs based on underlying cost drivers. Operating expenses arising from governance activities are allocated to programs based on assets under management.

This cost allocation process results in allocations to each of the investment pools based on the investment programs within that pool, and therefore to the base CPP and the additional CPP based on their proportionate holdings of the two pools. As a result, regardless of either account's portfolio composition or the weighting of its investments between the two pools, each account is allocated its proportionate share of costs on a fair and consistent basis.

PERFORMANCE OF THE INVESTMENT DEPARTMENTS

The following section provides details about the assets, activities and performance of each investment department for fiscal 2019. A description of each department's responsibilities is found on page 38. We conduct all of our investment activity in accordance with the Statement of Investment Objectives, Policies, Return Expectations and Risk Management, and the Policy on Sustainable Investing discussed on page 40. These and other Board-approved policies are available on our website, www.cppib.com.

The table below shows the year-end composition of total Fund net investments:

Year-End Composition of Net Investments by Department and Asset Class

($ millions)	Total Portfolio Management	Capital Markets & Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Total
Public Equities	128,645	–	–	–	1,390	–	130,035
Private Equities	–	–	–	6,769	86,314	–	93,083
Government Bonds	85,883	–	–	227	–	–	86,110
Credit Investments	6,155	–	–	29,586	–	–	35,741
Real Assets	–	–	–	–	–	94,125	94,125
External Debt Issuance	(30,861)	–	–	–	–	–	(30,861)
Cash and Absolute Return Strategies[1]	(17,209)	(31)	1,047	(3)	(8)	(35)	(16,239)
Net Investments	172,613	(31)	1,047	36,579	87,696	94,090	391,994
Absolute Return Strategies – Assets[2]		*66,528*	*63,206*				
Absolute Return Strategies – Liabilities[3]		*(66,559)*	*(62,159)*				

1 Absolute Return Strategies hold offsetting systematic exposures through long and short investments. As a result, their net asset values greatly understate their size and impact on the portfolio.

2 To calculate the size of Absolute Return Strategies on a comparable basis with long-only programs, we calculate Assets (or Assets Under Management) as the sum of the long investments in each of the programs.

3 Includes short positions and hedges of systematic risks arising in Absolute Return Strategies.

This year, we continued to implement a wide range of investment programs, expanded our internal capabilities internationally and further broadened our global reach in pursuit of our long-term objectives. We believe that a local presence in key markets contributes to broader access to investment opportunities around the world. This ensures diligent asset management, while maintaining professionals with expertise specific to each market.

The table below shows the contributions of each investment department to net income, after all CPPIB costs, for the current fiscal year. It also shows the historical five-year period.

Net Income by Investment Department

($ millions)	1-Year	5-Year
Total Portfolio Management	10,082	58,918
Capital Markets and Factor Investing	(837)	5,861
Active Equities	1,062	2,693
Credit Investments	2,976	10,671
Private Equity	12,004	44,284
Real Assets	6,723	29,530
Total[1]	32,010	151,957

1 After all CPPIB costs.

The dollar value-added (DVA) contributions of the investment departments shown in the chart below are measured relative to the respective portfolio's return comparators. The definition of those comparators take into consideration the underlying return-risk factors that represent the specific programs in each department. In the case of the Total Portfolio Management department, it also includes a variety of other impacts contributing to total net dollar value-added, such as foreign currencies, which is excluded from the value-added shown for the other investment departments.

Net Dollar Value-Added Contributions by Investment Department[1]

($ billions)	1-Year	5-Year
Total Portfolio Management	(0.7)	(5.3)
Capital Markets and Factor Investing	(0.8)	3.2
Active Equities	1.1	2.7
Credit Investments	1.3	3.4
Private Equity	3.4	5.4
Real Assets	2.1	8.6
Total	6.4	18.0

1 Foreign currency fluctuations have no impact on value-added of investment departments other than Total Portfolio Management. The currency impact is reported under Total Portfolio Management. See page 66 for more details.

TOTAL PORTFOLIO MANAGEMENT

Fiscal 2019 Net Return ($ billion/%)

$10.1 billion / 6.3%

Net Investments

$172.6 billion

Key Focus this Year

> Launching portfolio design and management of the additional CPP
> Enhancing the Total Portfolio Investment Process and evolving the Exposures Balancing Process
> Developing investment strategy to address climate change risk
> Advancement of Knowledge Sharing and Collaboration framework and tools

SUMMARY

Total Portfolio Management

(%)	Fiscal 2019	Fiscal 2018
Returns		
1-year	**6.4%**	10.0%
1-year net	**6.3%**	9.8%
1-year return comparator[1]	**6.7%**	9.2%

($ billions)	Fiscal 2019	Fiscal 2018
Contribution to Dollar Value-Added[1]		
1-year	**(0.7)**	(0.5)
5-year	**(5.3)**	(4.8)

1 Includes net dollar value-added from Balancing Portfolio and diversification.

Total Portfolio Management (TPM) contributes to total Fund investment performance in two major ways, by (1) managing the Balancing Portfolio to achieve the desired set of investment exposures in the Core Pool (see page 21) utilized by the Investment Portfolios of both the base CPP and additional CPP; and (2) designing and directing the construction of the long-term Investment Portfolios given CPPIB's mandate. Global public equity markets have experienced strong performance over the past five years. As a result, the largest element of the contribution to dollar value-added was the broader diversification of the Investment Portfolios beyond the public equity-dominated Reference Portfolios.

Balancing Portfolio Fiscal 2019 Performance
The Balancing Portfolio, which includes leverage and foreign exchange positions, does not itself have targeted asset class or factor weights. Rather, it acts as a completion portfolio of public securities that continuously brings the actual exposures of the Core Pool into alignment with its targeted exposures, once the contributions of the investment programs have been taken into account.

During the fiscal year, the Balancing Portfolio experienced a net return of 6.3% and net income of $10.1 billion, primarily driven by positive returns from Balancing Equity and Balancing Fixed Income programs. Balancing Credit program also added to the net return. The returns are net of TPM's $297 million of costs and comprises transaction costs and operating expenses. Transaction costs of $44 million represent primarily public market commissions and trade settlement costs. Operating expenses were $253 million for the year and include $9 million of additional CPP start-up costs. Operating expenses represent allocations from other departments such as trading execution teams, investment service functions and core services groups as well as TPM's direct expenses. Operating expenses are lower than last year as a result of lower allocated investment service costs.

Balancing Portfolio Composition and Trading Activity:
We have increased the Balancing Portfolio holdings of public equity, fixed income and leverage over the past five years, with more recent

increases in emerging market and credit holdings. These changes progressively aligned the total Investment Portfolio more closely with our desired long-term exposures.

Over fiscal 2019, TPM sold public developed market equities mainly to offset the equity exposure of a strong pipeline of private deals. We also reduced Canadian equity holdings slightly to make room for additional emerging market equities.

In addition, we deployed capital into China A shares during the fiscal year using our QFII (Qualified Foreign Institutional Investor) quota and the Hong Kong-Shanghai/Shenzhen Stock Connect mechanism.

We traded Balancing Fixed Income portfolio to maintain total portfolio exposures. The Balancing Credit program grew from $3.4 billion to $5.4 billion over the fiscal year.

Net Income for Total Portfolio Management

($ millions)	Fiscal 2019	Fiscal 2018	5-Year
Investment Income	**10,379**	16,730	60,223
Investment Management Fees	**–**	–	–
Transaction Costs	**44**	40	203
Net Investment Income	**10,335**	16,690	60,020
Operating Expenses	**253**	270	1,102
Net Income	**10,082**	16,420	58,918

Major impacts on Investment Portfolio five-year performance (Fiscal 2015–2019):
Two key decisions that have a significant impact on total Fund performance, and for which TPM develops Investment Planning Committee and Board recommendations for each Investment Portfolio, are the overall targeted risk level and the approach to foreign currency exposures. Both of these are longer-term decisions, so they are addressed with a five-year perspective.

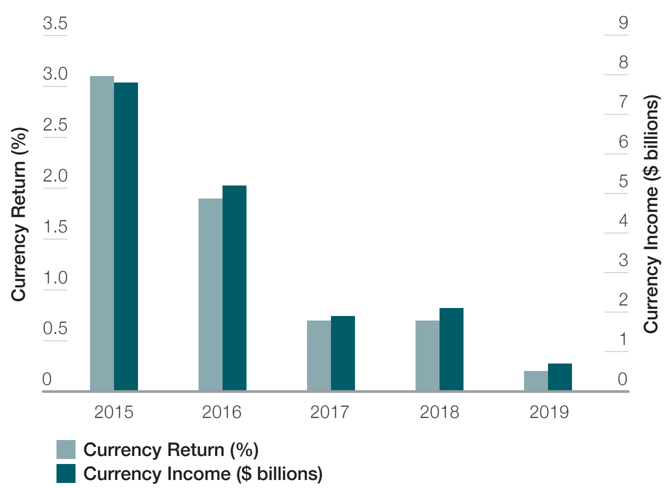
Overall, Investment Portfolio[3] returns include the effects not only of these two basic decisions, but also diversification decisions (for example across programs and strategies) and investment selection decisions within active programs.

Risk Level
To gauge the impact of the overall risk targets, we compare realized returns under alternative Reference Portfolio specifications (see page 30). For fiscal years 2007 through 2015, CPPIB's Reference Portfolio was composed of 65% public equity and 35% sovereign debt. The simulated returns associated with this 65/35 equity/debt Reference Portfolio over the past five fiscal years are a proxy for performance had we not committed to progressively increasing the risk level of the Investment Portfolio over the fiscal years 2016 through 2018. This can be compared with the returns on the actual transition path of the Reference Portfolio from 65/35 at April 1, 2014 to 85/15 with effect from April 1, 2018.

Over the past five years, given the strong equity market returns observed over much of the period, the risk-increasing actual Reference Portfolio outperformed the former 65/35 Reference Portfolio by approximately 84 basis points (annualized) or an increase in CPP Fund value of $12,892 million cumulatively over the five years.

Foreign Currencies Exposure
As noted on page 27, CPPIB has generally elected not to hedge foreign currency exposures back to Canadian dollars. The table below shows the overall foreign currency gain or loss in each of the past five fiscal years, in billion dollar terms and as a percentage of the Investment Portfolio.

Currency Return



The additive impact of foreign currency gains and losses over the past five fiscal years has been a gain of $17.7 billion.

3 The Investment Portfolio analyzed is only that of the base CPP, as additional CPP cash flows were not received until January 2019.

Fiscal 2019 activities

At the end of fiscal 2019, TPM's team comprised 106 professionals. During the year, the team made major strides in furthering its mission to effect optimal management of the total portfolio of assets entrusted to CPPIB as an integrated, risk-appropriate and return-maximizing whole rather than simply as an aggregate of individual investments. Key aspects of TPM's activities are described below.

Launching additional CPP Portfolio Management: TPM provided key inputs in the design and implementation of the investment management required for the assets now being received for the additional CPP account. The new pooled investment structure (see page 20) enables CPPIB to most effectively manage both the base and additional accounts with minimal organizational changes, while fulfilling the expanded mandate. The implementation leverages CPPIB's structural and developed advantages by allowing both accounts to fully participate in all our active and private programs, while efficiently and appropriately allocating risk given the different funding profiles of the two accounts.

Enhancing the TPM Investment Process: To better execute its role, TPM re-stated its management standards and formalized its Investment Committee in Q1 fiscal 2019. The Committee now provides the forum in TPM with clear responsibility for TPM investment decisions and recommendations (including all those going to the Investment Planning Committee or the Board, as explained on page 35). The standards require rigorous rationale and documentation, and the process provides increased transparency across CPPIB.

Evolving the Balancing Process: Since the adoption of the Total Portfolio Investment Framework (see page 29), TPM has been working to design and implement a more precise Balancing Process for managing factors and other exposures of the Core Pool through the Balancing Portfolio, which currently represents approximately 44% of the pool's assets. Following extensive testing, TPM has achieved a well-defined and fully functional Balancing Process for implementation at the start of fiscal 2020, which will result in:

- A more efficient portfolio based on optimal overall diversification of the underlying drivers of risk and return, while limiting transaction costs;
- A fully systematic methodology allowing for clearer attribution and transparency; and
- Improved checks and balances in the process to limit operational risk.

Developing Investment Strategy for Climate Change Risk: In fiscal 2019, TPM continued the build-out of the Emerging Factors team responsible for assessing the impacts of climate change on economic activity and on risks for the total portfolio. The team designed a Climate Change Risk Index a high-level assessment of country-specific climate change risks based on perceived physical and transition impacts. In addition, the team created climate change warming impact scenarios for CPPIB's focus geographies. Further work this year will be conducted to develop a framework for assessing the potential impact of climate change on financial markets and investment exposures.

Advancement of Knowledge Sharing & Collaboration: Knowledge Sharing & Collaboration (KSC) is a key piece of the Knowledge Advantage initiative (see page 45) designed to help us harness the collective wisdom across CPPIB. Led by TPM, KSC addresses the organization's belief that there are major benefits to systematizing and sharing organized knowledge across departments, groups and teams. In fiscal 2019, in addition to bringing in an experienced leader, the KSC team has launched the "Collaboration Portal" to connect employees based on investment experience and expertise, established a monthly call for global Principles and Portfolio Managers, which provides a cross-department forum to discuss current and potential investment themes, and launched the Top Holdings & Expertise Directory.

LOOKING AHEAD

The primary objectives for TPM in fiscal 2020 include:

> Continue to build and enhance frameworks that guide active programs on how to align their investment activities with the Investment Department guidance that define their intended contribution to the total portfolio;

> Implement the new Balancing Portfolio Management Process and continue to enhance the ongoing management of the Balancing Portfolio for optimal efficiency;

> Continuous improvement of portfolio design methods and techniques including: developing world-class portfolio design methodologies; enhancing factor research, including the evaluation of using macroeconomic factors to underpin the construction of the long-term factor exposures; and

> Advance attribution capabilities by evolving the performance measurement framework and methodologies by which CPPIB's investment performance is evaluated through key performance indicators, and by developing programs' portfolio analytics to better inform and enhance future investment management decisions.

CAPITAL MARKETS AND FACTOR INVESTING

AT A GLANCE

Fiscal 2019 Net Return ($ billion/%)

Absolute Return Strategies[1]
-$0.8 billion / n/a

Net Investments

-$31 million in Net Investments

$66.5 billion in Assets Under Management

Key Focus this Year

- Launching the Capital Markets and Factor Investing (CMF) Department and establishing new investment programs
- Facilitating a greater focus on total return and delivering increased emerging markets exposure
- Assisting in the launch of the Supplementary Pool investment process and investing additional CPP funds according to the additional CPP risk target (see page 21 for more details)
- Launching knowledge-sharing and cross-collaboration initiatives

SUMMARY

At the end of fiscal 2019, Capital Markets and Factor Investing (CMF) managed total net investments of -$31 million for CMF's Absolute Return Strategies. Total assets under management under Absolute Return Strategies were $66.5 billion, generally computed as the sum of the values of the long investments in these strategies. The distribution and development of CMF's assets under management for Absolute Return Strategies is shown below at the current and prior year ends. It reflects an increase of $12.5 billion in the current year. The growth of the portfolio was driven mainly by new investment activity.

The following chart shows the contribution to dollar value-added by CMF's Absolute Return Strategies in fiscal 2019. The returns are reported only in dollar amounts because activities are conducted on a market-neutral or long/short basis. In such cases, there is no generally accepted and appropriate underlying asset base for measuring returns in percentage terms.

Capital Markets and Factor Investing

($ billions)	March 31, 2019	March 31, 2018
Absolute Return Strategies (ARS) – Assets		
External Portfolio Management	**39.5**	37.0
Quantitative Strategies and Risk Premia	**16.2**	14.1
Macro Strategies	**8.1**	0.3
Others	**2.7**	2.6
ARS Assets Under Management (AUM)[1]	**66.5**	54.0
ARS Liabilities[2]	**(66.5)**	(53.6)
Net Investments	**–**	0.4

($ billions)	Fiscal 2019	Fiscal 2018
Contribution to Dollar Value-Added		
1-year	**(0.8)**	0.9
5-year	**3.2**	5.0

1 Absolute Return Strategies (ARS) hold offsetting systematic exposures through long and short investments. (See page 26 for more on long and short investing.) As a result, their net asset values greatly understate their size and impact on the portfolio. To calculate the size of Absolute Return Strategies on a comparable basis with long-only programs, we calculate Assets Under Management as the sum of the long investments in each of the programs. Returns for these strategies are reported in dollar values only, since percentage returns on their net asset values do not represent their investment performance.

2 Includes short positions and hedges of systematic risks arising in Absolute Return Strategies.

CMF manages its investments based on a five-year investment horizon, and these results continue to deliver positive net income. Consistent with other public market investors, the CMF portfolio experienced negative performance in fiscal 2019 as investments underperformed the public market equity rally. At the same time, value-oriented factors contributed to losses for quantitative strategies.

During fiscal 2019, CMF's Absolute Return Strategies delivered net income of -$0.8 billion for the Fund and incurred costs of $980 million to support its investing strategies and activities. CMF incurred investment management fees of $730 million representing $327 million paid to external fund managers for performance fees and $403 million for management fees. Performance fees decreased from last year, reflecting lower returns from hedge funds while management fees increased as a result of a higher level of externally managed assets. Transaction costs of $68 million represent primarily public market commissions, trade settlement costs and prime brokerage costs. Transaction costs increased, largely due to growth in the investment programs pursued by the Quantitative Strategies and Risk Premia group during fiscal 2019. Operating expenses of $182 million have increased year-over-year primarily related to higher allocated core services costs required to support the department.

Net Income for Capital Markets and Factor Investing

($ millions)	Fiscal 2019	Fiscal 2018	5-Year
Investment Income	**143**	2,112	11,056
Investment Management Fees	**730**	1,070	4,100
Transaction Costs	**68**	45	249
Net Investment Income	**(655)**	997	6,707
Operating Expenses	**182**	125	846
Net Income	**(837)**	872	5,861

Fiscal 2019 activities

In fiscal 2019, CMF continued to facilitate a greater focus on total return across the base and additional Investment Portfolios and on delivering increased emerging markets exposure. CMF advanced top-down strategic tilting efforts (see page 27), launched new programs within its Macro Strategies (MS) group and expanded its emerging markets capabilities. CMF's team of 161 professionals is located across four global offices.

Quantitative Strategies and Risk Premia

The quantitative equity portfolio underperformed this year due to mixed performance across three factor categories (value, sentiment and quality), with value driving the bulk of underperformance. Quality-based factors performed well this year but it did not deliver sufficient performance to offset losses elsewhere.

The risk premia portfolio contributed to CMF's value-added returns despite heightened volatility stemming from global growth concerns, U.S.-China trade negotiations, Brexit uncertainty, and political instability. Volatility strategies were profitable in equities, interest rates, and currencies, while the commodities volatility strategy experienced losses in the natural gas market in particular. The carry strategies were responsible for gains across government bonds, currencies and commodities, with contributions from value factors more than offsetting losses in trend and carry factors, illustrating the importance of diversifying factor exposures in the portfolio. In fiscal 2019, the Quantitative Strategies and Risk Premia (QSRP) team continued to refine and expand its existing strategies, with a focus on innovation in the areas of portfolio construction, forecasting and risk modelling.

Highlights included:

- Establishing the QSRP team, bringing together investment teams focused on systematic investment strategies across CPPIB to build a portfolio with an attractive risk-return profile;
- Significantly expanding the Risk Premia programs to their full size; and
- Implementing the credit asset class within the Volatility Risk Premium program.

Financing, Collateral and Trading

Financing, Collateral and Trading (FCT) integrated financing, collateral optimization, and execution functions within a centralized model. In line with CPPIB's long-term view, FCT continues to broaden its expertise in emerging markets. FCT implemented platform capabilities to gain exposure into these markets.

FCT continued expanding the term debt program. As a part of that effort, FCT worked in collaboration with multiple departments across the organization to issue CPPIB's inaugural Green Bond, raising $1.5 billion with a term of 10 years. This further diversified CPPIB's investor base. In January 2019, CPPIB issued a second 10-year Green Bond in Europe, raising €1.0 billion.

FCT invested the first series of cash flows received from the Supplementary Pool. It also developed a process to manage residual additional CPP funds in short-term money market instruments and continued to manage cash flows to the CPP.

Macro Strategies
In fiscal 2019, the Macro Strategies (MS) group defined the infrastructure, processes and team that resulted in the launch of its discretionary investment programs in January. Consistent with CPPIB's 2025 vision, the group is building its focus on emerging markets and now has the ability to trade fixed income, equity and currency products across 23 countries. In the short period since approval and launch, MS has generated positive returns.

External Portfolio Management
External Portfolio Management's (EPM) assets under management grew to $39.5 billion from $37.0 billion last year. EPM experienced negative performance in fiscal 2019 due to mixed results across its strategies. Fundamental equity and credit underperformed buoyant markets, although this was partially offset by positive contributions in fixed income and multi-strategy.

EPM continued to scale its portfolio by making further investments in high-conviction managers, and improved portfolio transparency and alignment with our partners. The group added five new mandates and nine co-investments, increased funding to 10 existing mandates and redeemed four mandates. Allocations were made primarily multi strategy, as well as fundamental and quant equity strategies. The portfolio now includes 58 managers, up from 56 at the end of fiscal 2018. Overall, they direct 64 mandates.

Key activities included:

> Completing EPM's first investment in a manager based in India, in addition to another emerging market-focused manager;

> Continuing to scale our co-investment program both in fundamental equity and global macro strategies; and

> Expanding our portfolio of emerging managers, which help reduce the overall fee burden through attractive terms and revenue share agreements.

LOOKING AHEAD

Building on the progress made in fiscal 2019, CMF will focus its efforts on:

> Continuing to facilitate a greater focus on total return through the Strategic Tilting program as well as the Risk Premia programs;

> Further developing programs that support the delivery of desired levels of emerging markets exposure; and

> Enhancing CMF's infrastructure to help scale its investment programs, improve investment agility, and support CPPIB's long-term growth. This growth strategy is set out in the CPPIB 2025 strategy, described on page 29.

ACTIVE EQUITIES

AT A GLANCE

Fiscal 2019 Net Return ($ billion/%)

Absolute Return Strategies[1]
$1.0 billion / n/a

Net Investments

$1.0 billion in Net Investments

$63.2 billion in Assets Under Management

Key Focus this Year

- Increasing the Fund's emerging markets exposure by adding new investments, primarily in Asia and Latin America
- Collaborating with Real Assets to implement the Climate Change Security Selection Framework. This allows investment teams and approval committees to efficiently and effectively identify, assess and price key climate change risks and opportunities
- Launching knowledge-sharing and cross-collaboration initiatives

SUMMARY

At the end of fiscal 2019, Active Equities (AE) managed total net investments of $1.0 billion. Total assets under management, computed as the sum of the values of the long investments in the AE portfolio, were $63.2 billion. That is a $19.2 billion increase compared to fiscal 2018.

The distribution and development of AE's assets under management are shown below at the current and prior year ends.

The following chart also shows AE's contribution to dollar value-added in fiscal 2019. The returns are reported only in dollar amounts, because activities are conducted on a market-neutral or long/short basis. In such cases, there is no generally accepted and appropriate underlying asset base for measuring returns in percentage terms.

Active Equities

($ billions)	March 31, 2019	March 31, 2018
Absolute Return Strategies (ARS) – Assets		
Active Fundamental Equities	**27.5**	20.8
Fundamental Equities Asia	**17.9**	10.4
Relationship Investments	**12.0**	8.0
Thematic Investing	**5.8**	4.8
ARS Assets Under Management (AUM)[1]	**63.2**	44.0
ARS Liabilities[2]	**(62.2)**	(42.9)
Net Investments	**1.0**	1.1

($ billions)	Fiscal 2019	Fiscal 2018
Contribution to Dollar Value-Added		
1-year	**1.1**	1.6
5-year	**2.7**	1.5

1 Absolute Return Strategies (ARS) hold offsetting systematic exposures through long and short investments. As a result, their net asset values greatly understate their size and impact on the portfolio. To calculate the size of Absolute Return Strategies on a comparable basis with long-only programs, we calculate Assets Under Management as the sum of the long investments in each of the programs. Returns for these strategies are reported in dollar values only, since percentage returns on their net asset values do not represent their investment performance.

2 Includes short positions and hedges of systematic risks arising in Absolute Return Strategies.

During fiscal 2019, AE's portfolio delivered net income of $1,062 million for the Fund, and incurred costs of $261 million to support its investing strategies and activities. Transaction costs include public market commissions, trade settlement costs and prime brokerage costs. AE's investment expenses were driven by growth of the portfolio in fiscal 2019. Operating expenses of $173 million increased year-over-year primarily related to higher allocated core services costs required to support the department.

Net Income for Active Equities

($ millions)	Fiscal 2019	Fiscal 2018	5-Year
Investment Income	**1,323**	1,855	3,597
Investment Management Fees	**12**	5	22
Transaction Costs	**76**	54	265
Net Investment Income	**1,235**	1,796	3,310
Operating Expenses	**173**	151	617
Net Income	**1,062**	1,645	2,693

Fiscal 2019 activities

Since its creation in fiscal 2019, AE has continued to increase the size of its portfolio and increased its emerging markets exposure. AE's team grew by 5%, accounting for 131 professionals located across five global offices.

Active Fundamental Equities

The assets under management for the Active Fundamental Equities (AFE) portfolio grew from $20.8 billion to $27.5 billion at the end of the fiscal year. The team manages a concentrated portfolio, comprising 84 active positions, including 19 new securities. AFE performed well in fiscal 2019, primarily in the information technology and communication services sectors. AFE's investment in Mastercard Inc. was the group's largest position and also the top contributor to its performance.

Key investment highlights included investing:

- A further €490 million in E.ON SE, a German utility company that owns and operates electricity and gas grids, as well as energy supply businesses;
- €321 million in ASML Holdings, the world's largest supplier of photolithography systems for the semiconductor industry, based in the Netherlands; and
- US$347 million in Akamai Technology, an American content-delivery network and cloud service.

Fundamental Equities Asia

Despite the volatile market conditions in the region, particularly in China and India, Fundamental Equities Asia (FEA) was a large contributor to AE's positive net income in fiscal 2019. This return was generated by security selection that outperformed, as well as effective risk and hedging management.

The current U.S.-China trade tension has caused a slight slowdown in the Chinese economy and weighed heavily on the regional market sentiment. Chinese equity markets have reflected these challenges, with lowered expectations and valuations. FEA has taken advantage of the market weakness and increased its assets under management by $7.5 billion, reaching $17.9 billion at the end of fiscal 2019. FEA achieved this by increasing its investments at a lowered valuation and researching and incubating new investments in the portfolio.

Key investment highlights included:

- Deploying an additional $1.9 billion in three of the group's largest positions in Chinese firms: Alibaba Group, Tencent Holdings and AIA Group;
- Collaborating with Thematic Investing to invest a total of US$600 million in Ant Financial, China's leading financial services technology platform; and
- Increasing its holdings in China A shares by $1.2 billion through investments in Midea group, CITS and CATL.

Relationship Investments

In fiscal 2019, Relationship Investments (RI) delivered strong performance, mostly from investments in the industrials and communication services sectors. RI deployed approximately $1.7 billion through six new investments and an additional $0.8 billion through follow-on investments in four existing portfolio companies for a total of $2.5 billion capital deployed over the fiscal year. The portfolio's assets under management total $12.0 billion at March 31, 2019 compared to $8.0 billion at the end of last fiscal year. New capital deployment and positive performance of the portfolio also contributed to the changes.

During the year, strong global demand for high-quality professional services and data providers positively contributed to the outperformance of RI's investments in the business services sector. Additionally, RI's investments in the communication services sector including the telecommunications and media & entertainment subsectors have produced high relative returns.

Key investment highlights included:

> An additional US$324 million in IHS Markit, a global data and information services provider, bringing total ownership to 5.5%;

> €318 million in Cellnex Telecom, an independent operator of wireless telecommunications and broadcast infrastructure in Europe, for 4.95% ownership in the company; and

> An additional €120 million in Elis, the European leader in commercial linen and workwear rental and laundry services, bringing the group's total ownership to 12.4%.

Thematic Investing

In fiscal 2019, Thematic Investing (TI) increased its assets under management from approximately $4.8 billion to $5.8 billion, driven by scaling existing themes and adding a new theme called "Retail 4.0" during the year. Capital was deployed across public and private asset classes, as well as developed and emerging markets.

TI experienced negative performance during the year as mixed results across the individual thematic portfolios was insufficient to offset the losses from the hedge portfolio.

TI continued scaling its exposure and remains concentrated in both consumer discretionary and communication services sectors.

Key activities included:

> Pursuing direct private equity opportunities in a number of early stage companies including Lulu's Fashion Lounge, ChargePoint Inc., Zoox Inc., Urban Compass Inc and Aurora Innovation Inc.

> As mentioned previously, invested in Ant Financial (in collaboration with our FEA Team), which contributed to TI's growing exposure in the Asia region.

Sustainable Investing

During fiscal 2019, Sustainable Investing (SI) spearheaded CPPIB's Climate Change Program, directing the Program Management Office and chairing the Climate Change Management Committee. Working directly with each of the Program's work streams, SI played an important coordinating role across a complex, cross-departmental Program. This ensured CPPIB took full advantage of its internal capabilities, resources and knowledge to the benefit of the Fund.

SI played a leading role in climate change engagement and proxy voting described on page 28. In fiscal 2019, SI supported more than 30 shareholder proposals related to climate change. SI continued to lead and participate in engagements alongside other Canadian and global investors to press large greenhouse gas emitters in oil and gas, utilities and other sectors to improve disclosure related to greenhouse gas emissions, strategies and performance. CPPIB is also on an Advisory Committee of the United Nations-supported Principles for Responsible Investments (PRI). It engages collaboratively with the oil and gas and utilities sectors to encourage companies to reduce methane emissions, improve management of methane emissions and enhance disclosure.

LOOKING AHEAD

Building on the progress made in fiscal 2019, AE will focus its efforts on:

> Increasing its exposure in emerging markets through new investments and in-depth research;

> Advancing knowledge-sharing initiatives and cross-collaboration across the organization, including data and analytics; and

> Further supporting the development of the Climate Change Program across CPPIB.

CREDIT INVESTMENTS

AT A GLANCE

Fiscal 2019 Net Return ($ billion/%)

$3.0 billion / 10.8%

Net Investments

$36.6 billion

Key Focus this Year

- Establishing the new Credit Investments (CI) department to deliver the desired credit exposure for the Fund
- Formalizing a long-term, go-to-market strategy for Mainland China and India
- Continuing to scale our investment activities along the entire credit spectrum

SUMMARY

Credit Investments (CI) assets grew to $36.6 billion at the end of fiscal 2019. This growth was primarily driven by new investment activities of $14.4 billion and valuation gains of $1.2 billion, partially offset by $8.4 billion of dispositions within CI's private holdings. CI's assets represent approximately 9.3% of the CPP Fund, managed by 94 professionals located across four offices globally. As shown on page 75, CI's investments are diversified by industry and geography. The figures exclude Balancing Credit managed by Public Credit which are reported under the Balancing Portfolio.

The first table below summarizes aggregated returns in absolute terms with rates of return calculated on an unhedged time-weighted basis.

The second table shows dollars of dollar value-added.

Credit Investments

(%)	Fiscal 2019	Fiscal 2018
Returns		
1-year excluding foreign currency impact	**9.8**	11.2
1-year	**11.2**	9.2
1-year net	**10.8**	8.7
1-year return comparator[1]	**5.4**	6.4

($ billions)	Fiscal 2019	Fiscal 2018
Contribution to Dollar Value-Added[1, 2]		
1-year	**1.3**	0.8
5-year	**3.4**	2.3

1 Return comparator is the weighted return of return-risk factors representative of the department's investment programs. Dollar value-added is relative to the return comparator.
2 Foreign currency fluctuations have no impact on departmental value-added. See page 27 for more details.

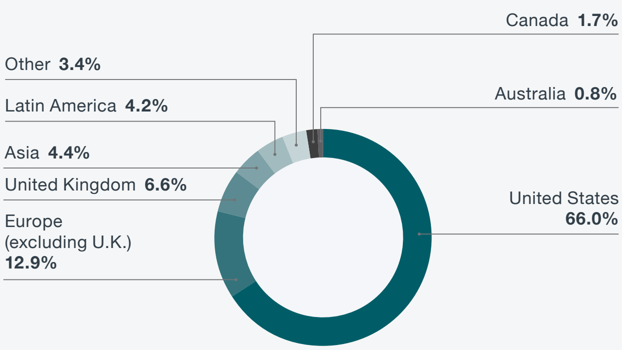
In fiscal 2019, the Credit Investments department delivered strong returns both in absolute and relative terms across all its programs, due to a combination of income flows, realizations, valuation gains and currency gains. The Credit Investments portfolio also continues to outpace the returns of relevant public market indexes over the long term. Over the past five years, the CI portfolio has generated a net return of 11.8% and net income of $10.7 billion.

During fiscal 2019, CI delivered $3.0 billion in net income for the Fund and incurred costs of $185 million to support investment activities. Investment management fees of $24 million mainly represent fees for structured credit and deployment vehicles. Transaction costs of $48 million primarily reflect the professional and advisory services related to acquisitions and dispositions. Transaction costs compared to last year were higher due to increased investment activities. Operating expenses of $113 million for Credit Investments have increased compared to last year due to higher allocated core services as well as personnel costs to support the portfolio's expanded mandate.

The charts below provide a summary of CI's holdings by geography and sector.

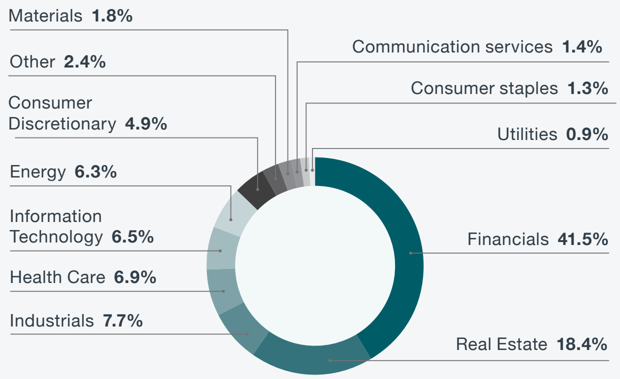
Credit Investments – Geographic Diversification

As at March 31, 2019



Credit Investments – Sector Diversification

As at March 31, 2019



Net Income for Credit Investments

($ millions)	Fiscal 2019	Fiscal 2018	5-Year
Investment Income	**3,161**	2,157	11,397
Investment Management Fees	**24**	13	68
Transaction Costs	**48**	31	233
Net Investment Income	**3,089**	2,113	11,096
Operating Expenses	**113**	94	425
Net Income	**2,976**	2,019	10,671

Fiscal 2019 activities

The CI department was formed in fiscal 2019, bringing together all public and private credit strategies across the Fund. Since the formation of the department, CI has established the organizational structure and investment processes needed to deliver the desired credit exposure for the Fund.

Credit markets experienced significant volatility in fiscal 2019. Credit spreads widened across geographies towards the end of calendar 2018. After outperforming most other asset classes throughout the calendar year, the credit market was ultimately not immune to the broader market sell-off. However, markets have rebounded substantially since the start of calendar 2019, ending the fiscal year with positive total returns.

Despite volatile market conditions, the breadth and flexibility of CI's mandate has enabled the team to deploy significant capital in investments with attractive risk-adjusted returns. In fiscal 2019, CI deployed $14.4 billion in capital across the credit spectrum and geographies.

Americas Leveraged Finance

At year end, Americas Leveraged Finance (ALF) assets totalled $13.3 billion, compared to $10.4 billion at the end of fiscal 2018. The growth in the portfolio was driven primarily by $4.9 billion in new investment activity and $0.8 billion in valuation gains. This was partially offset by dispositions totalling $3.1 billion. A team dedicated to credit investing in Latin America was formally established, and the Latin America portfolio grew to $1.2 billion by the end of the fiscal year.

Notable ALF transactions this fiscal year included:

> Closed a $508 million first-lien secured unitranche financing commitment for a Canadian-based industrials business. ALF and Antares, CI's platform investment, were sole lenders to the facility; and

> Closed a US$85 million term loan investment to Mutant, a provider of customer experience management solutions in Brazil.

Americas Structured Credit and Financials

At year end, Americas Structured Credit and Financials (ASCF) assets totalled $4.7 billion, compared to $4.6 billion at the end of fiscal 2018. The growth in the portfolio was driven primarily by $3.0 billion in new investment activity and $0.2 billion in valuation gains. This was partially offset by portfolio and portfolio distributions, refinancings and dispositions totalling $3.1 billion. ASCF continues to partner with high-quality originators and servicers across asset classes. The group is embracing new data and technology tools to assist with diligence, asset management and identification of new investment opportunities.

Notable ASCF transactions this fiscal year included:

- Committed US$285 million to a newly established vehicle used to purchase equity in collateralized loan obligations managed by Sound Point Capital Management, LP; and
- Acquired a portion of Theravance Biopharma's non-recourse notes, backed by a portion of future royalties related to net sales of Trelegy® Ellipta®, a drug marketed by GlaxoSmithKline for the treatment of respiratory disorders.

APAC Credit

At year end, APAC Credit (APAC) assets totalled $1.2 billion, compared to $1.1 billion at the end of fiscal 2018. The growth in the portfolio was driven primarily by $0.4 billion in new investment activity and $45 million in valuation gains. This was partially offset by dispositions totalling $0.3 billion. During the year, APAC worked with local advisors to formulate a long-term credit investment strategy for two strategic markets: Mainland China and India. It also continued to build out its investment team based in Hong Kong. The group made its first investment in India and executed several transactions in the offshore China credit market.

A notable APAC transaction this fiscal year included:

- Invested CNY704 million in loan financing to support an international sponsor's purchase of a non-performing loan (NPL) portfolio in Mainland China. This portfolio is primarily backed by commercial real estate properties in Guangzhou, one of the four Tier One cities in Mainland China.

European Credit

At year end, European Credit (EC) assets totalled $4.6 billion, compared to $3.0 billion at the end of fiscal 2018. The net growth in the portfolio was driven primarily by $2.1 billion in new investment activity, and $0.1 billion in valuation gains. This was partially offset by dispositions totalling $0.5 billion. The group continued to expand investments into senior secured loans and established a permanent structuring strategy for European non-performing loans.

A notable EC transaction this fiscal year included:

- Invested £75 million in the first-lien secured term loan of ZPG, a digital business offering online property portal and home-services price comparison to consumers primarily in the U.K. Silver Lake Partners took ZPG private in July 2018 alongside GIC and PSP.

Public Credit

Public Credit (PC) manages the Balancing Credit portfolio as part of the Balancing Portfolio for the Fund as well as an active portfolio under CI. The Public Credit portfolio, consisting of liquid investment grade credit products, grew from $3.4 billion to $9.2 billion in fiscal 2019, consisting of $5.4 billion in Balancing Credit and $3.8 billion in Active Public Credit. During fiscal 2019, PC established the Emerging Markets Hard Currency Public Credit program which provides an alternative access point for the diversification benefits of CPPIB's emerging markets exposure. The group also started research into an Emerging Markets Local Currency Public Corporate Credit program.

Real Assets Credit

At year end, Real Assets Credit (RAC) assets totalled $8.9 billion, compared to $6.1 billion at the end of fiscal 2018. The growth in the portfolio was driven primarily by $4.0 billion in new investment activity and $62 million in valuation gains. This was partially offset by dispositions totalling $1.5 billion. The group closed its first investments in Brazil and Poland in fiscal 2019, and started the work to develop an Infrastructure and Power & Renewables go-to-market strategy.

Notable RAC transactions this fiscal year included:

- Participated in A$500 million of seed lending to a newly established fund with Challenger Investment Partners. The fund invests in middle-market real estate loans in Australia and New Zealand;
- Originated a €250 million mezzanine loan investment in Echo Polska Properties N.V., owner of the largest retail property portfolio in Poland; and
- Committed US$375 million to LongPoint Minerals II LLC, the second company launched by the Denver-based group that focuses on the acquisition of oil and natural gas mineral interests in the U.S.

LOOKING AHEAD

With the ability to provide a complete solution across the credit market, CI is focused on scaling the portfolio globally and adding incremental returns in the most efficient manner. Specifically, CI will:

- Further scale its developed markets strategies and fill in the gaps in the credit spectrum;
- Develop a Public Credit active program and grow its emerging markets exposure;
- Develop a framework to price and allocate capital based on best relative value among strategies globally; and
- Use technology and data to enable better investment decision-making and portfolio management.

PRIVATE EQUITY

AT A GLANCE

Fiscal 2019 Net Return ($ billion/%)

$12.0 billion / 16.5%

Net Investments

$87.7 billion

Key Focus this Year

> Realigning the PE department to deliver a global diversified private equity portfolio across a breadth of investment types

> Expanding its opportunity set by partnering with other like-minded long-term investors

> Continuing to actively manage relationships with fund managers to generate deals while enhancing proactive sourcing efforts

SUMMARY

Private Equity's (PE) assets increased from $69.3 billion at the end of fiscal 2018 to $87.7 billion at the end of fiscal 2019. This growth was primarily driven by new investment activities totalling $20.1 billion, valuation gains of $10.6 billion, and foreign exchange gains of $1.6 billion. This was partially offset by distributions of $14.3 billion. PE's total exposure including unfunded commitments was $120.2 billion – an increase of $23.0 billion over the fiscal year. PE has 116 direct investments and maintains 142 manager relationships. The department's portfolio represents approximately 22.4% of the CPP Fund, managed by 153 professionals located across four offices globally. As shown on page 78, PE's investments are diversified by industry and geography.

The table below summarizes aggregated returns in absolute terms with rates of return calculated on an unhedged time-weighted basis, as well as dollars of dollar value-added.

Private Equity

(%)	Fiscal 2019	Fiscal 2018
Returns		
1-year excluding foreign currency impact	**14.4**	17.2
1-year	**16.8**	16.1
1-year net	**16.5**	15.8
1-year return comparator[1]	**8.6**	15.5

($ billions)	Fiscal 2019	Fiscal 2018
Contribution to Portfolio Dollar Value-Added[1, 2]		
1-year	**3.4**	0.8
5-year	**5.4**	0.8

1 Return comparator is the weighted return of return-risk factors representative of the department's investment programs. Dollar value-added is relative to the return comparator.

2 Foreign currency fluctuations have no impact on departmental value-added. See page 27 for more details.

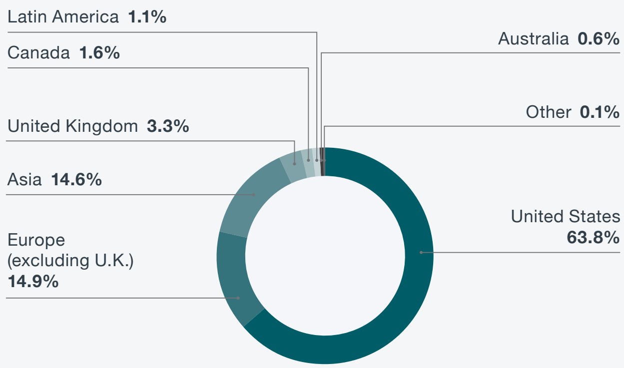
In fiscal 2019, the PE department delivered solid returns both in absolute and relative terms. This was due to a combination of strong income flows and valuation gains. The gains were recorded across programs and a majority of sectors, but primarily resulted from strong operational performance in several portfolio companies within Direct Private Equity. The PE portfolio also continued to outperform the returns of the relevant public equity benchmarks over the long term. Over the past five years, the Private Equity department has generated a net return of 17.1% and net income of $44.3 billion.

During fiscal 2019, PE delivered $12.0 billion in net income for the Fund and incurred costs of $849 million to support investment activities. Investment management fees of $562 million have increased over last year due to increased level of assets managed externally. Transaction costs of $82 million which primarily reflect professional and advisory services related to private market acquisitions and dispositions, were lower than last year. The higher transaction costs last year were attributed to sizeable underwriting costs related to an existing private investment that went public. Operating expenses of $205 million were higher than last year, driven by higher allocated core services and personnel costs to support deal activities.

The charts below provide a summary of PE's holdings by geography and sector.

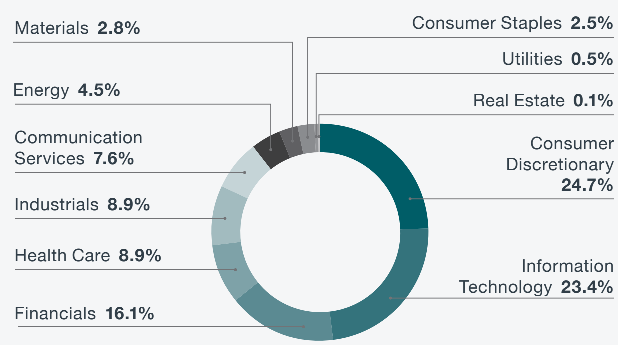
Private Equity – Geographic Diversification

As at March 31, 2019



Private Equity – Sector Diversification

As at March 31, 2019



Net Income for Private Equity

($ millions)	Fiscal 2019	Fiscal 2018	5-Year
Investment Income	**12,853**	10,136	47,858
Investment Management Fees	**562**	523	2,418
Transaction Costs	**82**	120	386
Net Investment Income	**12,209**	9,493	45,054
Operating Expenses	**205**	168	770
Net Income	**12,004**	9,325	44,284

Fiscal 2019 activities

In fiscal 2019, PE deployed $20.1 billion in capital, continuing on its projected growth trajectory despite very competitive market conditions. By taking advantage of CPPIB's scale, the long-term nature of its capital base, internal expertise and partner relationships, PE has been able to expand its business beyond traditional private equity products and continues to source and execute innovative transactions across the groups. Examples include opportunities under the Private Equity Solutions and Structured Secondaries strategies.

The integration of the passive co-investments strategy with Direct Private Equity (DPE) and Private Equity Funds has increased the number of opportunities for passive direct investments. In fiscal 2019, DPE and Private Equity Funds closed 26 co-investments, representing $3.1 billion of invested capital, compared to 12 investments totalling $1.4 billion in fiscal 2018. Consolidating and streamlining the origination and underwriting process to improve execution efficiency made this possible.

The funds programs continued to focus on actively managing their relationships with General Partners (GPs) to generate deals across CPPIB. Meanwhile, the secondary and direct investment programs took a more proactive and systematic approach in deal sourcing and origination to scale our business.

High asset valuations persisted into fiscal 2019 and motivated sponsors to consider cashing in their holdings and finding other ways to generate cash. During the year, PE's distributions totalled $14.3 billion, with $6.9 billion representing original invested capital, $6.8 billion in realized gains and $0.5 billion in dividends and interest income.

Private Equity Funds

During the year, the Private Equity Funds (Funds) portfolio grew from $27.9 billion to $32.7 billion. The growth in the portfolio was primarily driven by $7.0 billion in new invested capital, $3.2 billion in valuation gains and $0.5 billion in foreign exchange gains. This was partially offset by distributions totalling $6.3 billion. The portfolio generated investment gains in all key markets, with North American investments outperforming European investments. Investments in the information technology sector continued to be the top performer as they generated 53% of Funds' investment gains. Although investments in consumer staples underperformed this year, no sectors materially detracted from the net return of the group's portfolio. The Funds group currently has relationships with 77 fund managers across 208 funds, with $55.0 billion of total exposure (up 12% from fiscal 2018).

Fundraising activity by private equity firms remained buoyant in fiscal 2019, as investors continue to allocate significantly to the asset class in pursuit of returns. The Funds group reviewed 60 relevant, on-strategy opportunities and after prudent judgment, made commitments to 16 funds for a total of $7.1 billion. Of these, 13 represented existing relationships, including three that backed adjacent strategies to a GP's core platform. Three relationships were completely new to the program.

The Funds group continued to focus on actively managing its relationships with GPs to generate deals for other investment programs within CPPIB and contribute to the growth of the Fund. Over the year, the group's GPs offered CPPIB 216 opportunities, of which 29 had closed as of March 31, 2019. The total dollar amount of closed opportunities represented $5.8 billion of CPPIB's invested capital, which was invested on a no-fee, no-carry basis.

Direct Private Equity

At year end, the Direct Private Equity (DPE) portfolio consisted of 80 direct investments valued at $32.8 billion compared with 64 valued at $23.2 billion one year earlier. The growth in the portfolio was primarily driven by $6.6 billion in new investment activity, $5.9 billion in valuation gains and $0.6 billion in foreign exchange gains. This was partially offset by dispositions totalling $3.5 billion. The group generated positive net returns of $6.5 billion with contributions from all core strategies.

In fiscal 2019, leveraged buyout valuations remained at cyclical highs, driven by borrower-friendly terms and availability of credit, as well as historically high public equity market valuations. This environment has resulted in downward pressure on prospective returns. Many assets traded at prices that did not meet our expected risk-adjusted returns. The DPE group remains disciplined in underwriting as it executes its investment program and focuses on strategic opportunities to invest alongside strong partners beyond traditional private equity funds. Partners include family offices, like-minded long-term investors, corporations, and entrepreneurs. We differentiate ourselves as a partner of choice due to the stability, scale and long duration of our capital. This year, DPE added two new investments alongside partners who were not managers in the Private Equity Funds portfolio for total invested capital of $2 billion.

DPE scaled up by integrating the former passive co-investments business into the group. It also harmonized processes on origination, underwriting and asset management for smaller, passive investments. In fiscal 2019, DPE originated and closed 17 passive investments representing $2.5 billion of invested capital.

Significant transactions executed by DPE this year included:

- Acquiring a stake in Sportradar, the global leader in sports data analysis, alongside growth equity fund Technology Crossover Ventures, at an enterprise value of €2.1 billion;
- Investing in Berlin Packaging, an American hybrid packaging distributor, as part of a recapitalization deal with Oak Hill Capital Partners; and
- Signing a definitive agreement to invest US$1 billion for a 12% stake in The Ultimate Software Group, Inc. alongside Hellman & Friedman and Blackstone, in a transaction valued at approximately US$11 billion.

Private Equity Asia

During the year, the Private Equity Asia (PE Asia) portfolio grew from $12.4 billion to $13.6 billion in carrying value. The portfolio consists of $8.2 billion (60.4%) in funds, $5.0 billion (36.4%) in direct investments, and $0.4 billion (3.2%) in secondary investments. The majority of PE Asia's investments were based in emerging markets, with 52.0% in Greater China (up from 47.6% in fiscal 2018) and 13.5% in India. The growth in the portfolio was primarily driven by $2.2 billion in new invested capital, $0.3 billion in foreign exchange gains and $0.6 billion in valuation gains. This was partially offset by distributions totalling $1.9 billion. PE Asia generated investment gains in both the funds and direct investments portfolios. Chinese investments were responsible for the majority of PE Asia's gains, which were partially offset by a notable write-down of a direct investment in South Korea.

Private equity investment activity across Asia remained strong in fiscal 2019, with an increase in large deals and transactions with ownership control. China and India continued to lead the region in terms of contribution to market growth. On the funds side, the fundraising market was robust, with over 250 funds raised in Asia during calendar year 2018. PE Asia remained selective against this backdrop and committed to nine managers out of 66 opportunities reviewed. While continuing to support strong existing managers, the PE Asia group also expanded relationships with a healthy mix of emerging and experienced managers across the region. On the direct investment side, PE Asia continued growing its co-investment business and its roster of investment partners. During the year, PE Asia committed $3.0 billion to funds in Asia and closed nine direct investments for $0.8 billion. The group continued to strengthen its partner network, enhance deal origination efforts, and expand its capabilities to pursue scalable, complex transactions. This will contribute to the desired emerging market exposure for CPPIB.

Notable PE Asia transactions this fiscal year included:

> Originating and closing an investment in Think & Learn Pvt. Ltd. (also known as Byju's), the leading educational technology company in India;

> Committing to three growth funds within Sequoia Capital's family of funds, including Sequoia Global Growth Fund III, to gain access to the emerging market and technology sector; and

> Committing to Baring Asia Private Equity VII, the group's third commitment to Baring Asia's private equity fund since commencing the partnership in 2010.

Secondaries

At year end, the Secondaries group assets totalled $8.6 billion, compared to $5.8 billion at the end of fiscal 2018. The growth in the portfolio was primarily driven by $4.3 billion in new invested capital, $0.9 billion in valuation gains and $0.1 billion in foreign exchange gains. This was partially offset by distributions totalling $2.6 billion. Unfunded commitments increased by $1.1 billion to $2.9 billion, for a total exposure of $11.6 billion. As at March 31, 2019, 69.5% of the total exposure was in North America, 20.6% in Europe, 5.5% in Latin America and 4.4% in Asia.

Secondaries delivered strong net returns in all three of its core investment strategies, including recent expansions into Structured Secondaries, Latin America, growth equity and venture capital. Broadening the focus of the group will support continued growth and diversification of the portfolio while allowing for the careful selection of attractive investment opportunities.

Transaction volumes in the private equity secondary market continued to grow due to a variety of cyclical factors and long-term trends, particularly the increased prevalence of GP-led transactions being executed by large, high-quality GPs.

During the year, the group invested $5.5 billion across 13 transactions, including:

> Four LP secondary transactions including an LP portfolio in excess of US$1.5 billion and three large and highly concentrated single manager/LP interest portfolios;

> US$290 million GP commitment financing; and

> US$100 million GP-led fund recapitalization in the venture capital sector.

LOOKING AHEAD

The Private Equity department will continue to support CPPIB's goal of increasing private equity exposure, particularly in emerging markets. It will focus on using technology, data and analytics in its investment decision-making. PE will maintain a large funds program and will further optimize how the department uses General Partner (GP) relationships to generate deals by focusing on relationship returns and portfolio construction. This will ensure efficient capital deployment across all programs with a wide selection of private instruments that can be tailored to specific investment opportunities. Specifically:

> The Private Equity Funds group will focus on building a new Venture Capital program aligned with other CPPIB technology-related initiatives to support the Fund's growth. The group will continue to proactively develop GP relationships to gain better insight into upcoming fundraising activities.

> The Direct Private Equity group will continue to optimize the deal execution process, particularly for smaller, passive investments, to ensure the portfolio can be further scaled in a resource-efficient manner. DPE will also prioritize information technology initiatives that will allow for more systematic performance monitoring, identification of strategic opportunities or threats, and enhanced value creation within our portfolio companies.

> The Private Equity Asia group will continue to deepen its local market expertise and network in the region, with a focus in Greater China and India. The group will build new GP and strategic relationships to support our direct investment capabilities.

> The Secondaries group will continue to execute on its mandate to grow and diversify its portfolio and to support increased active management of the department's mature private equity funds portfolio.

REAL ASSETS

AT A GLANCE

Fiscal 2019 Net Return ($ billion/%)

$6.7 billion / 7.7%

Net Investments

$94.1 billion

Key Focus this Year

- Pursuing growth in emerging markets via existing and select new local partnerships
- Launching a focused effort on the Energy Innovation, Technology and Services sector
- Establishing capabilities to invest in public real estate opportunities through the creation of a Listed Real Estate program
- Streamlining the investment reporting process to improve collaborative sharing of information across the organization

SUMMARY

The Real Assets (RA) portfolio increased from $83.8 billion at the end of fiscal 2018 to $94.1 billion, representing a net increase of $10.3 billion. The change in portfolio value was primarily the net result of several factors: new investment activity totalling $10.5 billion and changes in valuation of $6.5 billion, which was offset by asset dispositions and return of capital of $5.1 billion, distribution income of $1.0 billion and foreign exchange movement during the year of $1.1 billion.

The RA portfolio represents 24.0% of the Fund, managed by 198 professionals located across seven offices globally. The department's geographic footprint spans five continents and consists of 174 investments.

In fiscal 2019, RA further consolidated to include the Energy & Resources (E&R) group. The investment groups within RA, including E&R, share similarities with respect to risk profile and the capital-intensive and long-dated nature of its investment activities. Consolidation of these groups within one department enables the sharing of best practices and better allocation of capital to generate higher risk-adjusted returns. The groups are also among our most globally diverse businesses within the Fund.

Real Assets

(%)	Fiscal 2019	Fiscal 2018
Returns		
1-year excluding foreign currency impact	**9.5**	8.0
1-year	**8.0**	9.0
1-year net	**7.7**	8.7
1-year return comparator[1]	**5.3**	5.6

($ billions)	Fiscal 2019	Fiscal 2018
Contribution to Dollar Value-Added[1, 2]		
1-year	**2.1**	2.1
5-year	**8.6**	6.7

1 Return comparator is the weighted return of return-risk factors representative of the department's investment programs. Dollar value-added is relative to the return comparator.

2 Foreign currency fluctuations have no impact on departmental value-added. See page 27 for more details.

The department's four investment programs performed well on an adjusted basis against their respective performance objectives this year. In particular, the Infrastructure program showed strong performance due to valuation increases.

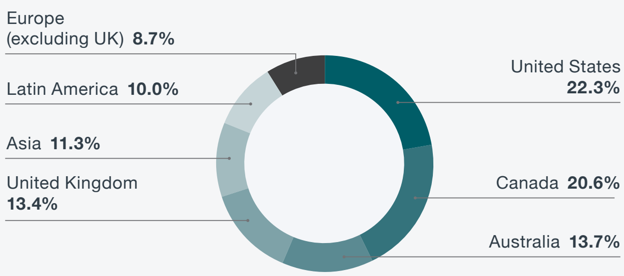
During fiscal 2019, RA delivered net income of $6.7 billion and incurred costs of $694 million to support their investing activities. Investment management fees of $258 million have increased over last year as a result of higher performance fees for real estate investments from increased valuations and realized dispositions.

Transaction costs of $159 million primarily represent professional and advisory services incurred during due diligence related to investment acquisitions and dispositions. Specifically, the increase in transaction costs this year is a result of higher transaction volumes within the Energy & Resources, Power & Renewables and Infrastructure portfolios. Operating expenses of $277 million are higher than last year driven by higher allocated core services costs and personnel costs to support the growing global reach of the portfolio and its investing activities.

The charts below provide a summary of RA's holdings by geography and sector.

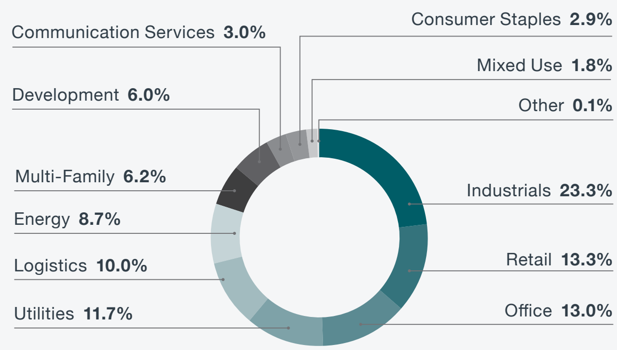
Real Assets – Geographic Diversification

As at March 31, 2019



Real Assets – Sector Diversification

As at March 31, 2019



Net Income for Real Assets

($ millions)

	Fiscal 2019	Fiscal 2018	5-Year
Investment Income	7,417	6,941	32,091
Investment Management Fees	258	127	764
Transaction Costs	159	111	699
Net Investment Income	7,000	6,703	30,628
Operating Expenses	277	245	1,098
Net Income	6,723	6,458	29,530

Fiscal 2019 activities

Transaction volumes for global real assets continued to show growth in fiscal 2019, with a slight slowdown towards the latter half of the year. Global interest rates rose modestly, but still remain low historically, and income-seeking investors continued to allocate additional capital into real assets. This competitive landscape has pushed asset prices upward, dampening forward return expectations, especially for core deals.

RA's approach to acquisitions remains disciplined, yet agile. The department continues to favour situations where its strong partnerships and ability to offer scale, speed and certainty of execution allows access to complex, non-traditional deals that offer attractive return profiles.

Geographically, RA is focused on increasing its exposure to emerging markets such as India, Greater China and Brazil. The department has also been ready to divest certain assets where its original investment expectations played out, or where the market's view on future returns was lower than its own. While down from the pace of divestments RA achieved in fiscal 2018, the RA programs still repatriated $5.1 billion of capital to the CPP Fund in fiscal 2019, primarily from the Real Estate portfolio.

Real Estate

At year end, the Real Estate (RE) portfolio totalled $47.5 billion, an increase of 3.1% from fiscal 2018. The change in portfolio value was primarily the net result of several factors: new investment activity totalling $3.4 billion and $1.9 billion in valuation increases. This was offset by $3.7 billion in return of capital from asset sales and $0.6 billion in foreign exchange losses.

At year end, the RE portfolio consisted of 139 investments with 65 operating partners, managed by a team of 72 professionals across seven offices globally. This portfolio remains well diversified across major markets globally, with 82.5% in developed markets such as U.S., U.K., Canada and Australia, and 17.5% in the emerging markets, including Greater China, India and Brazil. The group's success in these markets can be attributed to its local presence, with almost 90% of its real estate investment professionals located in CPPIB's international offices.

Real estate investments continue to look relatively attractive in an environment where global investors are contending with rising interest rates, elevated trade tensions, political uncertainty and volatility in energy markets. Intense competition continues for core real estate assets in gateway markets calling for continued discipline, yet flexibility in our investment approach. As a result, Real Estate continued to broaden its opportunities this year and increased its investments in emerging markets in order to invest in areas that offer attractive returns on a risk-adjusted basis. The group also established the Listed Real Estate (LRE) program. This allowed it to further enhance the risk-return characteristics of the real estate portfolio by investing in public real estate in efforts to gain exposure to markets and sectors that are absent or under-represented in our current portfolio.

RE also continues to benefit from long-standing relationships with many best-in-class operating partners who are a valuable source of deals. More than 70% of the investment activity this year was made with existing partners such as Goodman Group, Longfor Properties, Global Logistic Properties and Oxford Properties.

Major transactions undertaken by the RE group in fiscal 2019 include:

> Expanding the relationship with Goodman Group and making an initial allocation of up to R$500 million for a 20% interest in the Goodman Brazil Logistics Partnership. This partnership invests in prime logistics and industrial assets in São Paulo and Rio de Janeiro.

> Forming a new investment cooperation alongside Longfor Group Holdings Limited to focus on rental housing programs in Greater China across Tier I and core Tier II cities. The initial targeted investment was approximately US$817 million.

> Forming a new investment vehicle with ESR and Kendall Square Asset Management to invest up to US$500 million in a newly established investment vehicle targeting modern logistics facilities in Korea.

Infrastructure

At year end, the Infrastructure portfolio consisted of 19 direct investments valued at $33.3 billion, compared with $28.6 billion a year earlier. The change in value was primarily the result of $1.9 billion in new investment activity, and $4.9 billion in valuation increases driven by strong portfolio performance and market pricing, This was offset by a $0.5 billion return of capital and dispositions, distribution income of $1.0 billion and $0.6 billion in foreign exchange losses.

The Infrastructure portfolio remains well-diversified globally, with 79.3% in developed markets such as North America, Western Europe and Australia and 20.7% in select emerging markets, primarily in Latin America and India. Infrastructure investments represent 35.4% of the RA portfolio. A team of 48 professionals located across five offices globally manages the Infrastructure portfolio.

Investors continued to dedicate significant amounts of capital into private infrastructure funds, with total global fundraising continuously increasing over prior years. Investors are attracted to the sector as a means of achieving returns that generally do not correlate to public markets, providing the opportunity for higher returns than fixed income alternatives and a hedge against rises in inflation.

The corresponding downward pressure on returns has resulted in many private investors seeking "core-plus" or higher-risk infrastructure investments to earn additional returns. However, CPPIB has remained focused on selecting quality, large-scale core opportunities with dependable partners.

During the year the Infrastructure group was active across its core geographies and markets. It acquired:

> As part of a consortium, a 51% ownership stake in WestConnex, the largest road infrastructure project in Australia. CPPIB holds a 20.5% interest in the consortium's A$9.26 billion ownership stake. CPPIB's investment was approximately A$1.8 billion.

> 30% of the units of IndInfravit Trust, the first private infrastructure investment in India, for approximately C$200 million. The trust focuses on the ownership and development of toll roads and road infrastructure in India.

> 29% of the Pacifico Sur toll road, which provides access between Guadalajara and Tepic in Mexico, for approximately 2.7 billion pesos (C$185 million), investing alongside our partners in another Mexican toll road, Ontario Teachers' Pension Plan and Impulsora del Desarrollo y el Empleo en América Latina, S.A.B. de C.V.

Energy & Resources

At year end, the Energy & Resources (E&R) portfolio consisted of 11 investments valued at $8.2 billion compared with $6.1 billion a year earlier. The growth in the portfolio was driven primarily by $2.8 billion in new investment activity.

The macro environment during fiscal 2019 contributed to another active year for E&R. Volatile commodities and capital markets reacted to the increasing availability of renewable energy, faster adoption rates of electric vehicles and near-term supply shocks. Policy-makers, industry and investors are increasingly re-orienting themselves to a new world order focused on returns over growth and optimization over speed.

This dynamic created an attractive opportunity for patient and flexible capital that believes in the following key energy transition themes:

- Energy demand will grow globally;
- The world will decarbonize;
- Energy infrastructure will recalibrate globally; and
- Traditional energy sources will continue to be important.

Notable E&R transactions this fiscal year included:

- Acquiring all of Chesapeake Energy's Utica Shale oil and gas assets in Ohio via Encino Acquisition Partners (EAP), for US$2.0 billion. EAP was formed in 2017 between CPPIB and Encino Energy to acquire large, high-margin oil and gas production and development assets in the U.S. CPPIB invested approximately US$1.0 billion in EAP and owns 98% of the partnership.
- Entering into a long-term service agreement for the construction and operation of the Alberta Carbon Trunk Line via Wolf Midstream, which is 99% owned by CPPIB. CPPIB invested approximately C$300 million in the project.
- Acquiring 100% of Shell E&P Ireland Limited for €830 million, which holds Shell's 45% interest in the Corrib Offshore Natural Gas Field. This marked E&R's first investment in Europe.

Power & Renewables

At year end, the Power & Renewables (P&R) portfolio consisted of five direct investments valued at $5.1 billion compared with $2.9 billion a year earlier. The growth in the portfolio was driven primarily by $2.4 billion in new investment activity.

Fiscal 2019 saw an acceleration of long-term changes in the power market. Several factors drove the changes, including:

- The increasing cost-competitiveness of renewable generation relative to new and existing conventional generation (such as from coal and natural gas);
- Continued policy support for a transition to a clean electricity system;
- A rise in the direct purchase of renewable power by corporations and communities; and
- The rapid adoption of new power technologies, such as battery storage, to facilitate integration of renewables into the electricity system.

The combined confluence of these trends has created a meaningful investment opportunity for CPPIB's flexible capital. With activity in equity capital markets remaining limited, private capital is now playing a leading role in funding the transition towards renewable generation, allowing for investment opportunities for the P&R portfolio.

Notable P&R transactions this fiscal year included:

- Acquiring all of NextEra Energy Partners' Ontario renewable assets for approximately C$740.4 million. Concurrently, P&R formed a new company, Cordelio Power, to manage these assets.
- Entering into a global joint venture with Enbridge by acquiring a 49% stake in certain U.S. and Canadian operating assets, as well as two in-construction offshore wind projects in Germany, for a total capital commitment of C$2.25 billion. In addition, Enbridge and CPPIB will collectively pursue future offshore wind opportunities in Europe.
- Acquiring the State of São Paulo's stake in Companhia Energética de São Paulo for R$1.9 billion through the group's Brazilian joint venture with Votorantim Energia.

Portfolio Value Creation

In fiscal 2019, Portfolio Value Creation (PVC) expanded its asset management activities to cover all direct investments in which CPPIB has material influence, across all Investment Departments. This comprises all platform investments and direct investments where CPPIB has one or more board seats. In addition to Direct Private Equity, Infrastructure, and Energy and Resources, PVC's expanded mandate now covers Relationship Investments, Thematic Investing, Private Equity Asia, Power and Renewables, and Real Estate.

The PVC group provided transition support from the beginning of CPPIB's ownership in portfolio companies. It also gave 100-day planning for newly acquired companies to establish robust, long-term processes and controls. The group continued to execute a thorough monitoring process across major CPPIB portfolio companies and provided due diligence support.

LOOKING AHEAD

The Real Assets department is very conscious of the ongoing conflict between increased capital being allocated to real assets globally and the risks posed by a decelerating global economy. However, the department believes that real asset investments will continue to generate growing income streams and, therefore, expect total returns that are very attractive on a risk-adjusted basis. Looking ahead to fiscal 2020, RA will focus on:

- Growing its investments with current long-standing relationships and establishing new and scalable relationships;
- Remaining committed to expanding its emerging-markets portfolio, specifically in Greater China, India and Latin America;
- Divesting assets where its business plans have been completed, and where it can capitalize on attractive asset pricing; and
- Continuing to find ways to broaden its horizon and focus on investments that further enhance the risk-return characteristics of the portfolio.

FISCAL 2020 OBJECTIVES

CPPIB's corporate objectives for fiscal 2020 are:

1. Scaling our investment programs and emerging market capabilities, and increasing our global presence.
2. Evolving our enterprise-wide business architecture to guide how we will operate in the future.
3. Operationalizing our new risk framework.
4. Building talent and reinforcing culture on the foundation of our Guiding Principles.
5. Continuing to integrate technology, data and our knowledge collaboration initiative to enhance investment decisions.

ORGANIZATIONAL ACCOUNTABILITY

CEO/CFRO CERTIFICATION

During the year, we completed an evaluation of internal control over financial reporting and disclosure controls and procedures, using the framework and criteria set out in the Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). CPPIB is not required by law or regulation to perform this annual evaluation. We do so voluntarily as part of our commitment to strong corporate governance and accountability.

The CEO and CFRO are responsible for establishing and maintaining internal control over financial reporting to provide reasonable assurance that it is reliable and conforms with International Financial Reporting Standards (IFRS). They are also responsible for the design of disclosure controls and procedures that provide reasonable assurance that all material information is gathered and reported to Management on a timely basis.

No changes were made in our internal control over financial reporting or disclosure controls and procedures that have affected, or are reasonably likely to materially affect, our reporting.

Based on the results of Management's evaluation, the CEO and CFRO have concluded that internal control over financial reporting and the disclosure controls and procedures are properly designed and operated effectively throughout the year.

ACCOUNTING POLICIES AND CRITICAL ESTIMATES

Our significant accounting policies are summarized in note 1 and the respective relevant notes to the annual Consolidated Financial Statements and are important in understanding and interpreting our reported financial results and financial condition.

Certain of these accounting policies require Management to make assumptions and estimates that affect the reported amounts of assets, liabilities, income and expenses. We have established procedures to ensure accounting policies are applied consistently and processes for changing methodologies are well-controlled. Management's most critical accounting estimates are with regard to the determination of fair value for investments and investment liabilities. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is a market-based measurement and therefore incorporates those factors that market participants would consider when pricing an investment or investment liability. Quoted market prices are used to measure the fair value for investments traded in an active market, such as public equities and marketable bonds. Where the market for an investment is not active, such as for private equity, private debt, real assets, and over-the-counter derivatives, fair value is determined by valuation techniques that make maximum use of inputs observed from markets, such as a multiple of earnings derived from a set of publicly traded comparable companies. Additional techniques include the use of recent arm's-length transactions, the current fair value of another investment that is substantially the same, discounted cash-flow analysis, pricing models and other accepted industry valuation methods.

The Valuation Committee is responsible for the oversight of valuation governance, processes and results. Committee members include the Chief Financial and Risk Officer (as Chair) along with select senior representatives from CPPIB's Finance team. We have developed robust quarterly valuation processes to ensure the fair value of our investments are reasonably presented in our financial statements. These processes include independent procedures and the targeted use of external appraisers and valuators.

CPPIB's Finance team includes accredited professionals who prepare or approve fair values independently from the investment team. This ensures a valuation that is free of potential bias. In addition, for a majority of the direct investments, we leverage independent third-party appraisals and external valuation experts at least once per year to support the valuation process. Assets are selected for third-party appraisals through a risk-based approach that is based on both the materiality and complexity of the investments.

For CPPIB's fund investments in private equity and real assets, net asset values (NAVs) are obtained directly from the Investment Manager and represent fair value. CPPIB performs certain procedures to validate our reliance on the NAVs provided by the Investment Manager. These procedures may include: an operational risk review, updating all publicly listed securities to the current reporting date, a cross fund holdings analysis, and ensuring that funds are subject to an independent audit.

Regardless of the techniques used, judgment is required to estimate fair value for investments which are not traded on an active market. Our valuation methodologies for investments and investment liabilities are summarized in note 3 to the annual Consolidated Financial Statements.

ANNEX A-5: 2019 MD&A

MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL REPORTING

The Consolidated Financial Statements of Canada Pension Plan Investment Board (CPP Investment Board) have been prepared by Management and approved by the Board of Directors. Management is responsible for the integrity and reliability of the Consolidated Financial Statements and the financial information contained within the Annual Report.

The Consolidated Financial Statements have been prepared in accordance with International Financial Reporting Standards. The Consolidated Financial Statements include certain amounts based on Management's judgments and best estimates where deemed appropriate. The significant accounting policies used are disclosed in note 1 to the Consolidated Financial Statements. The financial information presented throughout the Annual Report is consistent with the Consolidated Financial Statements.

CPP Investment Board develops and maintains systems of internal control and supporting procedures. The systems of internal control are designed to provide reasonable assurance that assets are safeguarded; that transactions are properly recorded, authorized and are in accordance with the *Canada Pension Plan Investment Board Act*, the accompanying regulations, the by-laws and investment policies of CPP Investment Board; and that there are no material misstatements in the Consolidated Financial Statements or the financial information contained within the Annual Report. The internal control over financial reporting and disclosure controls and procedures are tested for both design and operational effectiveness as part of our CEO/CFRO certification process as described on page 86 of Management's Discussion and Analysis in the 2019 Annual Report.

The internal control framework includes a strong corporate governance structure, an enterprise risk management framework that identifies, monitors and reports on key risks facing the organization, a code of conduct and conflict of interest procedures, and other policies, management authorities and procedures that guide decision-making. The controls also include the establishment of an organization structure that provides a well-defined division of responsibilities and accountability, the selection and training of qualified staff, and the communication of policies, management authorities and procedures throughout the organization. The systems of internal control are further supported by a compliance management system to monitor CPP Investment Board's compliance with legislation, policies, management authorities and procedures and by internal and external auditors who review and evaluate internal controls in accordance with their respective annual audit plans approved by the Audit Committee.

The Audit Committee assists the Board of Directors in discharging its responsibility to approve the Consolidated Financial Statements. The Audit Committee, consisting of independent directors, meets regularly with Management and the internal and external auditors to discuss the scope and findings of audits and other work they may be requested to perform from time to time, to review financial information and to discuss the adequacy of internal controls. The Audit Committee reviews the Consolidated Financial Statements and recommends them to the Board of Directors for approval.

CPP Investment Board's external auditor, Deloitte LLP, has conducted an independent audit of the Consolidated Financial Statements in accordance with Canadian generally accepted auditing standards, performing such tests and other procedures as it considers necessary to express an opinion in its Independent Auditor's Report. The external auditor has full and unrestricted access to management and the Audit Committee to discuss any findings related to the integrity and reliability of CPP Investment Board's financial reporting and the adequacy of internal control systems.

Mark G. Machin
President and Chief Executive Officer

Neil Beaumont
Senior Managing Director & Chief Financial and Risk Officer

Toronto, Ontario
May 8, 2019

INVESTMENT CERTIFICATE

The *Canada Pension Plan Investment Board Act* (CPPIB Act) requires that a certificate be signed by a director on behalf of the Board of Directors, stating that the investments of CPP Investment Board held during the year were in accordance with the CPPIB Act and CPP Investment Board's investment policies, standards and procedures. Accordingly, the Investment Certificate follows.

The investments of CPP Investment Board, held during the year ended March 31, 2019, were in accordance with the CPPIB Act and CPP Investment Board's investment policies, standards and procedures.

Mary Phibbs
Chair of the Audit Committee on behalf of the Board of Directors

Toronto, Ontario
May 8, 2019

INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of Canada Pension Plan Investment Board

Opinion

We have audited the consolidated financial statements of Canada Pension Plan Investment Board ("CPP Investment Board"), which comprise the consolidated balance sheet as at March 31, 2019, and the consolidated statements of comprehensive income, changes in net assets and cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies (collectively referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of CPP Investment Board as at March 31, 2019, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards ("IFRS").

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards ("Canadian GAAS"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of CPP Investment Board in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

Management is responsible for the other information. The other information comprises the information, other than the financial statements and our auditor's report thereon, in the Annual Report.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon. In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

We obtained the Annual Report prior to the date of this auditor's report. If, based on the work we have performed on this other information, we conclude that there is a material misstatement of this other information, we are required to report that fact in this auditor's report. We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

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

Those charged with governance are responsible for overseeing CPP Investment Board's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian GAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian GAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of CPP Investment Board's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on CPP Investment Board's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause CPP Investment Board to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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

Report on Other Legal and Regulatory Requirements

Further, in our opinion, the transactions of CPP Investment Board that have come to our attention during our audit of the financial statements have, in all material respects, been in accordance with the *Canada Pension Plan Investment Board Act* ("CPPIB Act") and the by-laws, as the case may be.

Further, in our opinion, the record of investments kept by CPP Investment Board's management, pursuant to paragraph 39(1)(c) of the CPPIB Act fairly presents, in all material respects, the information required by the CPPIB Act.

Deloitte LLP

Chartered Professional Accountants
Licensed Public Accountants

Toronto, Ontario
May 8, 2019

CONSOLIDATED BALANCE SHEET

(CAD millions)	As at March 31, 2019	As at March 31, 2018
Assets		
Investments (note 2)	$ 494,567	$ 428,827
Pending trades receivable	4,692	2,613
Premises and equipment	387	348
Other assets	244	153
Total assets	499,890	431,941
Liabilities		
Investment liabilities (note 2)	102,864	72,641
Pending trades payable	4,401	2,477
Accounts payable and accrued liabilities	645	689
Total liabilities	107,910	75,807
Net assets	$ 391,980	$ 356,134
Net assets, represented by:		
Share capital	$ –	$ –
Accumulated net income from operations	247,624	215,614
Accumulated net transfers from the Canada Pension Plan	144,356	140,520
Net assets	$ 391,980	$ 356,134

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

On behalf of the Board of Directors

Heather Munroe-Blum
Chairperson

Mary Phibbs
Chair of the Audit Committee

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

(CAD millions)	For the years ended March 31, 2019	March 31, 2018
Investment income	$ 35,276	$ 39,931
Investment management fees	(1,586)	(1,738)
Transaction costs	(477)	(401)
Net investment income (note 5)	$ 33,213	$ 37,792
Personnel costs	802	712
General operating expenses	401	341
Operating expenses (note 12)	1,203	1,053
Net income from operations and comprehensive income	$ 32,010	$ 36,739

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

CONSOLIDATED STATEMENT OF CHANGES IN NET ASSETS

(CAD millions)	Number of shares outstanding	Share capital	Accumulated net transfers from the Canada Pension Plan	Accumulated net income from operations	Total net assets
As at April 1, 2017	10	$ –	$ 137,802	$ 178,875	$ 316,677
Total net income for the year		–	–	36,739	36,739
Canada Pension Plan transfers:					
Transfers from the Canada Pension Plan		–	36,425	–	36,425
Transfers to the Canada Pension Plan		–	(33,707)	–	(33,707)
Balance at March 31, 2018	10	$ –	$ 140,520	$ 215,614	$ 356,134
As at April 1, 2018	**10**	**$ –**	**$ 140,520**	**$ 215,614**	**$ 356,134**
Total net income for the year		**–**	**–**	**32,010**	**32,010**
Canada Pension Plan transfers:					
Transfers from the Canada Pension Plan		**–**	**38,581**	**–**	**38,581**
Transfers to the Canada Pension Plan		**–**	**(34,745)**	**–**	**(34,745)**
Balance at March 31, 2019	**10**	**$ –**	**$ 144,356**	**$ 247,624**	**$ 391,980**

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

CONSOLIDATED STATEMENT OF CASH FLOWS

(CAD millions)	For the years ended March 31, 2019	For the years ended March 31, 2018
Cash flows from operating activities		
Net income from operations	$ 32,010	$ 36,739
Adjustments for non-cash items:		
Amortization of premises and equipment	20	27
Realized and unrealized losses (gains) on debt financing liabilities	895	(152)
Adjustments for net changes in operating assets and liabilities:		
(Increase) in investments	(65,317)	(58,921)
(Increase) decrease in pending trades receivable	(2,079)	621
(Increase) in other assets	(86)	(7)
Increase in investment-related liabilities	23,473	8,078
Increase (decrease) in pending trades payable	1,924	(1,154)
(Decrease) Increase in accounts payable and accrued liabilities	(44)	7
Net cash flows (used in) operating activities	(9,204)	(14,762)
Cash flows from financing activities		
Transfers from the Canada Pension Plan	38,581	36,425
Transfers to the Canada Pension Plan	(34,745)	(33,707)
Proceeds from debt financing liabilities[1]	36,784	59,652
Repayments of debt financing liabilities[1]	(30,929)	(55,360)
Net cash flows provided by financing activities	9,691	7,010
Cash flows from investing activities		
Acquisitions of premises and equipment	(59)	(28)
Disposals of premises and equipment	–	1
Net cash flows (used in) investing activities	(59)	(27)
Net increase (decrease) in cash and cash equivalents	428	(7,779)
Effect of exchange rate changes on cash and cash equivalents	(18)	(1)
Cash and cash equivalents at the beginning of the year	8,296	16,076
Cash and cash equivalents at the end of the year	8,706	8,296
Cash and cash equivalents at the end of the year are comprised of:		
Cash held for operating purposes[2]	88	83
Cash and cash equivalents held for investment purposes[3]	8,618	8,213
Total	$ 8,706	$ 8,296

1 The comparative cash flow figures have been revised for the reclassification of net cash flow of $4,292 million from operating activities to financing activities related to proceeds from and repayments of debt financing liabilities.

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

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

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

CONSOLIDATED SCHEDULE OF INVESTMENT PORTFOLIO

The schedule below provides information on investments and investment liabilities held by CPP Investment Board and its investment holding subsidiaries. The nature of these investments and investment liabilities is further described in note 2.

(CAD millions)	As at March 31, 2019	As at March 31, 2018[1]
Equities		
Public equities	$ 141,189	$ 146,221
Private equities	96,659	75,737
Total equities	237,848	221,958
Fixed income		
Bonds	85,604	63,851
Other debt	27,325	22,183
Money market securities	9,829	8,213
Total fixed income	122,758	94,247
Absolute return strategies	25,512	21,027
Real assets		
Real estate	45,846	44,712
Infrastructure	33,131	27,450
Energy and resources	8,002	5,729
Power and renewables	5,075	2,949
Total real assets	92,054	80,840
Investment receivables		
Securities purchased under reverse repurchase agreements and securities borrowed	11,174	6,164
Derivative assets	3,192	1,918
Other	2,029	2,673
Total investment receivables	16,395	10,755
Total investments	$ 494,567	$ 428,827
Investment liabilities		
Securities sold under repurchase agreements and securities lent	(39,491)	(32,504)
Securities sold short	(29,027)	(13,574)
Debt financing liabilities	(30,861)	(24,056)
Derivative liabilities	(2,330)	(1,712)
Other	(1,155)	(795)
Total investment liabilities	(102,864)	(72,641)
Pending trades receivable	4,692	2,613
Pending trades payable	(4,401)	(2,477)
Net investments	$ 391,994	$ 356,322

1 Certain comparatives have been reclassified to conform to the current year's presentation.

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

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

04

Financial Statements and Notes

CORPORATE INFORMATION

Canada Pension Plan Investment Board (CPP Investment Board) was established in December 1997 pursuant to the *Canada Pension Plan Investment Board Act* (CPPIB Act). CPP Investment Board is a federal Crown corporation, all of the shares of which are owned by Her Majesty the Queen in right of Canada. The issued and authorized share capital of CPP Investment Board is $100 divided into 10 shares with a par value of $10 each.

CPP Investment Board 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). It is responsible for managing amounts that are transferred to it under Section 108.1 of the CPP Act in the best interests of CPP beneficiaries and contributors. CPP Investment Board received its first funds for investing purposes from the CPP in March 1999. CPP Investment Board's assets are to be invested in accordance with the CPPIB Act, the regulations and the investment policies with a view to achieving a maximum rate of return without undue risk of loss, having regard to the factors that may affect the funding of the CPP and the ability of the CPP to meet its financial obligations on any given business day.

In December 2016, Royal Assent was given to Bill C-26 titled *An Act to Amend the Canada Pension Plan,* the *Canada Pension Plan Investment Board Act* and the *Income Tax Act*. These legislative amendments increase the amount of CPP contributions and the corresponding retirement pensions and other benefits that will be paid on CPP contributions made after 2018. The CPP Act now 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 in January 2019. The assets attributable to CPP's additional CPP account are accounted for separately from those of the base CPP account. Note 17 provides information on the net assets, net investments and net income of the base CPP account and additional CPP account. All references to "CPP" mean base CPP and additional CPP collectively.

CPP Investment Board is exempt from Part I tax under Paragraph 149(1) (d) of the *Income Tax Act* (Canada) on the basis that all of the shares of CPP Investment Board are owned by Her Majesty the Queen in right of Canada. Further, all of CPP Investment Board's wholly owned subsidiaries are exempt from Part I tax.

The Consolidated Financial Statements provide information on the net assets managed by CPP Investment Board and do not include the liabilities and other assets of the CPP.

CPP Investment Board's registered office is located at One Queen Street East, Toronto, Ontario, Canada.

The Consolidated Financial Statements were approved by the Board of Directors and authorized for issue on May 8, 2019.

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

AT A GLANCE

This note describes significant accounting policies that are relevant to the Consolidated Financial Statements as a whole. Where an accounting policy is specific to one financial statement element, the policy is described in the note to which it relates.

Use of Estimates, Judgments and Assumptions

The preparation of the Consolidated Financial Statements requires management to make estimates, judgments and assumptions that affect the amounts recognized for assets and liabilities, principally the valuation of financial instruments which are not actively traded. Uncertainty about these estimates, judgments and assumptions may result in outcomes that could require a material adjustment to the carrying amount of the assets or liabilities affected in the future.

1.1 Basis of presentation

These Consolidated Financial Statements present the financial position and the financial performance of CPP Investment Board in accordance with International Financial Reporting Standards (IFRS).

CPP Investment Board qualifies as an investment entity as it meets the following definition of an investment entity outlined in IFRS 10, *Consolidated Financial Statements* (IFRS 10):

- Obtains funds from one or more investors for the purpose of providing those investor(s) with investment management services. In the case of CPP Investment Board, we have one investor (more specifically, we invest amounts transferred from the CPP that are not required to pay current CPP benefits), but the funds are invested in the best interests of a wide group of individuals being the contributors and beneficiaries of the CPP.
- Commits to its investor(s) that its business purpose is to invest funds solely for returns from capital appreciation, investment income, or both.
- Measures and evaluates the performance of substantially all of its investments on a fair value basis.

No significant judgments or assumptions were made in determining that CPP Investment Board meets the definition of an investment entity as defined in IFRS 10.

Statement of compliance

The Consolidated Financial Statements of CPP Investment Board have been prepared in accordance with IFRS as issued by the International Accounting Standards Board and the requirements of the CPPIB Act and the regulations of CPP Investment Board.

1.2 Subsidiaries

CPP Investment Board is required to report the results of its operations in accordance with IFRS 10. As a consequence, the Consolidated Financial Statements represent the results of operations of CPP Investment Board 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 Investment Board.

Subsidiaries that are managed by CPP Investment Board to hold investments are referred to herein as investment holding subsidiaries. Such subsidiaries are not consolidated in these Consolidated 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. The determination of the fair value of the underlying investments and investment liabilities is based on the valuation techniques and related inputs described in note 2.

1.3 Financial instruments

Classification

CPP Investment Board classifies its financial assets and financial liabilities, in accordance with IFRS 9, *Financial Instruments*, as follows:

Financial assets

Financial assets are either classified at fair value through profit or loss (FVTPL) or at amortized cost. The classification depends on (a) the business model for managing the financial assets and (b) the cash flow characteristics of the financial assets. Financial assets are classified at FVTPL on the basis that they are part of a portfolio of investments which is managed to maximize returns without undue risk of loss and whose performance is evaluated on a fair value basis in accordance with investment strategies and risk management of the CPP Investment Board. Financial assets classified at FVTPL include investments in equity, fixed income, absolute return strategies, real assets, derivatives, securities purchased under reverse repurchase agreements and securities borrowed. Financial assets carried at amortized cost are pending trades receivable and other assets.

Financial liabilities

Financial liabilities are either classified at FVTPL or at amortized cost. A financial liability is classified as at FVTPL if it is classified as held for trading, it is a derivative, or it is designated as such on initial recognition.

Financial liabilities at FVTPL are derivative liabilities and securities sold short. Financial liabilities designated at FVTPL include debt financing liabilities, securities sold under repurchase agreements and securities lent and other investment liabilities. Financial liabilities at amortized cost include pending trades payable and accounts payable and accrued liabilities.

Recognition
CPP Investment Board recognizes a financial asset or a financial liability when, and only when, it becomes a party to the contractual provisions of the financial instrument. Investments, investment receivables, investment liabilities, pending trades receivable and pending trades payable are recorded on a trade date basis.

Derecognition
A financial asset is derecognized under the following situations: (a) when the contractual rights to receive the cash flows from the financial asset expire, (b) when CPP Investment Board has transferred the financial asset and substantially all the risks and rewards of the asset, or (c) in cases where CPP Investment Board has neither retained nor transferred substantially all risks and rewards of the asset, it no longer retains control over the asset.

CPP Investment Board derecognizes a financial liability when the obligation under the liability is discharged, cancelled or expires.

Initial measurement
Financial assets and financial liabilities are measured on initial recognition at fair value.

Subsequent measurement
After initial measurement, financial assets and financial liabilities continue to be measured at fair value or amortized cost. Subsequent changes in the fair value of those financial assets and financial liabilities classified at fair value are recorded as a net gain (loss) on investments and included in investment income. Interest income and dividend income from such financial instruments are also included in investment income.

1.4 Functional and presentation currency

CPP Investment Board's functional and presentation currency is the Canadian dollar, which is the currency of the primary economic environment in which it operates. CPP Investment Board's performance is evaluated and its liquidity is managed in Canadian dollars. Therefore, the Canadian dollar is considered to be the currency that most faithfully represents the economic effects of the underlying transactions, events and conditions.

1.5 Foreign currency translation

Transactions, including purchases and sales of investments, income and expenses, are translated at the rate of exchange prevailing on the date of the transaction. Investments and monetary assets and liabilities denominated in foreign currencies are translated at the functional currency exchange rate at each balance sheet date. Non-monetary items in a foreign currency are measured at historical cost using the exchange rates at the dates of the initial transactions.

Foreign currency transaction gains and losses on financial instruments classified at FVTPL are included in investment income in the Consolidated Statement of Comprehensive Income.

NOTE 2. INVESTMENTS AND INVESTMENT LIABILITIES

AT A GLANCE

All investments and investment liabilities are measured at fair value.

This note describes the types of investments and investment liabilities held by CPP Investment Board and its investment holding subsidiaries, and explains how management determines their fair value.

Accounting Policy
Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

CPP Investment Board manages the following types of investments and investment liabilities and determines fair value as described below.

2.1 Equities

Public equities
Public equities are made directly or through funds, including hedge funds.

Fair value for publicly traded equities, including equity short positions, is based on quoted market prices. Fair value for fund investments is generally based on the net asset value reported by the external administrators or managers of the funds.

Private equities
Private equities are generally made directly or through ownership in limited partnership funds.

Fair value for investments held directly is primarily determined using accepted industry valuation methods such as earnings multiples of comparable publicly traded companies or discounted cash flows. Significant inputs for these valuation methods include company-specific earnings before interest, taxes, depreciation and amortization (EBITDA), earnings multiples of comparable publicly traded companies, projected cash flows and discount rates using current market yields of instruments with similar characteristics. Recent market transactions, where available, are also used. In the case of investments held through a limited partnership fund, fair value is generally based on relevant information reported by the general partner using similar accepted industry valuation methods.

2.2 Fixed income

Bonds

Bonds include non-marketable and marketable bonds.

Fair value for non-marketable Canadian provincial government bonds is calculated using discounted cash flows based on current market yields of instruments with similar characteristics. In the case of marketable bonds, including bond short positions, fair value is based on quoted prices or calculated using discounted cash flows based on benchmark yield curves and credit spreads pertaining to the issuer.

Other debt

Other debt includes investments in direct private debt, asset-backed securities, distressed mortgage funds, private debt funds, hedge funds and investments in royalty-related income streams.

Fair value for direct investments in private debt and asset-backed securities is based on quoted market prices or broker quotes or recent market transactions, if available. Where the market price is not available, fair value is calculated using discounted cash flows based on significant inputs such as projected cash flows and discount rates using current market yields of instruments with similar characteristics.

Fair value for fund investments is generally based on the net asset value as reported by the external administrators or managers of the funds.

In the case of investments in royalty-related income streams, fair value is primarily determined using discounted cash flows based on projected cash flows and discount rates using current market yields of instruments with similar characteristics.

Money market securities

Money market securities include cash, term deposits, treasury bills, commercial paper and floating rate notes. Cash equivalents consist of short-term deposits with a maturity of 90 days or less.

Fair value is determined using cost, which, together with accrued interest income, approximates fair value due to the short-term or floating rate nature of these securities.

2.3 Absolute return strategies

Absolute return strategies include investments in hedge funds whose objective is to generate positive returns regardless of market conditions, that is, returns with a low correlation to broad market indices. The underlying securities of the funds could include, but are not limited to, equities, fixed income securities and derivatives.

Fair value for these fund investments is generally based on the net asset value as reported by the external administrators or managers of the funds.

2.4 Real assets

Real estate

CPP Investment Board obtains exposure to real estate through direct investments in privately held real estate and real estate funds. Private real estate investments are managed by investment managers primarily through co-ownership arrangements.

Fair value for private real estate investments is determined using discounted cash flows based on various factors such as net operating income, discount rate and terminal capitalization rate, or using net asset value provided by the investment manager.

Fair value for real estate funds is generally based on the net asset value reported by the external managers of the funds.

Infrastructure, energy and resources, and power and renewables

Infrastructure, energy and resources, and power and renewables investments are generally made directly, but can also occur through limited partnership funds.

The fair value of these investments is primarily determined using discounted cash flows based on significant inputs including projected cash flows and discount rates. Earnings multiples of comparable companies may also be used for determining the fair value of certain investments.

Fair value for investments held through limited partnership funds are generally based on the net asset value as reported by the external managers of the funds.

2.5 Securities purchased under reverse repurchase agreements and sold under repurchase agreements

Accounting Policy

Securities purchased under reverse repurchase agreements represent the purchase of securities with a simultaneous agreement to sell them back at a specified price at a specified future date and are accounted for as an investment receivable. These securities are not recognized on the Consolidated Balance Sheet. The fair value of securities to be resold under reverse repurchase agreements is monitored and additional collateral is obtained, when appropriate, to protect against credit exposure. In the event of counterparty default, CPP Investment Board has the right to liquidate the collateral held.

Securities sold under repurchase agreements are accounted for as collateralized borrowing because they represent the sale of securities with a simultaneous agreement to buy them back at a specified price at a specified future date. The securities sold continue to be recognized on the Consolidated Balance Sheet with any changes in fair value recorded as net gain (loss) on investments and included in investment income.

Interest earned on reverse repurchase agreements and interest incurred on repurchase agreements is included in investment income.

Reverse repurchase and repurchase agreements are carried at the amounts at which the securities were initially acquired or sold, which, together with accrued interest income or expense, approximates fair value due to the short-term nature of these agreements.

2.6 Securities borrowed and lent

Accounting Policy
Securities borrowing and lending agreements are transactions in which CPP Investment Board borrows securities from or lends securities to third parties.

Borrowed securities are not recognized on the Consolidated Balance Sheet. The lent securities remain on the Consolidated Balance Sheet as CPP Investment Board retains substantially all of the risks and rewards of ownership of the transferred securities.

Collateral received or pledged is generally in the form of cash, equities or fixed income securities. Cash collateral received is accounted for as an investment liability while equities and fixed income securities received as collateral are not recognized on the Consolidated Balance Sheet. Cash collateral pledged is accounted for as an investment receivable, while securities collateral pledged by CPP Investment Board in securities borrowing agreements remain on the Consolidated Balance Sheet.

2.7 Securities sold short

Securities sold short represent securities that are sold, but not owned, by CPP Investment Board. CPP Investment Board has an obligation to cover these short positions, which are accounted for as an investment liability based on the fair value of the securities sold. Collateral is pledged to the counterparty, as required. Interest and dividends accrued on securities sold short are included in investment income.

2.8 Debt financing liabilities

Debt financing liabilities consist of commercial paper payable and term debt. Commercial paper payable is recorded at the amount originally issued, which, together with accrued interest expense, approximates fair value due to the short-term nature of these liabilities. Fair value for term debt is based on quoted market prices.

2.9 Derivatives assets and liabilities

A derivative is a financial contract, the value of which is derived from the value of underlying assets, indices, interest rates, currency exchange rates or other market-based factors. Derivatives are transacted through regulated exchanges or negotiated in over-the-counter markets.

Fair value for exchange-traded derivatives, which includes futures, options and warrants, is based on quoted market prices. Fair value for over-the-counter derivatives, which includes forwards, swaps, options and warrants, is determined based on valuation techniques such as option pricing models, discounted cash flows and consensus pricing from independent brokers and/or third-party vendors. Inputs used in these valuation techniques can include, but are not limited to, spot prices, price volatilities, currency exchange rates, interest rate curves and credit spreads. In determining fair value, consideration is also given to the credit risk of the counterparty.

CPP Investment Board uses the types of derivative described below.

Futures and forwards
Futures are standardized contracts transacted on an exchange, whereas forwards are customized over-the-counter contracts negotiated between counterparties. Futures contracts may be cash-settled or require physical delivery of the underlying asset. Examples of futures and forwards are described below.

Equity futures are contractual obligations to purchase or sell a specified quantity of an equity index, a basket of stocks, or a single stock at a predetermined price and date in the future.

Foreign exchange forwards are contractual obligations negotiated between counterparties to either purchase or sell a specified amount of foreign currencies at a predetermined price and date in the future.

Interest rate futures and forwards, including bond futures, are contractual obligations to purchase or sell a specified amount of an interest rate-sensitive financial instrument(s) or index at a predetermined price and date in the future.

Commodity futures are contractual obligations to purchase or sell a specified quantity of a commodity, such as precious metals and energy-related products at a predetermined price and date in the future.

Swaps
Swaps are over-the-counter contracts between two parties to exchange a series of cash flows. Examples of swaps are described below.

Equity-based swaps include equity swaps, volatility swaps and variance swaps. Equity swaps are contracts where one counterparty agrees to pay or receive from the other, cash flows based on changes in the value of an equity index, a basket of stocks, or a single stock in exchange for a return based on a fixed or floating interest rate or the return on another instrument. Volatility and variance swaps are contracts where cash flows are exchanged based on the realized volatility or variance of an equity index, a basket of stocks, or a single stock compared to the fixed strike level specified in the contract, respectively.

Interest rate-related swaps include bond swaps, interest rate swaps and cross-currency interest rate swaps. Bond swaps are contracts in which counterparties exchange the return on a bond, or group of such instruments, for the return on a fixed or floating interest rate or the return on another instrument. Interest rate swaps are contracts where counterparties exchange cash flows based on different interest rates applied to a notional amount in a single currency, with no exchange of a notional amount. Cross-currency interest rate swaps involve the exchange of both interest and notional amounts in two different currencies.

Credit default swaps are contracts that provide credit protection against a specified credit event such as the default or bankruptcy of the underlying financial instrument (referenced asset). The purchaser (buyer) pays a premium to the writer (seller) in return for payment, which is contingent on a credit event affecting the referenced asset. Credit default swaps require the writer to compensate counterparties for the decline in value of the referenced asset as a result of the occurrence of a specified credit event. The notional amount represents the maximum amount payable to these counterparties under these written credit default swap contracts.

Options and warrants

Options are contractual agreements where the seller (writer) gives the purchaser the right, but not the obligation, to buy or sell a specified amount of an equity, currency, interest rate, credit, commodity or other financial instrument at or before a specified future date at a predetermined price. The purchaser pays a premium to the seller for this right. Options can be transacted in standardized amounts on regulated exchanges or customized in over-the-counter markets.

Call or put options may require the writer to sell or purchase the underlying asset at a fixed date or at any time within a fixed future period. Due to the nature of these contracts, CPP Investment Board cannot reasonably estimate the potential maximum amount of future payments.

Warrants are transacted both over-the-counter and through exchanges. Under a warrant, the issuer gives the purchaser the right, but not the obligation, to buy a specified quantity of stock of the issuer at or before a specified future date at a predetermined price.

NOTE 3. FAIR VALUE MEASUREMENT

AT A GLANCE

In an active market, fair value is best evidenced by an independent quoted market price. In the absence of an active market, valuation can be significantly more complex and often subjective, requiring judgment.

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 year and the range of valuation techniques and inputs used.

Accounting Policy

The fair value of CPP Investment Board's investments and investment liabilities is categorized into the following fair value hierarchy based on the level of significant inputs used in the fair value measurement:

- Level 1 – Quoted prices in active markets for identical assets or liabilities;
- Level 2 – Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (as prices) or indirectly (derived from prices); and
- Level 3 – Inputs for the asset or liability that are not based on observable market data (unobservable inputs).

Significant Estimate

Level 3 investments consist of instruments held at fair value that are not traded or quoted in active markets. Fair value is, therefore, determined using valuation techniques that use models with unobservable inputs whilst maximizing the use of inputs observed from markets. The resulting values are particularly judgmental. Refer to note 3.4 for the valuation techniques used to determine the fair value of Level 3 investments.

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3.1 Fair value hierarchy

	As at March 31, 2019			
(CAD millions)	Level 1	Level 2	Level 3	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 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 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

	As at March 31, 2018[2]			
(CAD millions)	Level 1	Level 2	Level 3	Total
Investments				
Equities				
Public equities	$ 136,855	$ 9,093	$ 273	$ 146,221
Private equities	–	1,174	74,563	75,737
Total equities	136,855	10,267	74,836	221,958
Fixed income				
Bonds	36,347	27,504	–	63,851
Other debt	–	5,557	16,626	22,183
Money market securities	–	8,213	–	8,213
Total fixed income	36,347	41,274	16,626	94,247
Absolute return strategies	–	19,442	1,585	21,027
Real assets				
Real estate	–	–	44,712	44,712
Infrastructure	–	–	27,450	27,450
Energy and resources	–	–	5,729	5,729
Power and renewables	–	–	2,949	2,949
Total real assets	–	–	80,840	80,840
Investment receivables				
Securities purchased under reverse repurchase agreements and securities borrowed	–	6,164	–	6,164
Derivative assets	–	1,918	–	1,918
Other	–	2,667	6	2,673
Total investment receivables	–	10,749	6	10,755
Total investments	$ 173,202	$ 81,732	$ 173,893	$ 428,827
Investment liabilities				
Securities sold under repurchase agreements and securities lent	–	(32,504)	–	(32,504)
Securities sold short	(13,574)	–	–	(13,574)
Debt financing liabilities	(17,802)	(6,254)	–	(24,056)
Derivative liabilities	(11)	(1,701)	–	(1,712)
Other	–	(795)	–	(795)
Total investment liabilities	(31,387)	(41,254)	–	(72,641)
Pending trades receivable[1]	–	2,613	–	2,613
Pending trades payable[1]	–	(2,477)	–	(2,477)
Net investments	$ 141,815	$ 40,614	$ 173,893	$ 356,322

1 Pending trades receivable and payable are measured at amortized cost, which is a reasonable approximation of fair value.
2 Certain comparatives have been reclassified to conform to the current year's presentation.

3.2 Transfers between Level 1 and Level 2

During the year ended March 31, 2019, there were $11 million of transfers from Level 1 to Level 2 (March 31, 2018 – $137 million) and $338 million of transfers from Level 2 to Level 1 (March 31, 2018 – $13 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-year values.

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3.3 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 year ended March 31, 2019							
(CAD millions)	Fair value as at April 1, 2018	Gain (loss) included in investment income	Purchases	Sales[1]	Transfers into Level 3[2]	Transfers out of Level 3[2]	Fair value as at March 31, 2019	Change in unrealized gains (losses) on investments still held at March 31, 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 receivable								
Derivative assets	–	2	–	(1)	–	–	1	1
Other	6	(32)	93	–	–	–	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

	For the year ended March 31, 2018[5]							
(CAD millions)	Fair value as at April 1, 2017	Gain (loss) included in investment income	Purchases	Sales[1]	Transfers into Level 3[2]	Transfers out of Level 3[2]	Fair value as at March 31, 2018	Change in unrealized gains (losses) on investments still held at March 31, 2018[3,4]
Investments								
Equities								
Public equities	$ 229	$ 8	$ 66	$ (36)	$ 6	$ –	$ 273	$ 4
Private equities	59,889	10,647	18,940	(13,628)	11	(1,296)	74,563	4,380
Total equities	60,118	10,655	19,006	(13,664)	17	(1,296)	74,836	4,384
Fixed income								
Other debt	15,728	131	8,329	(7,430)	–	(132)	16,626	–
Absolute return strategies	1,536	45	392	(388)	–	–	1,585	(84)
Real assets								
Real estate	38,732	2,864	5,877	(2,761)	–	–	44,712	2,328
Infrastructure	23,467	2,613	1,546	(176)	–	–	27,450	2,676
Energy and resources	3,688	116	1,930	(5)	–	–	5,729	117
Power and renewables	4,432	(865)	–	(618)	–	–	2,949	(638)
Total real assets	70,319	4,728	9,353	(3,560)	–	–	80,840	4,483
Investment receivables								
Derivative assets	1	(1)	–	–	–	–	–	–
Other	–	–	6	–	–	–	6	–
Total investment receivables	1	(1)	6	–	–	–	6	–
Total	$147,702	$ 15,558	$ 37,086	$ (25,042)	$ 17	$ (1,428)	$173,893	$ 8,783

1 Includes return of capital.
2 Transfers into and out of Level 3 are deemed to have occurred at the end of year values.
3 Includes the entire change in fair value for the year for those investments that were transferred into Level 3 during the year, and excludes the entire change in fair value for the year for those investments that were transferred out of Level 3 during the year.
4 Included in investment income.
5 Certain comparatives have been reclassified to conform to the current year's presentation.

During the years ended March 31, 2019 and March 31, 2018, transfers into and out of Level 3 were primarily due to changes in the availability of market observable inputs used to determine fair value.

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3.4 Level 3 – Significant unobservable inputs

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

	As at March 31, 2019				
(CAD millions)	Fair value	Primary valuation techniques used[1,2]	Significant unobservable inputs	Range of input values[3]	Weighted average[3]
Public equities					
Fund investments	$ 208	Net asset value provided by investment manager	–	–	–
Private equities					
Direct	38,106	Earnings multiples of comparable companies	EBITDA multiple	6.1X–16.9X	13.0X
		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 capitalization rate	3.7%–10.5%	5.5%
	25,353	Net asset value provided by investment manager	–	–	–
Fund investments	2,631	Net asset value provided by investment manager	–	–	–
Infrastructure					
Direct	33,080	Discounted cash flow	Discount rate	7.0%–11.9%	8.7%
Fund investments	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%	30%
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.

4 Certain comparatives have been reclassified to conform to the current year's presentation.

			As at March 31, 2018[4]			
(CAD millions)		Fair value	Primary valuation techniques used[1,2]	Significant unobservable inputs	Range of input values[3]	Weighted average[3]
Public equities						
Fund investments	$	273	Net asset value provided by investment manager	–	–	–
Private equities						
Direct		25,896	Earnings multiples of comparable companies	EBITDA multiple	8.5X–15.9X	12.6X
			Discounted cash flow	Discount rate	12.0%–12.9%	12.1%
		6,578	Value provided by investment manager	–	–	–
Fund investments		42,089	Net asset value provided by investment manager	–	–	–
Other debt						
Direct private debt		10,696	Discounted cash flow	Discount rate	5.7%–29.6%	12.1%
Direct private real estate debt		3,581	Discounted cash flow	Discount rate	4.7%–10.1%	6.6%
Asset–backed securities		3	Valuation model by third-party pricing vendor	–	–	–
Fund investments		2,346	Net asset value provided by investment manager	–	–	–
Absolute return strategies						
Fund investments		1,585	Net asset value provided by investment manager	–	–	–
Real estate						
Direct		21,318	Discounted cash flow	Discount rate	5.0%–14.0%	6.3%
				Terminal capitalization rate	3.5%–9.5%	5.2%
		20,071	Net asset value provided by investment manager	–	–	–
Fund investments		3,323	Net asset value provided by investment manager	–	–	–
Infrastructure						
Direct		27,401	Discounted cash flow	Discount rate	7.1%–15.3%	9.6%
Fund investments		49	Net asset value provided by investment manager	–	–	–
Energy and Resources						
Direct		5,729	Discounted cash flow	Discount rate	10.0%–13.6%	11.9%
Power and Renewables						
Direct		2,949	Discounted cash flow	Discount rate	10.0%–11.0%	10.5%
Investment receivables						
Other		6	Value provided by investment manager	–	–	–
Total	$	173,893				

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.

4 Certain comparatives have been reclassified to conform to the current year's presentation.

3.5 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 $7,900 million (March 31, 2018 – $5,200 million) or increase of $5,600 million (March 31, 2018 – $6,000 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 Investment Board.

NOTE 4. DERIVATIVES

AT A GLANCE

CPP Investment Board enters into a variety of derivatives to manage its exposure to currency exchange, credit, interest and other market risks, and to adjust the exposure in its assets and asset classes.

The fair values, notional amounts and contractual maturities of all derivative financial instruments are set out below. Through these breakdowns, information is provided regarding the extent to which different types of derivatives are used.

4.1 Fair value of derivatives

Derivatives generate positive or negative value, as the value of underlying assets, indices, interest rates, currency exchange rates or other market-based factors change such that the previously contracted terms of the derivative transactions have become more or less favourable than what can be negotiated under current market conditions for contracts with the same terms and remaining period to expiry.

The derivative-related market risk is a component of the total portfolio market risk, which is managed through the Risk/Return Accountability Framework described in note 7.

The maximum exposure to credit risk is represented by the positive fair value of the derivative and is normally a small fraction of the contract's notional amount. Negotiated over-the-counter derivatives generally present greater credit exposure than exchange-traded contracts. Credit risk on exchange-traded or centrally cleared contracts is limited because these transactions are either executed on regulated exchanges, or settled through well-capitalized clearing houses that assume the obligation of the writer of a contract and guarantees their performance.

The fair value of derivative contracts is as follows:

(CAD millions)	As at March 31, 2019 Positive fair value	As at March 31, 2019 Negative fair value	As at March 31, 2018 Positive fair value	As at March 31, 2018 Negative fair value
Equity contracts				
Futures	$ –	$ –	$ –	$ –
Swaps	2,164	(1,596)	1,326	(967)
Options:				
Over-the-counter – purchased	1	–	–	–
Over-the-counter – written	–	(41)	–	(12)
Warrants	1	–	–	–
Total equity contracts	2,166	(1,637)	1,326	(979)
Foreign exchange contracts				
Forwards	88	(135)	185	(273)
Options:				
Over-the-counter – purchased	1	–	–	–
Over-the-counter – written	–	(12)	–	(2)
Total foreign exchange contracts	89	(147)	185	(275)
Interest rate contracts				
Futures	–	–	–	–
Forwards	–	–	–	–
Swaps	692	(206)	225	(271)
Options:				
Exchange-traded – purchased	2	–	–	–
Exchange-traded – written	–	(1)	–	–
Over-the-counter – purchased	1	–	–	–
Over-the-counter – written	–	(46)	–	–
Total interest rate contracts	695	(253)	225	(271)
Credit contracts				
Purchased credit default swaps	7	(229)	2	(174)
Written credit default swaps	235	(8)	180	(2)
Options:				
Over-the-counter – written	–	(9)	–	–
Total credit contracts	242	(246)	182	(176)
Commodity contracts				
Futures	–	–	–	–
Options:				
Exchange-traded – written	–	(47)	–	(11)
Total commodity contracts	–	(47)	–	(11)
Total	$ 3,192	$ (2,330)	$ 1,918	$ (1,712)

4.2 Notional amounts of derivatives by terms to maturity

Notional amounts of derivatives represent the contractual amounts to which a rate or price is applied for computing the cash flows to be exchanged. The notional amounts are used to determine the gains/losses and fair value of the contracts. They are not recorded as assets or liabilities on the Consolidated Balance Sheet. Notional amounts do not necessarily represent the amount of potential market risk or credit risk arising from derivatives. The terms to maturity of the notional amounts for derivatives are as follows:

	Terms to maturity					
					As at March 31, 2019	As at March 31, 2018
(CAD millions)	Within 1 year	1 to 5 years	6 to 10 years	Over 10 years	Total	Total
Equity contracts						
Futures	$ 6,386	$ –	$ –	$ –	$ 6,386	$ 532
Swaps	104,749	3,618	–	–	108,367	89,708
Options:						
Over-the-counter – purchased	1	–	–	–	1	–
Over-the-counter – written	1,918	–	–	–	1,918	721
Warrants	–	3	23	–	26	10
Total equity contracts	113,054	3,621	23	–	116,698	90,971
Foreign exchange contracts						
Forwards	16,894	75	–	–	16,969	46,689
Options:						
Over-the-counter – purchased	375	–	–	–	375	–
Over-the-counter – written	4,282	–	–	–	4,282	849
Total foreign exchange contracts	21,551	75	–	–	21,626	47,538
Interest rate contracts						
Futures	4,110	–	–	–	4,110	6,571
Forwards	2,707	–	–	–	2,707	101
Swaps	48,987	24,379	12,422	7,641	93,429	34,645
Options:						
Exchange-traded – purchased	26,719	–	–	–	26,719	–
Exchange-traded – written	26,719	–	–	–	26,719	–
Over-the-counter – purchased	675	–	–	–	675	–
Over-the-counter – written	4,809	–	–	–	4,809	–
Total interest rate contracts	114,726	24,379	12,422	7,641	159,168	41,317
Credit contracts						
Purchased credit default swaps	1,986	10,376	1,410	–	13,772	7,276
Written credit default swaps	1,970	11,681	1,678	8	15,337	7,908
Options:						
Over-the-counter – written	4,676	–	–	–	4,676	–
Total credit contracts	8,632	22,057	3,088	8	33,785	15,184
Commodity contracts						
Futures	3,408	–	–	–	3,408	330
Options:						
Exchange-traded – written	1,847	–	–	–	1,847	538
Total commodity contracts	5,255	–	–	–	5,255	868
Total	$ 263,218	$ 50,132	$ 15,533	$ 7,649	$ 336,532	$ 195,878

NOTE 5. NET INVESTMENT INCOME

AT A GLANCE

Components of net investment income are included below to provide additional information on the nature of the income.

Investment income on investments made through investment holding subsidiaries and not directly held by CPP Investment Board legal entity, are presented as unrealized gains or losses under IFRS 10 in note 5.1. Further details on such investments are provided in note 5.2.

Accounting Policy
The accounting policies related to categories of income and expenses are described below.

Income from investments includes realized gains and losses from investments, changes in unrealized gains and losses on investments, dividend income and interest income. Dividend income is recognized on the ex-dividend date, which is when CPP Investment Board's right to receive the dividend has been established. Interest income is recognized as earned.

Transaction costs are incremental costs that are directly attributable to the acquisition or disposal of an investment. Transaction costs are expensed as incurred and included in net investment income.

Investment management fees, which include hedge fund performance fees, are paid to investment managers for externally managed investments. Investment management fees are expensed as incurred and included in net investment income.

5.1 Net investment income by nature

	For the years ended	
(CAD millions)	**March 31, 2019**	March 31, 2018
Interest, dividends, and other investment income[1]	**$ 20,990**	$ 6,323
Realized gains on private equities and real assets[2]	**49**	78
Unrealized gains on private equities and real assets[2]	**3,651**	1,005
Unrealized gains on investment holding subsidiaries[2] (note 5.2)	**3,291**	17,338
Realized and unrealized gains on public and other investments[2,3]	**7,295**	15,187
Total investment income	**35,276**	39,931
Investment management fees[4]	**(1,586)**	(1,738)
Transaction costs[5]	**(477)**	(401)
Net investment income	**$ 33,213**	$ 37,792

1 Net of interest expense on debt financing liabilities of $507 million (March 31, 2018 – $290 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 $1,140 million (March 31, 2018 – $1,101 million) incurred by investment holding subsidiaries.
5 Includes transaction costs of $156 million (March 31, 2018 – $141 million) incurred by investment holding subsidiaries.

5.2 Supplemental information on investment income

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

	For the years ended	
(CAD millions)	March 31, 2019	March 31, 2018[3]
Interest, dividends, and other investment income	$ 4,308	$ 3,119
Realized gains on private equities and real assets[1]	6,400	8,870
Unrealized gains on private equities and real assets[1]	7,469	5,945
Realized and unrealized gains on public and other investments[1,2]	1,060	1,252
Dividends paid to CPP Investment Board	(15,946)	(1,848)
Investment income from investment holding subsidiaries	**$ 3,291**	$ 17,338

1 Includes foreign currency gains or losses.

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

3 Certain comparatives have been reclassified to conform to the current year's presentation.

NOTE 6. SEGMENT INFORMATION

6.1 Investment segments

CPP Investment Board's purpose is to manage amounts transferred to it under Section 108.1 of the *CPP Act* in the best interests of CPP beneficiaries and contributors. This requires investing in assets with a view to achieving a maximum rate of return without undue risk of loss. During the first quarter, CPP Investment Board made executive management and organizational changes.

This resulted in the reorganization of the previous five investment departments into six investment departments as described below. Comparative numbers have been revised to reflect this change.

- Total Portfolio Management – ensures the investing activities of the organization collectively produce a total portfolio that maximizes returns without taking undue risk. Total Portfolio Management also directs the Balancing Portfolio (the remaining portion of the CPP Investment Portfolios after excluding the assets of all active programs managed by the other investment departments) to achieve overall desired investment exposures.
- Capital Markets and Factor Investing – invests assets globally in public equities, fixed income securities, currencies, commodities and derivatives, and engages investment managers and co-investments to invest in public market securities. Capital Markets and Factor Investing is also responsible for managing CPP Investment Board's liquidity needs.
- Active Equities – invests globally in public and soon-to-be public companies as well as securities focused in emerging markets or long-term global changes, which can include earlier stage private companies. Active Equities also works with departments across the organization to ensure that environmental, social and governance risks and opportunities are incorporated into investment decision-making and asset management activities.
- Credit Investments – responsible for public and private credit investments globally. Credit Investments invests across the entire credit structure, including term loans, high-yield bonds, mezzanine lending, structured products and other credit instruments for borrowers in all sectors.
- Private Equity – responsible for private equity investments globally including funds, secondaries and direct private equity investments.
- Real Assets – responsible for investments in real estate, infrastructure, energy and resources, and power and renewables, which are typically long-term, tangible assets with steady income streams.

6.1.1 Net income from operations by investment segment

(CAD millions)	For the year ended March 31, 2019 Total Portfolio Management	Capital Markets and Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Total
Investment income	$ 10,379	$ 143	$ 1,323	$ 3,161	$ 12,853	$ 7,417	$ 35,276
Expenses[1]	(297)	(980)	(261)	(185)	(849)	(694)	(3,266)
Net income (loss) from operations	**$ 10,082**	**$ (837)**	**$ 1,062**	**$ 2,976**	**$ 12,004**	**$ 6,723**	**$ 32,010**

(CAD millions)	For the year ended March 31, 2018 Total Portfolio Management	Capital Markets and Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Total
Investment income	$ 16,730	$ 2,112	$ 1,855	$ 2,157	$ 10,136	$ 6,941	$ 39,931
Expenses[1]	(310)	(1,240)	(210)	(138)	(811)	(483)	(3,192)
Net income from operations	$ 16,420	$ 872	$ 1,645	$ 2,019	$ 9,325	$ 6,458	$ 36,739

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

6.1.2 Net assets (liabilities) by investment segment

(CAD millions)	Net assets (liabilities) Total Portfolio Management[1]	Capital Markets and Factor Investing	Active Equities	Credit Investments	Private Equity	Real Assets	Total
As at:							
March 31, 2019	**$172,599**	**$ (31)**	**$ 1,047**	**$ 36,579**	**$ 87,696**	**$ 94,090**	**$391,980**
March 31, 2018	176,422	410	1,117	25,050	69,345	83,790	356,134

1 Net assets attributable to Total Portfolio Management include debt financing liabilities of $30,861 million (March 31, 2018 – $24,056 million) and net corporate liabilities of $14 million (March 31, 2018 – net corporate liabilities of $188 million).

6.2 Geographic information

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

(CAD millions)	Net investments[1] Canada	U.S.	Asia	Europe (excluding U.K.)	U.K.	Other	Total
As at:							
March 31, 2019	**$ 60,897**	**$131,196**	**$ 90,060**	**$ 53,959**	**$ 22,078**	**$ 33,804**	**$391,994**
March 31, 2018	53,977	135,058	72,512	47,068	19,844	27,863	356,322

1 Includes debt financing liabilities of $3,828 million, $20,803 million, $6,230 million (March 31, 2018 – $3,466 million, $15,807 million, $4,783 million), based on the currencies of the issuances, in Canada, the U.S., and Europe (excluding the U.K.), respectively.

NOTE 7. RISK MANAGEMENT

AT A GLANCE

The base CPP Investment Portfolio and additional CPP Investment Portfolio (collectively CPP Investment Portfolios) are exposed to a variety of financial risks which is managed through a total portfolio risk approach. The underlying risk categories, exposures, and the related risk management techniques are described in the following notes:

- Note 8 – Market risk
- Note 9 – Credit risk
- Note 10 – Liquidity risk

Any references to the investment activities and risk exposures of CPP Investment Board also include those of its unconsolidated investment holding subsidiaries.

7.1 Introduction

CPP Investment Board employs the Risk/Return Accountability Framework, which establishes accountability of the Board of Directors, the various committees and the investment departments to manage investment-related risks. CPP Investment Board manages and mitigates financial risks through the Risk Policy approved by the Board of Directors at least once every fiscal year. This policy contains risk limits and risk management provisions that govern investment decisions. It has been designed to achieve the mandate of CPP Investment Board.

Upper and Lower Absolute Risk Limits and the Absolute Risk Operating Range (AROR) are included within the Risk Policy, and these govern the amount of total investment risk that CPP Investment Board can take in the CPP Investment Portfolios. CPP Investment Board monitors potential investment losses in CPP Investment Portfolios daily and reports to the Board of Directors on at least a quarterly basis. The target equity content for the base CPP Investment Portfolio and additional CPP Investment Portfolio is assessed using an equity/debt risk equivalence ratio for each of the Investment Portfolios that must reside within Board approved Absolute Risk Limits.

7.1.1 Independent risk oversight

The Risk Group within CPP Investment Board reports to the Chief Financial and Risk Officer. The function is responsible for assessing, monitoring and ensuring Management of the CPP Investment Portfolios is consistent with the risk appetite on limits established. This oversight is exercised through independent control and support functions.

Investment departments are accountable for managing risk within prescribed limits.

7.1.2 Investment risk measures

A suite of measures are used to estimate the risk of loss from small, moderate and significant market moves over various time horizons. In addition to industry standard market and credit risk models, CPPIB uses proprietary models to assess potential losses to the portfolio over longer time horizons. Furthermore, a number of trading desk-specific risk measures are tracked that are related to the specific nature of the strategy. For example, factor risks for real estate and public market equity portfolios.

7.1.3 Stress testing

To complement the suite of potential loss measures used to monitor the CPP Investment Portfolios, CPP Investment Board further examines the potential impact of exceptional but plausible adverse market events. Stress testing considers the effect of various hypothetical and historical based scenarios using a bottom-up approach that considers the effect of market shocks across the entire portfolio. Generally, the forecasted time line considered is one year in order to appropriately include the effect of private asset valuations, as well as the initial public market shocks. These assessments are reported to both Senior Management and the Board.

7.1.4 Model review and validation

The model validation function within the Risk Group validates strategically important portfolio construction and risk management models as well as valuation methodologies within our main investment systems.

7.2 Total portfolio risk

CPP Investment Board uses a simulation methodology to derive a distribution of potential portfolio outcomes at a future point in time. These distributions are used to estimate a variety of risk measures to monitor the absolute risk for each of the CPP Investment Portfolios across various time periods. The primary risk governance measure within the Risk/Return Accountability Framework is expressed using an equity/debt risk equivalency ratio. It is the proportion of equity versus debt in a simple two-asset-portfolio (Global Equity and Canadian Government Bonds) that would give the same measured absolute risk as that of the base CPP Investment Portfolio and additional CPP Investment Portfolio, separately. Absolute Risk for this purpose is defined as the Conditional Value at Risk (CVaR), after inflation, at the 90th percentile expressed over a five-year horizon and encompasses both market and credit risks.

The Absolute Risk measure, CVaR, is based on the average of the worst ten percent outcomes in the simulated return distribution over a five-year period. It captures the impact of extreme market events that would lead to large losses in the base CPP Investment Portfolio and additional CPP Investment Portfolio, separately.

The methodology employed to calculate CVaR assumes that historical market data is a sound basis for estimating potential future losses but it allows for the incorporation of forward-looking return expectations. If future market conditions and interrelationships of equity markets, interest rates, foreign exchange rates and other market prices differ significantly from those of the past, then the actual losses could materially differ from those estimated. To ensure a variety of business cycles and market conditions are captured within the risk model, a long historical data period (1971 – current) is used in simulating the distribution of potential outcomes. The CVaR measure provides an estimate of the average value in this distribution of potential losses that each Investment Portfolio could experience. It is not an estimate of the worst-case scenario.

As a result of different risk characteristics and the risk appetite of the base CPP and the additional CPP, the Absolute Risk of the two accounts is measured separately using the same methodology. As at March 31, 2019, the CVaR of the base CPP Investment Portfolio was $71,880 million (March 31, 2018 – $70,328 million) with an associated equity/debt risk equivalency ratio of 87% (March 31, 2018 – 86%). The CVaR of the additional CPP Investment Portfolio was $39 million with an associated equity/debt risk equivalency ratio of 51%. The CVaR estimate is strongly influenced by equity returns realized throughout the historical data period used within the risk model. As forward-looking expectations are further considered within the modelling process the CVaR value may move materially as the mean return estimates change through time. Changes in equity/debt risk equivalency ratio will also occur, but likely smaller in magnitude.

NOTE 8. 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.

CPP Investment Board uses a tiered structure of limits to govern market risk by controlling the size of risk exposures. Board limits are based upon the equity/debt risk equivalency ratios of the two CPP Investment Portfolios. The next level of risk limits are set at management level and ensure that none of the individual investment departments' market risks grow faster than originally anticipated in the annual planning period. These measures are supplemented with drawdown triggers that highlight to Senior Management any individual strategies that are having losses outsized to their estimated investment risk levels. The lowest set of limits are investment program specific and are tailored to the way that the strategies are managed. Examples include DV01 that measures the possible loss/gain in the investment strategy as a result of 1 basis point increase/decrease in interest rate yield curves and divergence limits that track the portfolios' risks against their respective benchmarks.

Investment departments are expected to stay within their limits but are allowed to request increases to management level limits from the relevant Senior Management Team (SMT) member or Investment Planning Committee (IPC) dependent upon established escalation guidelines. Any limit excesses are reported to the SMT member and/or the IPC. These groups will then make an assessment as to whether to increase the limit or reduce the position.

Market risk includes equity risk, interest rate risk, credit spread risk and currency risk.

8.1 Equity

CPP Investment Portfolios invest 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 two Investment Portfolios.

After taking into account derivative positions and with all other variables held constant, a 1% decrease/increase in the S&P 500 Index would result in a loss/profit of $1,021 million (March 31, 2018 – $1,200 million) on public equity investments. This calculation assumes that equities other than the S&P 500 Index would move in accordance with their historical behaviour conditional on a 1% decrease/increase in the S&P 500 Index.

8.2 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 CPP Investment Portfolios are exposed to interest rate risk primarily through holdings of fixed income securities, certain investment liabilities and interest rate derivatives.

8.2.1 Interest rate risk sensitivity[1]

With all other variables held constant, 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:

	As at March 31, 2019	As at March 31, 2018
(CAD millions)	Decrease of 25 basis points on net assets	
Maturity		
Within 1 year	$ (14)	$ (13)
1 to 5 years	557	306
6 to 10 years	434	329
Over 10 years	1,091	934
Total	$ 2,068	$ 1,556

1 This sensitivity only applies to debt instruments and interest rate-sensitive derivatives.

CPP Investment Portfolios' sensitivity to various countries' risk-free rates are concentrated in North America with 39% (March 31, 2018 – 51%) in Canada, 43% (March 31, 2018 – 47%) in the United States, 11% (March 31, 2018 – 1%) in Europe, and minor exposures to other regions in both years.

8.3 Credit spread

Credit spread is the difference in yield on certain securities compared to a comparable risk-free security (i.e. government issued) with the same maturity date. Credit spread risk is the risk that the fair value of these securities will fluctuate because of changes in credit spread. As at March 31, 2019, 75% (March 31, 2018 – 80%) of credit spread risk was in A or better rated debt, primarily in Canadian provincial bonds.

With all other variables held constant, a 1 basis point widening of the credit spreads would result in a decrease in net assets by $31 million (March 31, 2018 – $30 million).

8.4 Currency

CPP 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.

8.4.1 Currency risk exposures

In Canadian dollars, the net currency exposures, after allocating foreign currency derivatives are as follows:

	As at March 31, 2019		As at March 31, 2018	
(CAD millions)	Net exposure	% of total	Net exposure	% of total
Currency				
United States dollar	$ 204,605	52%	$ 171,898	48%
Euro	33,539	9	36,135	10
British pound sterling	18,219	5	19,329	5
Australian dollar	13,587	3	11,889	3
Chinese renminbi	12,577	3	6,412	2
Hong Kong dollar	10,376	3	8,086	2
Japanese yen	8,416	2	15,019	4
Indian rupee	6,509	2	4,947	1
Brazilian real	3,620	1	2,422	1
South Korean won	3,136	1	3,680	1
Chilean peso	2,722	1	2,695	1
Swiss franc	2,623	1	4,002	1
Other	11,873	2	12,694	5
Total foreign exposure	331,802	85	299,208	84
Canadian dollar	60,192	15	57,114	16
Total	$ 391,994	100%	$ 356,322	100%

8.4.2 Currency risk sensitivity

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 as follows:

(CAD millions)	As at March 31, 2019	As at March 31, 2018
	Depreciation of 10% of the Canadian dollar against other currencies on net assets	
Currency		
United States dollar	$ 20,461	$ 17,190
Euro	3,354	3,614
British pound sterling	1,822	1,933
Australian dollar	1,359	1,189
Other	6,184	5,996
Total	$ 33,180	$ 29,922

NOTE 9. 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. CPP Investment Portfolios' credit risk exposure arises primarily through its investment in debt securities and over-the-counter derivatives. The carrying amounts of these investments as presented in the Consolidated Schedule of Investment Portfolio represent the maximum direct credit risk exposure at the Balance Sheet date.

9.1 Counterparty exposures

The fair value of debt securities and over-the-counter derivatives exposed to credit risk, by credit rating category and without taking account of any collateral held or other credit enhancements was as follows:

(CAD millions)	As at March 31, 2019						
	Bonds[1]	Money market securities[1]	Reverse repurchase agreements[1]	Over-the-counter derivatives	Other debt[1,2]	Total	% of total
Credit rating							
AAA	$ 22,975	$ –	$ –	$ –	$ 1,111	$ 24,086	20%
AA	30,802	4,002	1,414	338	674	37,230	30%
A	25,231	3,857	5,001	2,398	614	37,101	30%
BBB	4,151	–	1,792	451	1,290	7,684	6%
BB	1,976	17	–	–	3,844	5,837	5%
B	1,240	–	–	–	7,874	9,114	8%
CCC/D	47	–	–	–	1,600	1,647	1%
Total	$ 86,422	$ 7,876	$ 8,207	$ 3,187	$ 17,007	$ 122,699	100%

(CAD millions)	As at March 31, 2018						
	Bonds[1]	Money market securities[1]	Reverse repurchase agreements[1]	Over-the-counter derivatives	Other debt[1,2]	Total	% of total
Credit rating							
AAA	$ 12,048	$ 24	$ –	$ –	$ –	$ 12,072	13%
AA	26,251	2,339	168	43	–	28,801	32%
A	24,638	2,788	4,066	1,500	465	33,457	37%
BBB	1,284	–	1,930	375	1,449	5,038	6%
BB	181	–	–	–	3,589	3,770	4%
B	–	–	–	–	6,065	6,065	7%
CCC/D	1	–	–	–	782	783	1%
Total	$ 64,403	$ 5,151	$ 6,164	$ 1,918	$ 12,350	$ 89,986	100%

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

In addition to the above, CPP Investment Portfolios are indirectly exposed to credit risk on the underlying securities of fund investments.

CPP Investment Board limits credit risk on over-the-counter contracts through a variety of means, including dealing only with authorized counterparties that meet the minimum credit rating and limiting the maximum exposures to any individual counterparty, and the use of master netting agreements and collateral.

Credit risk exposure is mitigated on certain financial assets and financial liabilities, which have conditional offset rights in the event of default, insolvency or bankruptcy. For securities purchased under reverse repurchase agreements, securities sold under repurchase agreements and over-the-counter derivatives, collateral is collected from or pledged to counterparties to manage credit exposure (see note 13). In addition, in the event of default, amounts with a specific counterparty are settled on a net basis under master netting or similar arrangements, such as the Global Master Repurchase Agreement and the International Swaps and Derivatives Association Netting Agreements.

9.2 Credit VaR

Credit Risk for the two CPP Investment Portfolios is estimated using a Monte Carlo simulation that incorporates likelihood of default, credit rating migration and recovery in the event of default for underlying credit instruments. As at March 31, 2019, Credit VaR (99% Confidence level) of the base CPP Investment Portfolio was $5,317 million (March 31, 2018 – $4,106 million) which implies there is a 1% chance that the base CPP Investment Portfolio of credit instruments will lose more than this amount in any given year due to default and credit migration risk. As at March 31, 2019, the Credit VaR (99% Confidence level) of the additional CPP Investment Portfolio was $3 million.

NOTE 10. 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 Investment Board is unable to fund investment programs and optimize/rebalance investment portfolios.

Liquidity risk increases by the use of various forms of leverage which CPP Investment Board 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. In addition, CPP Investment Board seeks to maintain its issuer credit rating at "AAA" and maintains leverage ratios consistent with this rating.

Management of liquidity risk is supplemented through the ability to raise funds through activities such as the issuance of commercial paper and term debt and transacting in securities sold under repurchase agreements. CPP Investment Board also maintained $6,176 million (March 31, 2018 – $6,012 million) of unsecured credit facilities to meet potential liquidity requirements. There were no credit facilities drawn as at March 31, 2019 and 2018. The ability to readily dispose of certain investments to meet liquidity needs is facilitated by maintaining a liquid portfolio of publicly traded equities, money market securities and marketable bonds.

CPP Investment Board is exposed to liquidity risk through its obligations to remit cash to the CPP. In order to manage associated liquidity risk, certain assets are segregated and managed separately. Liquidity risk is also managed by investing these assets in liquid money market instruments with the primary objective of ensuring that the CPP has the necessary liquidity to meet benefit payment obligations on any business day.

10.1 Terms to maturity

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

Non-derivative investments

	Terms to maturity							
	As at March 31, 2019						As at March 31, 2018	
(CAD millions)	Within 1 year	1 to 5 years	6 to 10 years	Over 10 years	Total[3]	Average effective yield	Total[3]	Average effective yield
Non-marketable bonds								
Canadian provincial government	$ 1,558	$ 5,820	$ 3,521	$ 12,540	$ 23,439	2.7%	$ 23,527	2.9%
Marketable bonds								
Government of Canada	–	7,007	380	1,166	8,553	1.7%	5,017	2.1%
Canadian provincial government	–	821	1,976	3,361	6,158	2.7%	6,483	2.9%
Canadian government corporations	–	1,881	1,043	357	3,281	2.2%	2,626	2.6%
Foreign government	554	13,358	8,858	13,700	36,470	2.3%	23,113	2.9%
Corporate bonds	96	3,200	3,249	1,158	7,703	4.4%	3,085	3.4%
Other debt								
Private debt[1]	48	4,483	4,948	1,871	11,350	8.1%	9,573	8.4%
Private real estate debt[1]	583	2,057	2,361	–	5,001	6.7%	3,582	6.6%
Asset-backed securities	–	6	67	1,937	2,010	3.0%	5	4.4%
Securities purchased under reverse repurchase agreements	8,205	–	–	–	8,205	0.8%	6,164	1.8%
Securities borrowed[2]	2,969	–	–	–	2,969	n/a	–	n/a
Total	$ 14,013	$ 38,633	$ 26,403	$ 36,090	$115,139	n/a	$ 83,175	n/a

1 Includes direct investments and excludes fund investments.
2 Relates to cash collateral, which has no effective yield.
3 Represents fair value.

Non-derivative investment liabilities

	Terms to maturity									
	As at March 31, 2019							As at March 31, 2018		
(CAD millions)	Within 1 year	1 to 5 years	6 to 10 years	Over 10 years	Total[4]	Fair value	Weighted average interest rate	Total[4]	Fair value	Weighted average interest rate
Securities sold under repurchase agreements	$ 38,548	$ –	$ –	$ –	$ 38,548	$ 38,375	2.3%	$ 32,559	$ 32,504	1.7%
Securities lent[1]	1,116	–	–	–	1,116	1,116	n/a	–	–	n/a
Securities sold short[2,3]	29,027	–	–	–	29,027	29,027	n/a	13,574	13,574	n/a
Debt financing liabilities										
Commercial paper payable	4,378	–	–	–	4,378	4,323	2.7%	6,263	6,254	1.9%
Term debt	4,590	12,673	7,336	1,500	26,099	26,538	1.6%	17,910	17,802	1.8%
Total	$ 77,659	$ 12,673	$ 7,336	$ 1,500	$ 99,168	$ 99,379	n/a	$ 70,306	$ 70,134	n/a

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

NOTE 11. FINANCIAL INSTRUMENTS – RIGHTS OF OFFSET

Accounting policy

Financial assets and financial liabilities are offset and the net amount reported in the Consolidated Financial Statements if, and only if, there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, or to realize the asset and settle the liability simultaneously.

The following table presents the effect of offsetting for derivatives and repurchase and reverse repurchase agreements that are subject to master netting arrangements or similar agreements that meet the criteria for offsetting. The table also presents the amounts that are subject to enforceable netting arrangements but do not qualify for offsetting. For certain derivatives, the gross amounts subject to netting arrangements include the daily settlement of variation margin which is netted against the fair value of the derivatives.

	As at March 31, 2019					
				Less: Amounts subject to master netting or similar arrangements but not presented net		
(CAD millions)	Gross amounts subject to netting arrangements	Less: Amounts offset in Consolidated Financial Statements	Net amount presented in the Consolidated Schedule of Investment Portfolio	Subject to agreements	Securities and cash collateral[1]	Net exposure
Securities purchased under reverse repurchase agreements	$ 8,205	$ –	$ 8,205	$ (7,335)	$ (870)	$ –
Derivative assets	3,192	–	3,192	(1,834)	(965)	393
Total investment receivables	**$ 11,397**	**$ –**	**$ 11,397**	**$ (9,169)**	**$ (1,835)**	**$ 393**
Securities sold under repurchase agreements	$ (38,375)	$ –	$ (38,375)	$ 7,335	$ 31,040	$ –
Derivative liabilities	(2,330)	–	(2,330)	1,834	235	(261)
Total investment payables	**$ (40,705)**	**$ –**	**$ (40,705)**	**$ 9,169**	**$ 31,275**	**$ (261)**

	As at March 31, 2018					
				Less: Amounts subject to master netting or similar arrangements but not presented net		
(CAD millions)	Gross amounts subject to netting arrangements	Less: Amounts offset in Consolidated Financial Statements	Net amount presented in the Consolidated Schedule of Investment Portfolio	Subject to agreements	Securities and cash collateral[1]	Net exposure
Securities purchased under reverse repurchase agreements	$ 6,164	$ –	$ 6,164	$ (6,164)	$ –	$ –
Derivative assets	1,918	–	1,918	(1,290)	(628)	–
Total investment receivables	$ 8,082	$ –	$ 8,082	$ (7,454)	$ (628)	$ –
Securities sold under repurchase agreements	$ (32,504)	$ –	$ (32,504)	$ 6,164	$ 26,340	$ –
Derivative liabilities	(1,712)	–	(1,712)	1,290	320	(102)
Total investment payables	$ (34,216)	$ –	$ (34,216)	$ 7,454	$ 26,660	$ (102)

1 Securities and cash collateral exclude over-collateralization and collateral in transit. Refer to note 13 for the total amount of collateral.

NOTE 12. OPERATING EXPENSES

12.1 Compensation of key management personnel

Key management personnel are defined as those persons having authority and responsibility for planning, directing and controlling the activities of CPP Investment Board, consisting of the Senior Management Team and the Board of Directors.

Compensation of key management personnel of CPP Investment Board is as follows:

(CAD millions)	For the years ended March 31, 2019	For the years ended March 31, 2018
Short-term employee compensation and benefits	$ 26	$ 22
Other long-term compensation and benefits	26	19
Total	$ 52	$ 41

12.2 General operating expenses

General operating expenses consist of the following:

(CAD millions)	For the years ended March 31, 2019	For the years ended March 31, 2018
Information technology and data services	$ 118	$ 98
Professional services[1]	107	71
Premises and equipment	40	38
Custodial fees	36	32
Tax on international operations	35	40
Travel and accommodation	25	21
Amortization of premises and equipment	20	27
Communications	14	9
Directors' remuneration	2	2
Other	4	3
Total	$ 401	$ 341

1 Includes auditor's remuneration of $4 million (March 31, 2018 – $3 million).

NOTE 13. COLLATERAL

Collateral transactions are conducted to support investment activities under terms and conditions that are common and customary to collateral arrangements. The net fair value of collateral held and pledged was as follows:

(CAD millions)	As at March 31, 2019	As at March 31, 2018
Third-party assets held as collateral on[1]:		
Reverse repurchase agreements	$ 8,207	$ 6,187
Over-the-counter derivative transactions	965	692
Securities lent[2]	1,627	–
Other debt	772	760
Own and third-party assets pledged as collateral on:		
Repurchase agreements	(38,383)	(32,621)
Securities sold short[3]	(34,549)	(16,610)
Over-the-counter derivative transactions	(407)	(315)
Private equities	(7,849)	(5,942)
Other debt	(4,562)	(4,417)
Total	$ (74,179)	$ (52,266)

1 The fair value of the collateral held that may be sold or repledged as at March 31, 2019 was $9,557 million (March 31, 2018 – $6,967 million). The fair value of collateral sold or repledged as at March 31, 2019 was $3,504 million (March 31, 2018 – $5,969 million).

2 Includes cash collateral of $1,116 million (March 31, 2018 – nil). The fair value of securities lent as at March 31, 2019 was $1,602 million (March 31, 2018 – nil).

3 The fair value of securities borrowed as at March 31, 2019 was $27,110 million (March 31, 2018 – $13,045 million) of which $26,631 million was sold or repledged (March 31, 2018 – $12,547 million) for securities sold short.

NOTE 14. COMMITMENTS

14.1 Investment commitments

CPP Investment Board 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 March 31, 2019, the unfunded commitments totalled $47,408 million (March 31, 2018 – $41,767 million).

14.2 Lease and other commitments

CPP Investment Board made lease and other commitments, which require future annual payments as follows:

(CAD millions)	As at March 31, 2019	As at March 31, 2018
Within one year	$ 42	$ 36
After one year but not more than five years	115	115
More than five years	10	26
Total	**$ 167**	$ 177

NOTE 15. RELATED PARTY TRANSACTIONS

Related parties of CPP Investment Board include unconsolidated subsidiaries, joint ventures and associates and all related party investments are measured at fair value.

Unconsolidated subsidiaries include 219 wholly owned investment holding subsidiaries (see note 1.2) (March 31, 2018 – 210) managed by CPP Investment Board. These investment holding subsidiaries hold private investments, debt, funds and real assets. The 219 investment holding subsidiaries are incorporated as follows: 148 in Canada (March 31, 2018 – 145), 25 in the United States (March 31, 2018 – 22), 20 in Australia (March 31, 2018 – 20), six in Hong Kong (March 31, 2018 – five), and 20 in other jurisdictions (March 31, 2018 – 18). CPP Investment Board provides financial or other support to these investment holding subsidiaries to fund their day-to-day operations and investment activities under loan agreements or shareholder's resolutions, as needed.

In addition, CPP Investment Board also owns interests in unconsolidated subsidiaries that are themselves investments. These investments, some of which may be wholly owned, are controlled through ownership rights directly or indirectly by CPP Investment Board.

Investments in joint ventures are those arrangements where CPP Investment Board has joint control. An associate is an entity which CPP Investment Board has the ability to exercise significant influence over decision-making.

Related party transactions consist of investments and investment income primarily in private equities, debt, funds and real assets. These transactions are measured at fair value and will, therefore, have the same impact on net assets and net investment income as those investment transactions with unrelated parties. Related party transactions with consolidated subsidiaries are eliminated upon consolidation.

NOTE 16. GUARANTEES

16.1 Guarantees

As part of certain investment transactions, CPP Investment Board and its investment holding subsidiaries agreed to guarantee, as at March 31, 2019, up to $4,437 million (March 31, 2018 – $2,842 million) to other counterparties in the event certain investee entities default under the terms of loan and other related agreements.

16.2 Indemnifications

CPP Investment Board provides indemnifications to its officers, directors, certain others and, in certain circumstances, to various counterparties and other entities. CPP Investment Board may be required to compensate these indemnified parties for costs incurred as a result of various contingencies such as changes in laws, regulations and litigation claims. The contingent nature of these indemnification agreements prevents CPP Investment Board from making a reasonable estimate of the maximum potential payments CPP Investment Board could be required to make. To date, CPP Investment Board has not received any material claims nor made any material payments pursuant to such indemnifications.

NOTE 17. BASE CPP AND ADDITIONAL CPP

AT A GLANCE

As a result of legislative amendments in December 2016, the *CPP Act* now defines two separate parts of the CPP:

1. base CPP – the part of the CPP that existed before January 1, 2019; and
2. additional CPP – the additional part of the CPP that came into effect on January 1, 2019.

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

17.1 Changes in net assets

Pursuant to Section 108.1 of the *CPP Act*, the *CPPIB Act* and an administrative agreement between Her Majesty the Queen in right of Canada and CPP Investment Board, amounts not required to meet specified obligations of the CPP are transferred weekly to CPP Investment Board. The funds originate from employer and employee contributions to the CPP. CPP Investment Board remits cash to the CPP as required, including the periodic return, on at least a monthly basis, of funds required to meet CPP benefits and expenses.

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

	Accumulated net transfers from CPP			Accumulated net income			
(CAD millions)	base CPP	additional CPP	Total	base CPP	additional CPP	Total	Total net assets
As at April 1, 2017	$ 137,802	$ –	$ 137,802	$ 178,875	$ –	$ 178,875	$ 316,677
Total net income for the year	–	–	–	36,739	–	36,739	36,739
Transfers from CPP	36,425	–	36,425	–	–	–	36,425
Transfers to CPP	(33,707)	–	(33,707)	–	–	–	(33,707)
Balance as at March 31, 2018	$ 140,520	$ –	$ 140,520	$ 215,614	$ –	$ 215,614	$ 356,134
As at April 1, 2018	**$ 140,520**	**$ –**	**$ 140,520**	**$ 215,614**	**$ –**	**$ 215,614**	**$ 356,134**
Total net income for the year	**–**	**–**	**–**	**32,008**	**2**	**32,010**	**32,010**
Transfers from CPP	**38,160**	**421**	**38,581**	**–**	**–**	**–**	**38,581**
Transfers to CPP	**(34,745)**	**–**	**(34,745)**	**–**	**–**	**–**	**(34,745)**
Balance as at March 31, 2019	**$ 143,935**	**$ 421**	**$ 144,356**	**$ 247,622**	**$ 2**	**$ 247,624**	**$ 391,980**

17.2 Net assets of base CPP and additional CPP

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

	As at March 31, 2019			As at March 31, 2018
(CAD millions)	base CPP	additional CPP	Total	Total
Cash and cash equivalents held for investment purposes	**$ 8,606**	**$ 12**	**$ 8,618**	$ 8,213
Net investments other than cash and cash equivalents	**382,979**	**397**	**383,376**	348,109
Net investments	**391,585**	**409**	**391,994**	356,322
Premises and equipment	**373**	**14**	**387**	348
Other assets[1]	**243**	**1**	**244**	153
Accounts payable and accrued liabilities	**(644)**	**(1)**	**(645)**	(689)
Net Assets	**$ 391,557**	**$ 423**	**$ 391,980**	$ 356,134

1 Includes cash held for operating purposes.

In preparation for the additional investment and reporting responsibilities associated with the additional CPP, CPP Investment Board incurred approximately $23 million of start-up costs. These costs were paid with funds transferred to CPP Investment Board on account of the base CPP. CPP Investment Board has reimbursed the base CPP account, with interest, using funds transferred to CPP Investment Board on account of the additional CPP during the year. $14 million of the start-up costs were incurred in connection with system changes and are capitalized in premises and equipment, the remaining $9 million was expensed.

17.3 Schedule of investment portfolio for base CPP and additional CPP

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

	As at March 31, 2019			As at March 31, 2018
(CAD millions)	base CPP	additional CPP	Total	Total
Equities				
Public equities	$ 141,105	$ 84	$ 141,189	$ 146,221
Private equities	96,601	58	96,659	75,737
Total equities	237,706	142	237,848	221,958
Fixed income				
Bonds	85,379	225	85,604	63,851
Other debt	27,309	16	27,325	22,183
Money market securities	9,817	12	9,829	8,213
Total fixed income	122,505	253	122,758	94,247
Absolute return strategies	25,497	15	25,512	21,027
Real assets				
Real estate	45,819	27	45,846	44,712
Infrastructure	33,111	20	33,131	27,450
Energy and resources	7,997	5	8,002	5,729
Power and renewables	5,072	3	5,075	2,949
Total real assets	91,999	55	92,054	80,840
Investment receivables				
Securities purchased under reverse repurchase agreements and securities borrowed	11,167	7	11,174	6,164
Derivative assets	3,190	2	3,192	1,918
Other	2,027	2	2,029	2,673
Total investment receivables	16,384	11	16,395	10,755
Total investments	$ 494,091	$ 476	$ 494,567	$ 428,827
Investment liabilities				
Securities sold under repurchase agreements and securities lent	(39,467)	(24)	(39,491)	(32,504)
Securities sold short	(29,010)	(17)	(29,027)	(13,574)
Debt financing liabilities	(30,843)	(18)	(30,861)	(24,056)
Derivative liabilities	(2,329)	(1)	(2,330)	(1,712)
Other	(1,154)	(1)	(1,155)	(795)
Total investment liabilities	(102,803)	(61)	(102,864)	(72,641)
Pending trades receivable	4,689	3	4,692	2,613
Pending trades payable	(4,392)	(9)	(4,401)	(2,477)
Net investments	$ 391,585	$ 409	$ 391,994	$ 356,322

17.4 Net income of base CPP and additional CPP

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

	For the years ended			
	March 31, 2019			March 31, 2018
(CAD millions)	base CPP	additional CPP	Total	Total
Investment income	$ 35,265	$ 11	$ 35,276	$ 39,931
Investment management fees	(1,586)	–	(1,586)	(1,738)
Transaction costs	(477)	–	(477)	(401)
Net investment income	33,202	11	33,213	37,792
Operating expenses[1]	(1,194)	(9)	(1,203)	1,053
Net income	$ 32,008	$ 2	$ 32,010	$ 36,739

1 Operating expenses of additional CPP includes $9 million of start-up costs expensed in the year.

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CPPIB Capital Inc.

C$40,000,000,000

Debt Issuance Programme

Unconditionally and Irrevocably Guaranteed by

Canada Pension Plan Investment Board

OFFERING MEMORANDUM
June 10, 2020

Arranger

Goldman Sachs International

Other Agents

BofA Securities
BMO Capital Markets
CIBC Capital Markets
Deutsche Bank
J.P. Morgan
National Bank of Canada Financial Markets
RBC Capital Markets
TD Securities

Barclays
BNP PARIBAS
Citigroup
HSBC
Morgan Stanley
NatWest Markets
Scotiabank