GREAT-WEST LIFECO INC.

Management's Discussion and Analysis

For the year ended December 31, 2019

MANAGEMENT'S DISCUSSION AND ANALYSIS

FOR THE PERIOD ENDED DECEMBER 31, 2019

DATED: FEBRUARY 12, 2020

This Management's Discussion and Analysis (MD&A) presents management's view of the financial condition, financial performance and cash flows of Great-West Lifeco Inc. (Lifeco or the Company) for the three and twelve months ended December 31, 2019 and includes a comparison to the corresponding periods in 2018, to the three months ended September 30, 2019, and to the Company's financial condition as at December 31, 2018. This MD&A provides an overall discussion, followed by analysis of the performance of Lifeco's three major reportable segments: Canada, United States (U.S.) and Europe.

BUSINESSES OF LIFECO

Lifeco has operations in Canada, the United States and Europe through The Canada Life Assurance Company (Canada Life), Great-West Life & Annuity Insurance Company (GWL&A), Putnam Investments, LLC (Putnam) and Irish Life Group Limited (Irish Life).

On April 3, 2019, Lifeco announced that its three Canadian life insurance companies, The Great-West Life Assurance Company (Great-West Life), London Life Insurance Company (London Life) and Canada Life, were moving to one brand in Canada: Canada Life. Canada Life became the brand under which the organization creates, delivers and communicates products and services in Canada across all of its lines of business. On January 1, 2020, Great-West Life, London Life, Canada Life and their holding companies, Canada Life Financial Corporation and London Insurance Group Inc. amalgamated into a single life insurance company, The Canada Life Assurance Company.

In Canada, Canada Life offers a broad portfolio of financial and benefit plan solutions for individuals, families, businesses and organizations through two primary business units: Individual Customer and Group Customer. Through the Individual Customer business unit, the Company provides life, disability and critical illness insurance products as well as wealth savings and income products and services to individual customers. Through the Group Customer business unit, the Company provides life, accidental death and dismemberment, critical illness, disability, health and dental protection, creditor insurance as well as retirement savings and annuity products and other specialty products to group customers in Canada. The products are distributed through a multi-channel network of brokers, advisors, managing general agencies and financial institutions including Freedom 55 Financial™ and Wealth and Insurance Solutions Enterprise.

In the U.S., Empower Retirement is a leading provider of employer-sponsored retirement savings plans in the public/non-profit and corporate sectors that offers employer-sponsored defined contribution plans, administrative and recordkeeping services, individual retirement accounts, fund management, as well as investment and advisory services. Its products and services are marketed nationwide through its sales force, brokers, consultants, advisors, third-party administrators and financial institutions. Putnam provides investment management, certain administrative functions and distribution services through a broad range of investment products, including the Putnam Funds, its own family of mutual funds, which are offered to individual and institutional investors.

The Europe segment comprises two distinct business units: Insurance & Annuities, which offers protection and wealth management products, including payout annuity products, through subsidiaries of Canada Life in the United Kingdom (U.K.), the Isle of Man and Germany as well as through Irish Life in Ireland; and Reinsurance, which operates primarily in the U.S., Barbados and Ireland. Reinsurance products are provided through Canada Life, London Life and their subsidiaries.

Lifeco currently has no other material holdings and carries on no business or activities unrelated to its holdings in Great-West Life, London Life, Canada Life, GWL&A, Putnam, Irish Life and their subsidiaries. However, Lifeco is not restricted to investing in those companies and may make other investments in the future.

BASIS OF PRESENTATION AND SUMMARY OF ACCOUNTING POLICIES

The consolidated financial statements of Lifeco, which are the basis for data presented in this report, have been prepared in accordance with International Financial Reporting Standards (IFRS) unless otherwise noted and are presented in millions of Canadian dollars unless otherwise indicated. This MD&A should be read in conjunction with the Company's consolidated financial statements for the period ended December 31, 2019.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

This MD&A may contain forward-looking information. Forward-looking information includes statements that are predictive in nature, depend upon or refer to future events or conditions, or include words such as "expects", "anticipates", "intends", "plans", "believes", "estimates" and other similar expressions or negative versions thereof. These statements include, without limitation, statements about the Company's operations, business, financial condition, expected financial performance (including revenues, earnings or growth rates), ongoing business strategies or prospects, and possible future actions by the Company, including statements made with respect to the expected benefits of acquisitions and divestitures, expected capital management activities and use of capital, expected cost reductions and savings and the impact of regulatory developments on the Company's business strategy and growth objectives. Forward-looking statements are based on expectations, forecasts, estimates, predictions, projections and conclusions about future events that were current at the time of the statements and are inherently subject to, among other things, risks, uncertainties and assumptions about the Company, economic factors and the financial services industry generally, including the insurance and mutual fund industries. They are not guarantees of future performance, and the reader is cautioned that actual events and results could differ materially from those expressed or implied by forward-looking statements. Material factors and assumptions that were applied in formulating the forward-looking information contained herein include the assumption that the business and economic conditions affecting the Company’s operations will continue substantially in their current state, including, without limitation, with respect to customer behaviour, the Company's reputation, market prices for products provided, sales levels, premium income, fee income, expense levels, mortality experience, morbidity experience, policy lapse rates, reinsurance arrangements, liquidity requirements, capital requirements, credit ratings, taxes, inflation, interest and foreign exchange rates, investment values, hedging activities, global equity and capital markets, business competition and other general economic, political and market factors in North America and internationally. Many of these assumptions are based on factors and events that are not within the control of the Company and there is no assurance that they will prove to be correct. Other important factors and assumptions that could cause actual results to differ materially from those contained in forward-looking statements include customer responses to new products, impairments of goodwill and other intangible assets, the Company's ability to execute strategic plans and changes to strategic plans, technological changes, breaches or failure of information systems and security (including cyber attacks), payments required under investment products, changes in local and international laws and regulations, changes in accounting policies and the effect of applying future accounting policy changes, unexpected judicial or regulatory proceedings, catastrophic events, continuity and availability of personnel and third party service providers, the Company's ability to complete strategic transactions and integrate acquisitions and unplanned material changes to the Company's facilities, customer and employee relations or credit arrangements. The reader is cautioned that the foregoing list of assumptions and factors is not exhaustive, and there may be other factors listed in other filings with securities regulators, including factors set out in this MD&A under "Risk Management and Control Practices" and "Summary of Critical Accounting Estimates", which, along with other filings, is available for review at www.sedar.com. The reader is also cautioned to consider these and other factors, uncertainties and potential events carefully and not to place undue reliance on forward-looking information. Other than as specifically required by applicable law, the Company does not intend to update any forward-looking information whether as a result of new information, future events or otherwise.

CAUTIONARY NOTE REGARDING NON-IFRS FINANCIAL MEASURES

This MD&A contains some non-IFRS financial measures. Terms by which non-IFRS financial measures are identified include, but are not limited to, "adjusted net earnings", "return on common shareholder's equity", "adjusted return on common shareholder's equity", "core net earnings", "constant currency basis", "impact of currency movement", "premiums and deposits", "sales", "assets under management" and "assets under administration". Non-IFRS financial measures are used to provide management and investors with additional measures of performance to help assess results where no comparable IFRS measure exists. However, non-IFRS financial measures do not have standard meanings prescribed by IFRS and are not directly comparable to similar measures used by other companies. Refer to the "Non-IFRS Financial Measures" section in this MD&A for the appropriate reconciliations of these non-IFRS financial measures to measures prescribed by IFRS as well as additional details on each measure.

CONSOLIDATED OPERATING RESULTS

Selected consolidated financial information
(in Canadian $ millions, except for per share amounts)

	As at or for the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Earnings					
Net earnings - common shareholders	**$ 513**	$ 730	$ 710	**$ 2,359**	$ 2,961
Adjustments(1)(4)	**227**	—	—	**426**	56
Adjusted net earnings - common shareholders(1)(4)	**740**	730	710	**2,785**	3,017
Per common share					
Basic earnings	**0.552**	0.786	0.719	**2.494**	2.996
Adjusted basic earnings(1)(4)	**0.797**	0.786	0.719	**2.944**	3.052
Dividends paid	**0.413**	0.413	0.389	**1.652**	1.556
Book value	**21.53**	21.02	22.08		
Return on common shareholders' equity(2)	**11.7%**	12.4%	14.0%		
Adjusted return on common shareholders' equity(1)(2)(4)	**13.8%**	13.4%	14.3%		
Total premiums and deposits(1)	**$ 39,096**	$ 36,417	$ 37,583	**$ 150,638**	$ 139,262
Fee and other income	**1,515**	1,496	1,420	**7,081**	5,819
Net policyholder benefits, dividends and experience refunds	**10,003**	8,468	8,496	**36,415**	31,566
Total assets per financial statements	**$ 451,167**	$ 446,626	$ 427,689		
Proprietary mutual funds and institutional assets(1)	**320,548**	308,425	281,664		
Total assets under management(1)	**771,715**	755,051	709,353		
Other assets under administration(1)	**857,966**	841,700	689,520		
Total assets under administration(1)	**$ 1,629,681**	$ 1,596,751	$ 1,398,873		
Total equity	**$ 25,543**	$ 25,157	$ 27,398		
The Great-West Life Assurance Company consolidated Life Insurance Capital Adequacy Test Ratio(3)	**135%**	139%	140%		

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(2) Refer to the "Return on Equity" section of this document for additional details.
(3) The Life Insurance Capital Adequacy Test (LICAT) ratio is based on the consolidated results of The Great-West Life Assurance Company, Lifeco's major Canadian operating subsidiary. Refer to the "Capital Management and Adequacy" section for additional details.
(4) In 2018, adjustments were $56 million of restructuring costs relating to the Company's U.K. operations. The following adjustments were made for the twelve months ended December 31, 2019:

		Segment				
2019 Adjustments		**United States**	**Europe**	**Total**	**EPS Impact**	**Annual Financial Statement Note Reference**
Q2	Net charge on sale, via reinsurance, of a U.S. business	$ 199	$ —	$ 199	$ 0.212	Note 3
Q4	Revaluation of a deferred tax asset	199	—	199	0.215	Note 27
Q4	Restructuring costs	36	—	36	0.039	Note 5
Q4	Net gain on Scottish Friendly transaction	—	(8)	(8)	(0.009)	Note 4
Total Q4 2019 Adjustments		**235**	**(8)**	**227**	**0.245**	
Total 2019 Adjustments		**$ 434**	**$ (8)**	**$ 426**	**$ 0.450**	

LIFECO 2019 HIGHLIGHTS

Financial Performance

- The Company maintained its strong capital position as evidenced by a Life Insurance Capital Adequacy Test (LICAT) ratio at December 31, 2019 of 135% for Great-West Life, Lifeco's major Canadian operating subsidiary, which exceeded the Office of the Superintendent of Financial Institutions' (OSFI) Supervisory Target Total Ratio of 100%, and Supervisory Minimum Total Ratio of 90%.
- For the twelve months ended December 31, 2019, net earnings attributable to common shareholders (net earnings) were $2,359 million, compared to $2,961 million for the previous year. In 2019, Lifeco's net earnings include a net charge of $199 million relating to the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business to Protective Life Insurance Company (Protective Life), the impact of the revaluation of a deferred tax asset of $199 million and restructuring costs of $36 million, both related to Putnam, and a gain of $8 million related to the completion of the sale of a heritage block of policies to Scottish Friendly. In 2018, net earnings were impacted by restructuring costs of $56 million related to the Company's U.K. operations.
- Excluding these items, 2019 adjusted net earnings of $2,785 million were down $232 million or 8% compared to 2018 adjusted net earnings of $3,017 million, reflecting growth in the Europe and U.S. segments offset by lower earnings in the Canada segment. On a per share basis, this represents $2.944 per common share compared to $3.052 per common share a year ago, a decrease of 4%.
- In the first half of 2019, the Company completed the sale of the U.S. individual life business. As a result, the U.S. individual life business contributed $63 million in 2019 to Lifeco's adjusted net earnings for the twelve months ended December 31, 2019 down from $157 million in 2018 which included a full year of earnings. Recognizing capital capacity arising from this sale and in order to manage earnings dilution, the Company completed a substantial issuer bid, purchasing and subsequently canceling 59,700,974 common shares for an aggregate purchase price of $2 billion in the second quarter of 2019. While the U.S. transaction reduced net earnings in the second half of 2019, the substantial issuer bid reduced the number of shares outstanding and contributed to growth in adjusted earnings per share.
- In 2019, Lifeco's quarterly common share dividend increased 6% to $0.413 per share.
- The Company's financial leverage ratio at December 31, 2019 was 27.6%, comparable to the prior year, providing financial flexibility to invest in organic growth and acquisition strategies.

Strategic Highlights

- In Canada, the Company announced its three Canadian life insurance companies, The Great-West Life Assurance Company, London Life Insurance Company and The Canada Life Assurance Company, were moving to one brand in Canada: Canada Life. Following the required approvals, the Company also proceeded with the amalgamation of Great-West Life, London Life and Canada Life, and their holding companies, Canada Life Financial Corporation and London Insurance Group Inc., into a single life insurance company, The Canada Life Assurance Company. This amalgamation was effective January 1, 2020 and will create operating efficiencies and simplify the Company's capital structure to allow for more efficient use of capital.

- Effective June 1, 2019, the Company completed the sale, via indemnity reinsurance, of substantially all of its U.S. individual life insurance and annuity business to Protective Life who now assumes the economics and risks associated with the reinsured business. The transaction resulted in an after-tax transaction value of approximately $1.6 billion (US$1.2 billion), excluding one-time expenses. The transaction value included a ceding commission of $1,080 million (US$806 million) and a capital release of approximately $530 million (US$400 million). The business transferred included bank-owned and corporate-owned life insurance, single premium life insurance, individual annuities as well as closed block life insurance and annuities. The Company recognized a loss related to this transaction of $199 million (US$148 million). The liabilities transferred and ceding commission received at the closing of this transaction are subject to future adjustments and are currently under review. GWL&A has retained a block of life insurance, predominately participating policies, which are now administered by Protective Life, as well as a closed retrocession block of life insurance.

  In the U.S. segment, the Company continues to focus on the defined contribution retirement and asset management markets. Empower Retirement participants grew 7% to 9.4 million at December 31, 2019 compared to December 31, 2018. The assets under administration grew 30% over the year to US$673 billion on December 31, 2019.

  During 2019, Putnam undertook actions to realign its resources to better position itself for current and future opportunities. These actions included technology modernization, product consolidation, a reduction in staff and facilities reorganization and resulted in restructuring charges which reduced net earnings by $36 million (US$28 million). The Company expects to realize US$33 million in pre-tax annual operating expense savings as a result of the restructuring activities by the end of the fourth quarter of 2020. As of December 31, 2019, approximately US$24 million in pre-tax annual operating expense savings have been achieved.

- In Europe, the Company continued to expand its business with several tuck-in acquisitions. Subsequent to December 31, 2019, on February 3, 2020, Irish Life Group Limited, a subsidiary of the Company, through its subsidiary Invesco Limited, completed the acquisition of Acumen & Trust DAC, an Irish financial services consultancy firm expanding into the areas of employee benefits consulting and individual financial advice. On October 21, 2019, the Company's German business completed its acquisition of an interest in Jung DMS & Cie AG (JDC), one of the leading broker pools in Germany expanding the Company’s footprint in the German market.

  Effective November 1, 2019, the Company completed the previously announced sale of a heritage block of policies to Scottish Friendly. The Company advanced restructuring initiatives in its U.K. operations, that were announced in the prior year, relating to the integration of Retirement Advantage as well as the sale to Scottish Friendly. On December 18, 2019, the Company received regulatory approval to transfer legal ownership of all insurance policies from Retirement Advantage to Canada Life Limited, a subsidiary of the Company, which will facilitate the achievement of a portion of these expected savings.

  Subsequent to December 31, 2019, on February 10, 2020, Irish Life announced the sale of Irish Progressive Services International Limited, a wholly owned subsidiary whose principal activity is the provision of outsourced administration services for life assurance companies, to a member of the FNZ group of companies. The proposed transaction will be subject to customary closing conditions including receipt of required regulatory approvals and is expected to be completed in the second half of 2020. The Company expects to recognize a gain related to this transaction. This business did not have a material impact on the Company’s net earnings for the twelve months ended December 31, 2019.

  The Reinsurance business unit continued to build its presence in the longevity market, signing several new European long-term longevity contracts including a transaction in the fourth quarter of 2019 covering approximately €12 billion of pension liabilities, while simultaneously expanding its structured solutions portfolio and product offering.

Outlook for 2020

Refer to Cautionary Note regarding Forward-looking Information and Cautionary Note regarding non-IFRS Financial Measures at the beginning of this document.

- Lifeco is continuing to focus on its core strategies: delivering financial security and wellness through the workplace, providing advice-centered wealth management, delivering strong investment and asset management and leveraging risk and capital management expertise. The Company will invest strategically - both organically and through acquisitions - to drive growth and productivity, while maintaining strong risk and expense discipline, to deliver sustainable long-term value to its customers and shareholders.

  In 2020, the Company will remain focused on future regulatory changes, including preparing for the implementation of accounting changes related to IFRS 17, *Insurance Contracts*, which is currently proposed to be effective on January 1, 2022. The Company will be investing in updating processes and systems throughout the implementation period.
- In Canada, with the move to one brand, Canada Life, the Company will continue to invest in innovative technologies, focus on strategies to enhance growth and its competitive position and identify ways to further streamline its products, marketing, operations and structure as it delivers its products. Specifically, in its Group business, Canada Life will continue to invest in innovative member service tools and coverage solutions, allowing for greater personalization of experience and to support its customers financial security and wellness in the workplace. In its Individual business, Canada Life will continue the roll-out of market-leading solutions and digital tools that improve the client and advisor experience and provide personalized wealth solutions.
- In the U.S., focus will continue on the defined contribution retirement market and building awareness for the Empower Retirement brand. Empower Retirement is expected to grow, gain efficiencies and enhance the overall customer experience through continued focus on investment in innovation. At Putnam, the focus will continue to be on driving growth and market share through strong investment performance, service excellence and digital capabilities while optimizing business economics.
- In Europe, the Company has taken the necessary steps to prepare for the potential immediate impacts of Brexit. Contingency plans are in place and ongoing market uncertainty is being closely monitored. The Company does not currently anticipate a material impact to its Europe businesses.

  The Company intends to invest in additional system functionality and digital capacities and will expand the range of products offered in the U.K. in both the group and individual marketplace. In Ireland, deepening and broadening the market leading retail, corporate and investment management businesses, including products to support customers' financial security and wellness, will continue to be the focus. In Germany, investments will continue to implement technology to drive a better customer offering and processing efficiencies as well as lay the foundation for enhanced future growth capabilities.

  Through its leading market position, the reinsurance business unit will continue to focus on expanding strategies into other key markets and deploying capital to build on its diversified multi-niche base to grow and continue to meet client needs.

NET EARNINGS

Consolidated net earnings of Lifeco include the net earnings of Great-West Life and its operating subsidiaries, London Life, Canada Life and Irish Life; GWL&A and Putnam; together with Lifeco's Corporate operating results. Effective January 1, 2020, Great-West Life, London Life, Canada Life and their holding companies, Canada Life Financial Corporation and London Insurance Group Inc., amalgamated into a single life insurance company, The Canada Life Assurance Company.

Lifeco's net earnings for the three month period ended December 31, 2019 were $513 million compared to $710 million a year ago and $730 million in the previous quarter. On a per share basis, this represents $0.552 per common share ($0.552 diluted) for the fourth quarter of 2019 compared to $0.719 per common share ($0.719 diluted) a year ago and $0.786 per common share ($0.785 diluted) in the previous quarter. Excluding the impact of the revaluation of a deferred tax asset, restructuring costs and the net gain on the Scottish Friendly transaction, which totalled $227 million, adjusted net earnings for the fourth quarter of 2019 were $740 million or $0.797 per common share.

For the twelve months ended December 31, 2019, Lifeco's net earnings were $2,359 million compared to $2,961 million a year ago. On a per share basis, this represents $2.494 per common share ($2.493 diluted) for 2019 compared to $2.996 per common share ($2.994 diluted) a year ago.

Included in Lifeco's net earnings for the twelve months ended December 31, 2019 were adjustments of $426 million related to items discussed for the in-quarter results as well as a net charge relating to the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business to Protective Life. Net earnings in 2018 included restructuring costs of $56 million related to the Company's U.K. operations. Excluding the impact of these items, adjusted net earnings for the twelve months ended December 31, 2019 were $2,785 million or $2.944 per common share, compared to $3,017 million or $3.052 per common share a year ago.

Net earnings - common shareholders

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Canada					
Individual Customer	**$ 87**	$ 85	$ 171	**$ 431**	$ 685
Group Customer	**114**	206	144	**632**	630
Canada Corporate	**(13)**	9	(5)	**(12)**	(40)
	188	300	310	**1,051**	1,275
United States					
Financial Services[1]	**100**	63	48	**278**	240
Asset Management	**18**	13	(29)	**33**	(61)
U.S. Corporate[2][3]	**(239)**	1	—	**(236)**	52
Reinsured Insurance & Annuity Business[1][3]	**—**	—	36	**(136)**	157
	(121)	77	55	**(61)**	388
Europe					
Insurance & Annuities	**334**	306	271	**1,050**	1,036
Reinsurance	**124**	55	89	**353**	377
Europe Corporate[3]	**(6)**	(4)	(11)	**(13)**	(102)
	452	357	349	**1,390**	1,311
Lifeco Corporate	**(6)**	(4)	(4)	**(21)**	(13)
Net earnings - common shareholders	**$ 513**	$ 730	$ 710	**$ 2,359**	$ 2,961
Adjustments[3][4]					
Revaluation of a deferred tax asset	**199**	—	—	**199**	—
Restructuring costs	**36**	—	—	**36**	56
Net gain on Scottish Friendly transaction	**(8)**	—	—	**(8)**	—
Net charge on sale, via reinsurance, of a U.S. business	**—**	—	—	**199**	—
Adjusted net earnings - common shareholders[4]	**$ 740**	$ 730	$ 710	**$ 2,785**	$ 3,017

(1) Reinsured Insurance & Annuity Business reflects business transferred to Protective Life under an indemnity reinsurance agreement effective June 1, 2019. Comparative figures have been adjusted to reflect current presentation.
(2) U.S. Corporate net earnings for the second quarter of 2018 included a net positive impact of $60 million arising from refinancing in the U.S. segment completed in the second quarter of 2018.
(3) Adjustments to net earnings are included in Corporate business units of the U.S. and Europe segments as well as the Reinsured Insurance & Annuity Business unit.
(4) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

The information in the table above is a summary of results for net earnings of the Company. Additional commentary regarding net earnings is included in the "Segmented Operating Results" section.

MARKET IMPACTS

Interest Rate Environment

Interest rates in countries where the Company operates decreased during 2019. The net change in interest rates did not impact the range of interest rate scenarios tested through the valuation process and had no material impact on net earnings. The net change in interest rates for the quarter and year-to-date did not have a material impact on Great-West Life's consolidated LICAT ratio.

In order to mitigate the Company's exposure to interest rate fluctuations, the Company follows disciplined processes for matching asset and liability cash flows. As a result, the impact of changes in fair values of bonds backing insurance contract liabilities recorded through profit or loss is mostly offset by a corresponding change in the insurance contract liabilities. The Company also regularly updates pricing for new products to reflect the interest environment.

The Company's sensitivity to interest rate fluctuations is detailed in the "Accounting Policies - Summary of Critical Accounting Estimates" section.

Equity Markets

In the regions where the Company operates, average equity market levels in the fourth quarter of 2019 were higher compared to the same period in 2018 and ended the quarter at higher market levels compared to September 30, 2019. Comparing the fourth quarter of 2019 to the fourth quarter of 2018, average equity market levels were up by 12% in Canada (as measured by S&P TSX), 15% in the U.S. (as measured by S&P 500), 5% in the U.K. (as measured by FTSE 100) and 15% in broader Europe (as measured by Eurostoxx 50). The major equity indices finished the fourth quarter up 2% in Canada, 9% in the U.S., 2% in the U.K. and 5% in broader Europe, compared to September 30, 2019.

Relative to the Company's expectation, the change in average market levels and market volatility had a negligible impact on net earnings during the fourth quarter of 2019 and a $11 million positive impact year-to-date in 2019 (negative impact of $50 million in the fourth quarter of 2018 and $47 million year-to-date in 2018), related to asset-based fee income and the costs related to guarantees of death, maturity or income benefits within certain wealth management products offered by the Company.

In addition, the impact on net earnings was positive $5 million in the fourth quarter of 2019 and $46 million year-to-date in 2019 (negative impact of $14 million in the fourth quarter of 2018 and $4 million year-to-date in 2018), primarily related to seed money investments held in the U.S. Asset Management and Canada Corporate business units.

The change in equity markets negatively impacted the fourth quarter 2019 net earnings by $9 million and $36 million year-to-date (negative impact of $8 million in the fourth quarter of 2018 and $2 million year-to-date in 2018), primarily as a result of an unfavourable tax related item in the Europe segment in 2019. Included in 2018 was the impact of actuarial assumption changes and annuity reserve strengthening, partly offset by a favourable tax related item in the Europe segment.

Foreign Currency

Throughout this document a number of terms are used to highlight the impact of foreign exchange on results, such as: "constant currency basis", "impact of currency movement", and "effect of currency translation fluctuations". These measures have been calculated using the average or period end rates, as appropriate, in effect at the date of the comparative period. This measure provides useful information as it facilitates the comparability of results between periods.

The average currency translation rate for the fourth quarter of 2019 was comparable for the U.S. dollar and British pound and decreased for the euro compared to the fourth quarter of 2018. The overall impact of currency movement on the Company's net earnings for the three month period ended December 31, 2019 was a decrease of $6 million ($26 million year-to-date) compared to translation rates a year ago.

From September 30, 2019 to December 31, 2019, the market rate at the end of the reporting period used to translate U.S. dollar assets and liabilities to the Canadian dollar decreased, while the euro and British pound increased. The movements in end-of-period market rates resulted in unrealized foreign exchange gains from the translation of foreign operations, including related hedging activities, of $284 million in-quarter ($475 million net unrealized loss year-to-date) recorded in other comprehensive income.

Translation rates for the reporting period and comparative periods are detailed in the "Translation of Foreign Currency" section.

Credit Markets

Credit markets impact on common shareholders' net earnings (after-tax)

	Impairment (charges) / recoveries	Changes in provisions for future credit losses in insurance contract liabilities	Total	Impairment (charges) / recoveries	Changes in provisions for future credit losses in insurance contract liabilities	Total
	For the three months ended December 31, 2019			For the twelve months ended December 31, 2019		
Canada	$ —	$ 1	$ 1	$ —	$ (7)	$ (7)
United States	5	(3)	2	6	(3)	3
Europe	—	(11)	(11)	(20)	9	(11)
Total	**$ 5**	**$ (13)**	**$ (8)**	**$ (14)**	**$ (1)**	**$ (15)**
	For the three months ended December 31, 2018			**For the twelve months ended December 31, 2018**		
Total	**$ (2)**	**$ (15)**	**$ (17)**	**$ 3**	**$ (40)**	**$ (37)**

In the fourth quarter of 2019, the Company experienced net recoveries on impaired investments, including dispositions, which positively impacted common shareholders' net earnings by $5 million ($2 million net charge in the fourth quarter of 2018). Changes in credit ratings in the Company's fixed income portfolio resulted in a net increase in provisions for future credit losses in insurance contract liabilities, which negatively impacted common shareholders' net earnings by $13 million ($15 million negative impact in the fourth quarter of 2018), primarily due to downgrades of various corporate bond holdings.

For the twelve months ended December 31, 2019, the Company experienced net charges on impaired investments, including dispositions, which negatively impacted common shareholders' net earnings by $14 million ($3 million net recovery in 2018). Net charges on impaired investments reflect net allowances for credit losses included in net investment income and the associated release of actuarial provisions for future credit losses, as applicable. Charges for the twelve months ended December 31, 2019 were primarily driven by impairment charges on mortgage loans as a result of a U.K. retail tenant entering a prepackaged administration, which was followed by a Company Voluntary Arrangement (CVA). Changes in credit ratings in the Company's fixed income portfolio resulted in a net increase in provisions for future credit losses in insurance contract liabilities, which negatively impacted common shareholders' net earnings by $1 million year-to-date ($40 million net negative impact in 2018). The $40 million net negative impact for the twelve months ended December 31, 2018 included $16 million related to downgrades to mortgages on certain U.K. retail properties.

These credit impacts do not reflect the impact to insurance contract liabilities related to the decline in the expected cash flows relating to the mortgage loans and investment properties where certain U.K. retailers occupying the properties continued to experience financial difficulties as recorded in the results of the second quarter of 2019. The related negative impact to common shareholders' net earnings was $68 million and is discussed as part of the United Kingdom property related exposures in the "Invested Assets" section.

ACTUARIAL ASSUMPTION CHANGES AND MANAGEMENT ACTIONS

During the fourth quarter of 2019, the negative impact of actuarial assumption updates and management actions on adjusted net earnings was $78 million, compared to positive impacts of $83 million for the same quarter last year and positive impacts of $81 million for the previous quarter.

In Canada, net earnings were negatively impacted by $82 million, primarily due to updated policyholder behaviour, annuitant mortality and morbidity assumptions. In Europe, adjusted net earnings were negatively impacted by $21 million, primarily due to updated expense and morbidity assumptions, partially offset by updated annuitant mortality assumptions. In the U.S., adjusted net earnings were positively impacted by $25 million, primarily due to the impact of a partial settlement of an employee pension plan and an update to economic assumptions, partially offset by updated life mortality assumptions.

For the twelve months ended December 31, 2019, actuarial assumption changes and management actions resulted in a positive adjusted net earnings impact of $170 million, compared to $616 million for the same period in 2018. Including the impact of management actions and actuarial assumption changes relating to the Scottish Friendly transaction and the reinsurance transaction with Protective Life discussed for Q2 2019, management actions and actuarial assumption changes resulted in a positive adjusted net earnings impact of $142 million for 2019. Year-to-date 2019 actuarial assumption changes include the impact of the Canadian Actuarial Standards Board's revised standards for the valuation of insurance contract liabilities, which were effective October 15, 2019. The revised standards include decreases to ultimate reinvestment rates and revised calibration criteria for stochastic risk-free interest rates and resulted in a negative adjusted net earnings impact of $48 million in the Canada and U.S. segments in the third quarter of 2019.

PREMIUMS AND DEPOSITS AND SALES

Premiums and deposits[(1)]

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Canada					
Individual Customer	**$ 3,110**	$ 2,490	$ 2,862	**$ 10,619**	$ 10,461
Group Customer	**4,119**	4,563	3,776	**16,727**	15,837
	7,229	7,053	6,638	**27,346**	26,298
United States					
Financial Services[(2)]	**3,150**	3,071	2,595	**11,783**	10,375
Asset Management	**15,983**	14,360	17,483	**57,299**	59,848
Reinsured Insurance & Annuity Business[(2)]	**347**	239	510	**1,393**	2,252
	19,480	17,670	20,588	**70,475**	72,475
Europe					
Insurance & Annuities	**7,931**	7,596	6,485	**35,374**	26,985
Reinsurance	**4,456**	4,098	3,872	**17,443**	13,504
	12,387	11,694	10,357	**52,817**	40,489
Total premiums and deposits	**$ 39,096**	$ 36,417	$ 37,583	**$ 150,638**	$ 139,262

Sales[(1)]

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Canada	**$ 3,609**	$ 3,520	$ 3,447	**$ 13,249**	$ 13,186
United States	**31,781**	31,245	32,080	**163,087**	105,948
Europe - Insurance & Annuities	**6,566**	7,098	5,972	**31,976**	24,481
Total sales	**$ 41,956**	$ 41,863	$ 41,499	**$ 208,312**	$ 143,615

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(2) Reinsured Insurance & Annuity Business reflects business transferred to Protective Life under an indemnity reinsurance agreement effective June 1, 2019. For the twelve months ended December 31, 2019, premiums and deposits exclude the initial ceded premium of $13,889 million related to the transfer. Comparative figures have been adjusted to reflect current presentation.

The information in the table above is a summary of results for the Company's total premiums and deposits and sales. Additional commentary regarding premiums and deposits and sales is included in the "Segmented Operating Results" section.

NET INVESTMENT INCOME

Net investment income	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Investment income earned (net of investment properties expenses)	**$ 1,388**	$ 1,470	$ 1,653	**$ 5,965**	$ 6,377
Allowances for credit losses on loans and receivables	**(2)**	—	—	**(50)**	(4)
Net realized gains	**119**	28	13	**412**	113
Regular investment income	**1,505**	1,498	1,666	**6,327**	6,486
Investment expenses	**(43)**	(46)	(34)	**(166)**	(128)
Regular net investment income	**1,462**	1,452	1,632	**6,161**	6,358
Changes in fair value through profit or loss	**(1,766)**	2,102	(398)	**6,946**	(3,606)
Net investment income	**$ (304)**	$ 3,554	$ 1,234	**$ 13,107**	$ 2,752

Net investment income in the fourth quarter of 2019, which includes changes in fair value through profit or loss, decreased by $1,538 million compared to the same quarter last year. The changes in fair value in the fourth quarter of 2019 were a decrease of $1,766 million compared to $398 million for the fourth quarter of 2018. In the fourth quarter of 2019, the net decrease to fair values was primarily due to an increase in bond yields across all geographies. In the fourth quarter of 2018, the net decrease to fair values was primarily due to a decline in Canadian equity markets, partially offset by a decline in bond yields across all geographies.

Regular net investment income in the fourth quarter of 2019 of $1,462 million, which excludes changes in fair value through profit or loss, decreased by $170 million compared to the same quarter last year. The decrease was primarily due to lower interest on bond and mortgage investments relating to U.S. segment assets transferred under the indemnity reinsurance agreement with Protective Life in the second quarter of 2019, partially offset by higher net realized gains primarily driven by early mortgage redemptions. Net realized gains include gains on available-for-sale securities of $24 million for the fourth quarter of 2019 compared to $1 million for the same quarter last year.

For the twelve months ended December 31, 2019, net investment income increased by $10,355 million compared to the same period last year. The changes in fair value for the twelve month period in 2019 were an increase of $6,946 million compared to a decrease of $3,606 million during the same period in 2018. The changes in fair value were primarily due to a decrease in bond yields across all geographies and an increase in Canadian equity markets in 2019. In 2018, there was an increase in bond yields across all geographies and a decrease in Canadian equity markets.

Regular net investment income for the twelve months ended December 31, 2019 of $6,161 million decreased by $197 million compared to the same period last year. The decrease was primarily due to lower interest on bond and mortgage investments relating to the transaction with Protective Life discussed for the in-quarter results and higher net allowances for credit losses, partially offset by higher net realized gains. For the twelve months ended December 31, 2019, net allowances for credit losses on loans and receivables of $50 million primarily reflect the impact of an increase to net allowances for mortgage loans, primarily related to a U.K. retail tenant entering a prepackaged administration in the second quarter of 2019. Higher net realized gains for the twelve months ended December 31, 2019 were primarily driven by U.S. segment assets transferred under the transaction with Protective Life in the second quarter of 2019, which were offset by changes in insurance contract liabilities and subsequently ceded to Protective Life as part of the transaction. Net realized gains include gains on available-for-sale securities of $76 million for the twelve months ended December 31, 2019 compared to net realized losses of $4 million for the same period last year.

Net investment income in the fourth quarter of 2019 decreased by $3,858 million compared to the previous quarter, primarily due to net decreases in fair values of $1,766 million in the fourth quarter of 2019 compared to net increases in fair values of $2,102 million in the previous quarter. The net change in fair value was primarily due to an increase in bond yields across all geographies during the fourth quarter of 2019 compared to a decrease in bond yields across all geographies in the third quarter of 2019.

FEE AND OTHER INCOME

In addition to providing traditional risk-based insurance products, the Company also provides certain products on a fee-for-service basis. The most significant of these products are segregated funds and mutual funds, for which the Company earns investment management fees on assets managed and other fees, as well as administrative services only (ASO) contracts, under which the Company provides group benefit plan administration on a cost-plus basis.

Fee and other income

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Canada					
Segregated funds, mutual funds and other	**$ 404**	$ 396	$ 378	**$ 1,561**	$ 1,540
ASO contracts	**53**	51	50	**205**	196
	457	447	428	**1,766**	1,736
United States					
Segregated funds, mutual funds and other	**679**	665	644	**2,687**	2,603
Life insurance and annuity reinsurance ceding commission[1]	**—**	—	—	**1,080**	—
	679	665	644	**3,767**	2,603
Europe					
Segregated funds, mutual funds and other	**379**	384	348	**1,548**	1,480
Total fee and other income	**$ 1,515**	$ 1,496	$ 1,420	**$ 7,081**	$ 5,819

(1) For the twelve months ended December 31, 2019, fee and other income includes a ceding commission of $1,080 million related to the Protective Life transaction.

The information in the table above is a summary of gross fee and other income for the Company. Excluding the ceding commission related to the Protective Life transaction, fee and other income for the twelve months ended December 31, 2019 was $6,001 million. Additional commentary regarding fee and other income is included in the "Segmented Operating Results" section.

NET POLICYHOLDER BENEFITS, DIVIDENDS AND EXPERIENCE REFUNDS

Net policyholder benefits, dividends and experience refunds

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Canada	**$ 2,514**	$ 2,328	$ 2,272	**$ 9,684**	$ 9,324
United States	**1,187**	933	1,172	**4,412**	4,592
Europe	**6,302**	5,207	5,052	**22,319**	17,650
Total	**$ 10,003**	$ 8,468	$ 8,496	**$ 36,415**	$ 31,566

Net policyholder benefits, dividends and experience refunds include life and health claims, policy surrenders, maturities, annuity payments, segregated fund guarantee payments, policyholder dividends and experience refund payments. The amounts do not include benefit payments for ASO contracts, segregated funds or mutual funds.

For the three months ended December 31, 2019, net policyholder benefits, dividends and experience refunds were $10.0 billion, an increase of $1.5 billion from the same period in 2018 driven by higher net policyholder benefits. The increase in benefit payments was primarily due to new reinsurance agreements and higher volumes relating to existing business in Europe.

For the twelve months ended December 31, 2019, net policyholder benefits, dividends and experience refunds were $36.4 billion, an increase of $4.8 billion from the same period in 2018 driven by higher net policyholder benefits. The increase in benefit payments was primarily due to new reinsurance agreements and higher volumes relating to existing business in Europe, partially offset by higher ceded policyholder benefits in the U.S. as a result of the sale, via indemnity reinsurance, on June 1, 2019 to Protective Life.

Compared to the previous quarter, net policyholder benefits, dividends and experience refunds increased by $1.5 billion, primarily due to the same reasons discussed for the in-quarter results.

OTHER BENEFITS AND EXPENSES

Other benefits and expenses[(1)]	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Operating and administrative expenses	**$ 1,298**	$ 1,258	$ 1,311	**$ 5,231**	$ 5,033
Commissions	**650**	571	673	**2,429**	2,474
Premium taxes	**128**	123	128	**506**	495
Financing charges	**71**	70	70	**285**	221
Amortization of finite life intangible assets and impairment reversal	**60**	57	59	**224**	212
Restructuring expenses	**52**	—	—	**52**	67
Total	**$ 2,259**	$ 2,079	$ 2,241	**$ 8,727**	$ 8,502

(1) For the twelve months ended December 31, 2019, operating and administrative expenses include $120 million related to the Protective Life transaction. Refer to the "Segmented Operating Results - United States" section of this document for additional details.

Other benefits and expenses for the fourth quarter of 2019 of $2,259 million increased by $18 million compared to the fourth quarter of 2018, primarily due to restructuring expenses in the U.S. segment.

For the twelve months ended December 31, 2019, other benefits and expenses increased by $225 million to $8,727 million compared to the same period last year, primarily due to higher operating and administrative expenses, driven by a net charge on the sale, via indemnity reinsurance, of a U.S. business and higher financing charges. In the second quarter of 2018, financing charges were reduced by a gain of $65 million pre-tax ($51 million post-tax) recognized on the termination of an interest rate hedge as part of a debt refinancing transaction.

Other benefits and expenses for the fourth quarter of 2019 increased by $180 million compared to the previous quarter, primarily due to an increase in restructuring expenses discussed for the in-quarter results and higher commissions driven by higher sales in the U.S. segment.

INCOME TAXES

The Company's effective income tax rate is generally lower than the statutory income tax rate of 27% due to benefits related to non-taxable investment income and lower income tax in foreign jurisdictions.

In the fourth quarter of 2019, the Company had an effective income tax rate of 22%, up from 6% in the fourth quarter of 2018. During the fourth quarter of 2019, management determined that a $199 million revaluation of a deferred income tax asset pertaining to one of its subsidiaries was appropriate due to timing uncertainty in projected taxable income available to utilize certain restricted net operating losses generated in the earliest loss years. Also, in the fourth quarter of 2019, the Company resolved an outstanding issue with a foreign tax authority. The net impact of these items was an increase in the effective tax rate for the fourth quarter of 2019 by 15 points. Excluding the impact of these two items, the effective income tax rate for the fourth quarter of 2019 was 7%, comparable to the prior year.

The Company had an effective income tax rate of 13% for the twelve months ended December 31, 2019 compared to 11% for the same period last year. Excluding the impact of the revaluation of a deferred tax asset and the tax issue resolution discussed for the in-quarter results, the Company's effective tax rate was 10% for the twelve months ended December 31, 2019, comparable to the same period last year.

In the fourth quarter of 2019, the Company had an effective income tax rate of 22%, up from 6% in the third quarter of 2019. Excluding the impact of the revaluation of a deferred tax asset and the tax issue resolution discussed for the in-quarter results, the Company's effective income tax rate for the fourth quarter of 2019 was 7%, comparable to the third quarter of 2019.

Effective January 1, 2019, the Company applied International Financial Reporting Interpretations Committee (IFRIC) 23, *Uncertainty over Income Tax Treatments* (IFRIC 23). Refer to the "Accounting Policies - International Financial Reporting Standards" section for further details.

Refer to note 27 in the Company's December 31, 2019 consolidated financial statements for further details.

CONSOLIDATED FINANCIAL POSITION

ASSETS

Assets under administration

	December 31, 2019			
	Canada	**United States**	**Europe**	**Total**
Assets				
Invested assets	$ **81,179**	$ **32,768**	$ **54,840**	$ **168,787**
Goodwill and intangible assets	**5,560**	**1,990**	**2,834**	**10,384**
Other assets	**3,953**	**19,421**	**17,600**	**40,974**
Investments on account of segregated fund policyholders	**85,612**	**31,433**	**113,977**	**231,022**
Total assets	**176,304**	**85,612**	**189,251**	**451,167**
Proprietary mutual funds and institutional net assets(1)	**6,986**	**257,301**	**56,261**	**320,548**
Total assets under management(1)	**183,290**	**342,913**	**245,512**	**771,715**
Other assets under administration(1)	**17,118**	**792,110**	**48,738**	**857,966**
Total assets under administration(1)	$ **200,408**	$ **1,135,023**	$ **294,250**	$ **1,629,681**

	December 31, 2018			
	Canada	United States	Europe	Total
Assets				
Invested assets	$ 75,647	$ 47,500	$ 54,334	$ 177,481
Assets held for sale	—	—	897	897
Goodwill and intangible assets	5,516	2,130	2,878	10,524
Other assets	3,110	4,495	18,336	25,941
Investments on account of segregated fund policyholders	76,633	31,816	101,078	209,527
Investments on account of segregated fund policyholders held for sale	—	—	3,319	3,319
Total assets	160,906	85,941	180,842	427,689
Proprietary mutual funds and institutional net assets(1)	6,214	235,075	40,375	281,664
Total assets under management(1)	167,120	321,016	221,217	709,353
Other assets under administration(1)	13,615	630,881	45,024	689,520
Total assets under administration(1)	$ 180,735	$ 951,897	$ 266,241	$ 1,398,873

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

Total assets under administration at December 31, 2019 increased by $230.8 billion to $1.6 trillion compared to December 31, 2018, primarily due to the impact of market movement and new business growth, partially offset by the impact of currency movement. As a result of the indemnity reinsurance agreement with Protective Life, effective June 1, 2019, the U.S. segment's invested assets decreased, as $15.5 billion of invested assets were transferred to Protective Life, offset by $1.0 billion of cash received, while other assets increased as a result of the recognition of $15.2 billion of reinsurance assets. The increase of $161.2 billion in the U.S. segment's other assets under administration includes the impact of large plan sales in the first quarter of 2019. The increase of $3.5 billion in the Canada segment's other assets under administration includes the acquisition of Guggenheim Real Estate LLC during the first quarter of 2019.

Assets held for sale of $0.9 billion and investments on account of segregated fund policyholders held for sale of $3.3 billion at December 31, 2018 relate to the sale of a heritage block of policies to Scottish Friendly, which was completed in the fourth quarter of 2019. Refer to note 4 of the Company's December 31, 2019 consolidated financial statements for further information on assets classified as held for sale.

INVESTED ASSETS

The Company manages its general fund assets to support the cash flow, liquidity and profitability requirements of the Company's insurance and investment products. The Company follows prudent and conservative investment policies, so that assets are not unduly exposed to concentration, credit or market risks. Within the framework of the Company's policies, the Company implements strategies and reviews and adjusts them on an ongoing basis considering liability cash flows and capital market conditions. The majority of investments of the general fund are in medium-term and long-term fixed-income investments, primarily bonds and mortgages, reflecting the characteristics of the Company's liabilities.

Invested asset distribution

	December 31, 2019				
	Canada	**United States**	**Europe**	**Total**	
Bonds					
Government & related	**$ 22,237**	**$ 3,698**	**$ 21,214**	**$ 47,149**	**28%**
Corporate & other	**27,797**	**17,808**	**22,274**	**67,879**	**40**
Sub-total bonds	**50,034**	**21,506**	**43,488**	**115,028**	**68**
Mortgages	**14,810**	**3,996**	**5,462**	**24,268**	**14**
Stocks	**9,675**	**301**	**399**	**10,375**	**6**
Investment properties	**3,130**	**6**	**2,751**	**5,887**	**4**
Sub-total portfolio investments	**77,649**	**25,809**	**52,100**	**155,558**	**92**
Cash and cash equivalents	**558**	**1,445**	**2,625**	**4,628**	**3**
Loans to policyholders	**2,972**	**5,514**	**115**	**8,601**	**5**
Total invested assets	**$ 81,179**	**$ 32,768**	**$ 54,840**	**$ 168,787**	**100%**

	December 31, 2018				
	Canada	United States	Europe	Total	
Bonds					
Government & related	$ 21,091	$ 5,291	$ 22,405	$ 48,787	28%
Corporate & other	26,174	28,266	21,635	76,075	43
Sub-total bonds	47,265	33,557	44,040	124,862	71
Mortgages	14,039	6,440	4,535	25,014	14
Stocks	8,724	187	379	9,290	5
Investment properties	2,330	7	2,881	5,218	3
Sub-total portfolio investments	72,358	40,191	51,835	164,384	93
Cash and cash equivalents	455	1,330	2,383	4,168	2
Loans to policyholders	2,834	5,979	116	8,929	5
Total invested assets	$ 75,647	$ 47,500	$ 54,334	$ 177,481	100%

At December 31, 2019, total invested assets were $168.8 billion, a decrease of $8.7 billion from December 31, 2018. The decrease in invested assets was primarily related to $15.5 billion of invested assets transferred, offset by $1.0 billion of cash received, to support the indemnity reinsurance agreement with Protective Life. The decrease was partially offset by the impact of market movement. The distribution of assets has not changed significantly and remains heavily weighted to bonds and mortgages.

Bond portfolio – It is the Company's policy to acquire primarily investment grade bonds subject to prudent and well-defined investment policies. Modest investments in below investment grade rated securities may occur while not changing the overall discipline and conservative approach to the investment strategy. The total bond portfolio, including short-term investments, was $115.0 billion or 68% of invested assets at December 31, 2019 compared to $124.9 billion or 71% at December 31, 2018. The decrease in the bond portfolio was primarily related to $13.6 billion of assets transferred to support the indemnity reinsurance agreement with Protective Life. The overall quality of the bond portfolio remained high, with 99% of the portfolio rated investment grade and 80% rated A or higher.

Bond portfolio quality	December 31, 2019		December 31, 2018	
AAA	$ 22,083	19 %	$ 23,558	19%
AA	33,272	29	33,793	27
A	37,233	32	41,008	33
BBB	21,922	19	25,553	20
BB or lower	518	1	950	1
Total	$ 115,028	100 %	$ 124,862	100%

At December 31, 2019, non-investment grade bonds were $0.5 billion or 0.5% of the bond portfolio compared to $1.0 billion or 0.8% of the bond portfolio at December 31, 2018. The decrease in non-investment grade bonds was primarily due to upgrades to investment grade and disposals in the year.

Mortgage portfolio – It is the Company's practice to acquire high quality commercial mortgages meeting strict underwriting standards and diversification criteria. The Company has a well-defined risk-rating system, which it uses in its underwriting and credit monitoring processes for commercial loans. Residential loans are originated by the Company's mortgage specialists in accordance with well-established underwriting standards and are well diversified across each geographic region, including specific diversification requirements for non-insured mortgages. Equity release mortgages are originated in the Europe segment following well-defined lending criteria and held in both the Canada and Europe segments. Equity release mortgages are loans provided to seniors who want to continue living in their homes while accessing some of the underlying equity value in their homes. Loans are typically repaid when the borrower dies or moves into long-term care.

Mortgage portfolio	December 31, 2019				December 31, 2018	
Mortgage loans by type	Insured	Non-insured	Total		Total	
Single family residential	$ 572	$ 1,497	$ 2,069	9%	$ 2,104	8%
Multi-family residential	3,569	3,435	7,004	29	7,617	31
Equity release	—	1,314	1,314	5	813	3
Commercial	267	13,614	13,881	57	14,480	58
Total	$ 4,408	$ 19,860	$ 24,268	100%	$ 25,014	100%

The total mortgage portfolio was $24.3 billion or 14% of invested assets at December 31, 2019, compared to $25.0 billion or 14% of invested assets at December 31, 2018. The decrease in the mortgage portfolio was primarily related to $1.8 billion of commercial mortgage assets transferred to support the indemnity reinsurance agreement with Protective Life. Total insured loans were $4.4 billion or 18% of the mortgage portfolio. The equity release mortgages had a weighted average loan-to-value of 26% (23% at December 31, 2018).

Commercial mortgages	December 31, 2019				December 31, 2018			
	Canada	U.S.	Europe	Total	Canada	U.S.	Europe	Total
Retail & shopping centres	$ 3,668	$ 480	$ 1,245	$ 5,393	$ 3,616	$ 656	$ 1,341	$ 5,613
Office buildings	2,011	656	1,273	3,940	1,795	1,043	614	3,452
Industrial	1,816	787	779	3,382	1,418	1,859	800	4,077
Other	376	275	515	1,166	394	448	496	1,338
Total	$ 7,871	$ 2,198	$ 3,812	$ 13,881	$ 7,223	$ 4,006	$ 3,251	$ 14,480

Single family residential mortgages

Region	December 31, 2019		December 31, 2018	
Ontario	**$ 1,073**	**52%**	$ 1,055	51%
Quebec	**432**	**21**	445	21
Alberta	**118**	**6**	126	6
Newfoundland	**98**	**5**	108	5
British Columbia	**94**	**4**	112	5
Saskatchewan	**90**	**4**	90	4
Nova Scotia	**58**	**3**	62	3
New Brunswick	**53**	**3**	54	3
Manitoba	**48**	**2**	47	2
Other	**5**	**—**	5	—
Total	**$ 2,069**	**100%**	$ 2,104	100%

During the twelve months ended December 31, 2019, single family mortgage originations, including renewals, were $482 million, of which 28% were insured ($577 million and 25% at December 31, 2018). Insured mortgages include mortgages where insurance is provided by a third party and protects the Company in the event that the borrower is unable to fulfill their mortgage obligations. Loans that are insured are subject to the requirements of the mortgage default insurance provider. For new originations of non-insured residential mortgages, the Company's investment policies limit the amortization period to a maximum of 25 years and the loan-to-value to a maximum of 80% of the purchase price or current appraised value of the property. The weighted average remaining amortization period for the single family residential mortgage portfolio was 21 years as at December 31, 2019 (21 years at December 31, 2018).

Equity portfolio – The total equity portfolio was $16.3 billion or 10% of invested assets at December 31, 2019 compared to $14.5 billion or 8% of invested assets at December 31, 2018. The equity portfolio consists of publicly traded stocks, privately held stocks and investment properties. The increase in publicly traded stocks of $0.9 billion was primarily due to an increase in Canadian equity markets and the increase in privately held stocks of $0.2 billion was primarily due to acquisitions in the Canada segment. The increase in investment properties of $0.7 billion was mainly the result of purchases in the Canada segment.

Equity portfolio

	December 31, 2019		December 31, 2018	
Equity portfolio by type				
Publicly traded stocks	**$ 9,766**	**60%**	$ 8,873	61%
Privately held stocks	**609**	**4**	417	3
Sub-total	**10,375**	**64**	9,290	64
Investment properties	**5,887**	**36**	5,218	36
Total	**$ 16,262**	**100%**	$ 14,508	100%

Investment properties

	December 31, 2019				December 31, 2018			
	Canada	**U.S.**	**Europe**	**Total**	Canada	U.S.	Europe	Total
Office buildings	**$ 1,523**	**$ —**	**$ 664**	**$ 2,187**	$ 1,015	$ —	$ 673	$ 1,688
Industrial	**519**	**—**	**773**	**1,292**	363	—	783	1,146
Retail	**215**	**—**	**945**	**1,160**	210	—	1,045	1,255
Other	**873**	**6**	**369**	**1,248**	742	7	380	1,129
Total	**$ 3,130**	**$ 6**	**$ 2,751**	**$ 5,887**	$ 2,330	$ 7	$ 2,881	$ 5,218

Impaired investments – Impaired investments include bonds in default, mortgages in default or in the process of foreclosure, investment properties acquired by foreclosure and other assets where management no longer has reasonable assurance that all contractual cash flows will be received.

Impaired investments

	December 31, 2019				December 31, 2018			
	Gross amount	**Impairment recovery**	**Impairment provision**	**Carrying amount**	Gross amount	Impairment recovery	Impairment provision	Carrying amount
Fair value through profit or loss	**$ 19**	**$ 2**	**$ —**	**$ 21**	$ 164	$ 15	$ (1)	$ 178
Available-for-sale	**16**	**—**	**—**	**16**	31	1	(2)	30
Loans and receivables	**80**	**—**	**(51)**	**29**	48	—	(20)	28
Total	**$ 115**	**$ 2**	**$ (51)**	**$ 66**	$ 243	$ 16	$ (23)	$ 236

The gross amount of impaired investments totalled $115 million or 0.1% of invested assets at December 31, 2019 compared to $243 million or 0.1% at December 31, 2018, a net decrease of $128 million. The decrease in impaired investments was primarily due to ratings upgrades and dispositions, partially offset by mortgage loans impaired in 2019 as a result of a U.K. retail tenant entering a prepackaged administration, which was followed by a Company Voluntary Arrangement (CVA).

The impairment recovery at December 31, 2019 was $2 million, which reflects the improvement in market values of certain investments from the date at which they became impaired. The impairment provision at December 31, 2019 was $51 million compared to $23 million at December 31, 2018. The increase was primarily due to mortgage provisions related to the U.K. mortgages impaired in 2019. While the fair values have improved on certain impaired assets, these assets remain impaired based on other impairment factors as described in the "Summary of Critical Accounting Estimates" section of this document and in note 2 of the Company's December 31, 2019 annual consolidated financial statements.

Provision for future credit losses

As a component of insurance contract liabilities, the total actuarial provision for future credit losses is determined consistent with the Canadian Institute of Actuaries' Standards of Practice and includes provisions for adverse deviation.

At December 31, 2019, the total actuarial provision for future credit losses in insurance contract liabilities was $2,575 million compared to $2,595 million at December 31, 2018, a decrease of $20 million. The decrease was primarily due to the sale, via indemnity reinsurance, of substantially all of GWL&A's individual life insurance and annuity business in its U.S. segment, basis changes and the impact of impairments on U.K. mortgage loans, partially offset by normal business activity.

The aggregate of impairment provisions of $51 million ($23 million at December 31, 2018) and actuarial provisions for future credit losses in insurance contract liabilities of $2,575 million ($2,595 million at December 31, 2018) represents 1.8% of bond and mortgage assets, including funds held by ceding insurers, at December 31, 2019 (1.7% at December 31, 2018).

United Kingdom Property Related Exposures

Holdings of United Kingdom Mortgages and Investment Properties

	December 31, 2019							December 31, 2018
	Multi-family residential	**Retail & shopping centres**	**Office buildings**	**Industrial**	**Equity release**	**Other**	**Total**	Total
Mortgages	**$ 677**	**$ 1,563**	**$ 1,264**	**$ 870**	**$ 1,314**	**$ 535**	**$ 6,223**	$ 4,925
Investment properties	**—**	**928**	**664**	**773**	**—**	**361**	**2,726**	2,850
Total	**$ 677**	**$ 2,491**	**$ 1,928**	**$ 1,643**	**$ 1,314**	**$ 896**	**$ 8,949**	$ 7,775

At December 31, 2019, the Company's holdings of property related investments in the U.K. were $8.9 billion, or 5.3% of invested assets compared to $7.8 billion at December 31, 2018. The increase from December 31, 2018 was primarily due to originations of commercial and equity release mortgages. Holdings in Central London were $2.8 billion or 1.7% of invested assets compared to $2.3 billion or 1.3% at December 31, 2018, while holdings in other regions of the U.K. were $6.1 billion or 3.6% of invested assets compared to $5.5 billion or 3.1% at December 31, 2018. These holdings were well diversified across property type - Retail (28%), Industrial/Other (28%), Office (21%), Equity release (15%) and Multi-family (8%). Of the Retail sector holdings, 49% relate to warehouse/distribution and other retail, 29% relate to shopping centres and department stores and 22% relate to grocery retail sub-categories. The weighted average loan-to-value ratio of the mortgages was 51% (51% at December 31, 2018) and the weighted average debt-service coverage ratio was 2.7 at December 31, 2019 (2.5 at December 31, 2018). At December 31, 2019, the weighted average mortgage and property lease term exceeded 11 years (11 years at December 31, 2018).

In the second quarter of 2019, a number of the Company’s U.K. mortgage loans and investment properties were impacted as certain U.K. retailers occupying the properties continued to experience financial difficulties. For these mortgage loans and investment properties, a decline in the expected cash flows from the properties resulted in an increase in insurance contract liabilities, which negatively impacted common shareholders’ net earnings by $68 million and was primarily related to a U.K. retail tenant that entered a prepackaged administration, which was followed by a CVA during the second quarter of 2019.

DERIVATIVE FINANCIAL INSTRUMENTS

There were no major changes to the Company's policies and procedures with respect to the use of derivative financial instruments in 2019. The Company’s derivative transactions are generally governed by International Swaps and Derivatives Association, Inc. (ISDA) Master Agreements, which provide for legally enforceable set-off and close-out netting of exposure to specific counterparties in the event of an early termination of a transaction, which includes, but is not limited to, events of default and bankruptcy. In the event of an early termination, the Company is permitted to set off receivables from a counterparty against payables to the same counterparty, in the same legal entity, arising out of all included transactions. The Company’s ISDA Master Agreements may include Credit Support Annex provisions, which require both the pledging and accepting of collateral in connection with its derivative transactions.

At December 31, 2019, total financial collateral, including initial margin and overcollateralization, received on derivative assets was $156 million ($113 million at December 31, 2018) and pledged on derivative liabilities was $634 million ($691 million at December 31, 2018). Collateral received on derivative assets increased and collateral pledged on derivative liabilities decreased in 2019, primarily driven by the impact of the Canadian dollar strengthening against the U.S. dollar on cross-currency swaps that pay U.S. and receive Canadian dollars.

During the twelve month period ended December 31, 2019, the outstanding notional amount of derivative contracts increased by $2.0 billion to $21.6 billion, primarily due to an increase in forward settling mortgage backed security transactions (“to-be-announced-securities”) and regular hedging activities.

The Company’s exposure to derivative counterparty credit risk, which reflects the current fair value of those instruments in a gain position, increased to $451 million at December 31, 2019 from $417 million at December 31, 2018. The increase was primarily driven by the impact of the Canadian dollar strengthening against the U.S. dollar on cross-currency swaps that pay U.S. and receive Canadian dollars.

Goodwill and intangible assets

Goodwill and intangible assets

	December 31	
	2019	2018
Goodwill	**$ 6,505**	$ 6,548
Indefinite life intangible assets	**2,704**	2,784
Finite life intangible assets	**1,175**	1,192
Total	**$ 10,384**	$ 10,524

The Company's goodwill and intangible assets relate primarily to its acquisitions of London Life, Canada Life, Putnam and Irish Life. Goodwill and intangible assets of $10.4 billion at December 31, 2019 decreased by $140 million compared to December 31, 2018. Goodwill decreased by $43 million and indefinite life intangible assets decreased by $80 million primarily due to impairments and the impact of currency movement. During the second quarter of 2019, goodwill of $19 million was impaired as a result of the sale, via indemnity reinsurance, of the individual life insurance and annuity business to Protective Life. Finite life intangible assets decreased by $17 million primarily due to the impact of currency movement.

IFRS principles require the Company to assess at the end of each reporting period whether there is any indication that an asset may be impaired and to perform an impairment test on goodwill and indefinite life intangible assets at least annually or more frequently if events indicate that impairment may have occurred. Intangible assets that were previously impaired are reviewed at each reporting date for evidence of reversal. Finite life intangible assets are reviewed annually to determine if there are indications of impairment and assess whether the amortization periods and methods are appropriate. In the fourth quarter of 2019, the Company conducted its annual impairment testing of goodwill and intangible assets based on September 30, 2019 asset balances. It was determined that the recoverable amounts of cash generating unit groupings were in excess of their carrying values and there was no evidence of impairment. Recoverable amount is based on fair value less cost of disposal.

Refer to note 11 in the Company's December 31, 2019 consolidated financial statements for further details of the Company's goodwill and intangible assets. Also, refer to the "Summary of Critical Accounting Estimates" section of this document for details on impairment testing of these assets.

Other general fund assets

Other general fund assets

	December 31	
	2019	2018
Reinsurance assets	**$ 20,707**	$ 6,126
Funds held by ceding insurers	**8,714**	9,251
Premiums in course of collection, accounts and interest receivable	**5,881**	5,202
Other assets	**3,110**	2,567
Owner occupied properties	**727**	731
Deferred tax assets	**693**	981
Fixed assets	**455**	448
Derivative financial instruments	**451**	417
Current income taxes	**236**	218
Total	**$ 40,974**	$ 25,941

Total other general fund assets at December 31, 2019 were $41.0 billion, an increase of $15.0 billion from December 31, 2018. The increase was primarily due to an increase of $14.6 billion in reinsurance assets, primarily due to $15.2 billion of reinsurance assets received as a result of the sale, via indemnity reinsurance, to Protective Life and an increase of $0.7 billion in premiums in course of collection, accounts and interest receivable. The increase was partially offset by a decrease of $0.5 billion in funds held by ceding insurers and a decrease of $0.3 billion in deferred tax assets mainly due to the revaluation of a deferred tax asset in the U.S. segment.

Other assets comprise several items including prepaid expenses and accounts receivable. Refer to note 13 in the Company's December 31, 2019 consolidated financial statements for a breakdown of other assets.

Investments on account of segregated fund policyholders

Segregated funds

	December 31	
	2019	2018
Stock and units in unit trusts	**$ 104,330**	$ 89,853
Mutual funds	**55,779**	50,956
Bonds	**44,973**	42,142
Investment properties	**12,986**	12,319
Cash and other	**9,137**	10,647
Mortgage loans	**2,670**	2,746
Sub-total	**$ 229,875**	$ 208,663
Non-controlling mutual funds interest	**1,147**	864
Total	**$ 231,022**	$ 209,527

Investments on account of segregated fund policyholders, which are measured at fair value, increased by $21.5 billion to $231.0 billion at December 31, 2019 compared to December 31, 2018. The increase was primarily due to the combined impact of market value gains and investment income of $27.3 billion, partially offset by the impact of currency movement of $6.5 billion.

Proprietary mutual funds

Proprietary mutual funds and institutional assets(1)

	December 31	
	2019	2018
Mutual funds(1)		
Blend equity	**$ 23,945**	$ 23,489
Growth equity	**19,405**	15,642
Equity value	**24,732**	22,003
Fixed-income	**53,613**	46,227
Money market	**187**	185
Empower Funds(2)	**22,362**	18,463
Sub-total	**$ 144,244**	$ 126,009
Institutional assets(1)		
Equity	**$ 108,229**	$ 94,494
Fixed-income	**59,112**	52,586
Other	**8,963**	8,575
Sub-total	**$ 176,304**	$ 155,655
Total proprietary mutual funds and institutional assets(1)	**$ 320,548**	$ 281,664

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(2) At December 31, 2019, Empower funds exclude $17.9 billion of Putnam managed funds ($14.4 billion at December 31, 2018), which are included in the categories above.

At December 31, 2019, total proprietary mutual funds and institutional assets include $257.3 billion at Putnam and GWL&A, $50.5 billion at Irish Life and $6.8 billion at Quadrus Investment Services Ltd (Quadrus). Proprietary mutual funds and institutional assets under management increased by $38.9 billion, primarily due to the impact of market movement and the impact of currency movement.

LIABILITIES

Total liabilities

	December 31	
	2019	2018
Insurance and investment contract liabilities	**$ 176,177**	$ 168,431
Liabilities held for sale	**—**	897
Other general fund liabilities	**18,425**	18,117
Investment and insurance contracts on account of segregated fund policyholders	**231,022**	209,527
Investment and insurance contracts on account of segregated fund policyholders held for sale	**—**	3,319
Total	**$ 425,624**	$ 400,291

Total liabilities increased by $25.3 billion to $425.6 billion at December 31, 2019 from December 31, 2018.

Insurance and investment contract liabilities increased by $7.7 billion, primarily due to fair value adjustments and the impact of new business, partially offset by the weakening of the euro, British pound, and U.S. dollar against the Canadian dollar. Investment and insurance contracts on account of segregated fund policyholders increased by $21.5 billion, primarily due to the combined impact of market value gains and investment income of $27.3 billion, partially offset by the impact of currency movement of $6.5 billion.

Liabilities held for sale of $0.9 billion and investment and insurance contracts on account of segregated fund policyholders held for sale of $3.3 billion at December 31, 2018 relate to the sale of a heritage block of policies to Scottish Friendly, which was completed in the fourth quarter of 2019. Refer to note 4 of the Company's December 31, 2019 consolidated financial statements for further information on assets classified as held for sale.

Insurance and investment contract liabilities represent the amounts that, together with estimated future premiums and investment income, will be sufficient to pay estimated future benefits, dividends and expenses on policies in-force. Insurance and investment contract liabilities are determined using generally accepted actuarial practices, according to standards established by the Canadian Institute of Actuaries. Also, refer to the "Summary of Critical Accounting Estimates" section of this document for further details.

Assets supporting insurance and investment contract liabilities

	Participating Account	Non-Participating Canada	Non-Participating United States	Non-Participating Europe	Total
December 31, 2019					
Bonds	**$ 25,328**	**$ 20,270**	**$ 14,311**	**$ 35,546**	**$ 95,455**
Mortgage loans	**10,301**	**4,111**	**2,678**	**5,442**	**22,532**
Stocks	**6,205**	**2,237**	**—**	**299**	**8,741**
Investment properties	**2,484**	**407**	**—**	**2,672**	**5,563**
Other assets[(1)]	**10,301**	**5,643**	**15,371**	**12,571**	**43,886**
Total assets	**$ 54,619**	**$ 32,668**	**$ 32,360**	**$ 56,530**	**$ 176,177**
Total insurance and investment contract liabilities	**$ 54,619**	**$ 32,668**	**$ 32,360**	**$ 56,530**	**$ 176,177**
December 31, 2018					
Bonds	$ 23,892	$ 19,204	$ 25,324	$ 35,174	$ 103,594
Mortgage loans	9,918	3,845	4,993	4,511	23,267
Stocks	5,465	1,916	—	191	7,572
Investment properties	1,926	196	—	2,795	4,917
Other assets[(1)]	9,726	5,013	725	13,617	29,081
Total assets	$ 50,927	$ 30,174	$ 31,042	$ 56,288	$ 168,431
Total insurance and investment contract liabilities	$ 50,927	$ 30,174	$ 31,042	$ 56,288	$ 168,431

(1) Other assets include reinsurance assets, premiums in the course of collection, interest due and accrued, other investment receivables, deferred acquisition costs, accounts receivable, current income taxes and prepaid expenses. Reinsurance assets include assets recognized as a result of the indemnity reinsurance agreement with Protective Life.

Asset and liability cash flows are matched within established limits to minimize the financial effects of a shift in interest rates and mitigate the changes in the Company's financial position due to interest rate volatility.

Other general fund liabilities

Other general fund liabilities

	December 31 **2019**	December 31 2018
Debentures and other debt instruments	**$ 5,993**	$ 6,459
Other liabilities	**4,689**	3,855
Accounts payable	**3,352**	3,262
Derivative financial instruments	**1,381**	1,562
Funds held under reinsurance contracts	**1,433**	1,367
Deferred tax liabilities	**1,116**	1,210
Current income taxes	**461**	402
Total	**$ 18,425**	$ 18,117

Total other general fund liabilities at December 31, 2019 were $18.4 billion, an increase of $0.3 billion from December 31, 2018, primarily due to an increase of $0.8 billion in other liabilities related to the recognition of $0.5 billion of lease liabilities related to the adoption of IFRS 16, *Leases*, effective January 1, 2019. The increase was partially offset by a decrease in debentures and other debt instruments driven by net redemptions and the impact of currency movement.

Other liabilities of $4.7 billion include pension and other post-employment benefits, lease liabilities, deferred income reserve, bank overdraft and other liability balances. Refer to note 18 in the Company's December 31, 2019 consolidated financial statements for a breakdown of the other liabilities balance and note 16 in the Company's December 31, 2019 consolidated financial statements for details of the debentures and other debt instruments.

Segregated Fund and Variable Annuity Guarantees

The Company offers retail segregated fund products, unitized with profits (UWP) products and variable annuity products that provide for certain guarantees that are tied to the market values of the investment funds.

The Company utilizes internal reinsurance treaties to aggregate the business as a risk-mitigating tool. Aggregation enables the Company to benefit from diversification of segregated fund risks within one legal entity, a more efficient and cost effective hedging process, and better management of the liquidity risk associated with hedging. It also results in the Company holding lower required capital and insurance contract liabilities, as aggregation of different risk profiles allows the Company to reflect offsets at a consolidated level.

In Canada, the Company offers individual segregated fund products through Great-West Life, London Life and Canada Life. These products provide guaranteed minimum death benefits (GMDB) and guaranteed minimum accumulation on maturity benefits (GMAB). In 2009, Great-West Life, London Life and Canada Life launched individual segregated fund products, which offer three levels of death and maturity guarantees, guarantee reset riders and lifetime guaranteed minimum withdrawal benefits (GMWB). Effective January 1, 2020, following the amalgamation of Great-West Life, London Life and Canada Life, the products are offered under the Canada Life brand.

For a certain generation of products, the guarantees in connection with the Canadian individual segregated fund businesses of Great-West Life, London Life and Canada Life have been reinsured to London Reinsurance Group Inc. (LRG), a subsidiary of London Life. This does not include the guarantees on newer Canadian products, which have been reinsured to London Life. In addition to the guarantees reinsured from Great-West Life, London Life and Canada Life, LRG also has a closed portfolio of, GMAB and guaranteed minimum income benefits (GMIB) that it has reinsured from other U.S. and Canadian life insurance and reinsurance companies.

In Europe, the Company offers UWP products through Canada Life and unit-linked products with investment guarantees through Irish Life. These products are similar to segregated fund products but include pooling of policyholders' funds and minimum credited interest rates. The Company also offers a GMWB product in Germany through Canada Life.

In the U.S., the Company offers group variable annuities with GMDB and GMWB through GWL&A. For the standalone GMDB business, most are a return of premium on death with the guarantee expiring at age 70.

The GMWB products offered by the Company in Canada, the U.S. and Germany, and previously offered in Ireland, provide the policyholder with a guaranteed minimum level of annual income for life. The minimum level of income may increase depending upon the level of growth in the market value of the policyholder's funds. Where the market value of the policyholder's funds is ultimately insufficient to meet the level of guarantee purchased by the policyholder, the Company is obligated to make up the shortfall.

These products involve cash flows of which the magnitude and timing are uncertain and are dependent on the level of equity and fixed-income market returns, interest rates, currency markets, market volatility, policyholder behaviour and policyholder longevity.

The Company has a hedging program in place to manage certain risks associated with options embedded in its GMWB products. The program methodology quantifies both the embedded option value and its sensitivity to movements in equity markets, currency markets and interest rates. Equity derivative instruments, currency derivative instruments and interest rate derivative instruments are used to mitigate changes in the embedded option value attributable to movements in equity markets, currency markets and interest rates respectively. The hedging program, by its nature, requires continuous monitoring and rebalancing to avoid over or under hedged positions. Periods of heightened market volatility will increase the frequency of hedge rebalancing.

By their nature, certain risks associated with the GMWB product either cannot be hedged or cannot be hedged on a cost effective basis. These risks include policyholder behaviour, policyholder longevity and basis risk and market volatility. Consequently, the hedging program will not mitigate all risks to the Company associated with the GMWB products and may expose the Company to additional risks including the operational risk associated with the reliance upon sophisticated models, and counterparty credit risk associated with the use of derivative instruments.

Other risk management processes are in place aimed at appropriately limiting the Company's exposure to the risks it is not hedging or are otherwise inherent in its GMWB hedging program. In particular, the GMWB product has been designed with specific regard to limiting policyholder anti-selection, and the array of investment funds available to policyholders has been determined with a view to minimizing underlying basis risk.

Certain GMWB products offered by the Company offer levels of death and maturity guarantees. At December 31, 2019, the amount of GMWB product in-force in Canada, the U.S., Ireland and Germany was $3,332 million ($4,169 million at December 31, 2018). The decrease was primarily due to U.S. business related to individual GMWB transferred to Protective Life under an indemnity reinsurance agreement effective June 1, 2019.

Segregated fund and variable annuity guarantee exposure

		December 31, 2019			
		Investment deficiency by benefit type			
	Market Value	**Income**	**Maturity**	**Death**	**Total[(1)]**
Canada	$ 32,489	$ —	$ 13	$ 35	$ 35
United States	10,395	3	—	5	8
Europe					
Insurance & Annuities	10,045	3	—	657	657
Reinsurance[(2)]	877	285	—	—	285
Total Europe	10,922	288	—	657	942
Total	**$ 53,806**	**$ 291**	**$ 13**	**$ 697**	**$ 985**

(1) A policy can only receive a payout from one of the three trigger events (income election, maturity or death). Total deficiency measures the point-in-time exposure assuming the most costly trigger event for each policy occurred on December 31, 2019.
(2) Reinsurance exposure is to markets in Canada and the U.S.

The investment deficiency measures the point-in-time exposure to a trigger event (i.e., income election, maturity or death) assuming it occurred on December 31, 2019 and does not include the impact of the Company's hedging program for GMWB products. The actual cost to the Company will depend on the trigger event having occurred and the market values at that time. The actual claims before tax associated with these guarantees were $6 million in-quarter ($2 million for the fourth quarter of 2018) and $21 million year-to-date ($14 million year-to-date for 2018), with the majority arising in the Reinsurance business unit in the Europe segment.

LIFECO CAPITAL STRUCTURE

In establishing the appropriate mix of capital required to support the operations of the Company and its subsidiaries, management utilizes a variety of debt, equity and other hybrid instruments considering both the short and long-term capital needs of the Company.

DEBENTURES AND OTHER DEBT INSTRUMENTS

At December 31, 2019, debentures and other debt instruments decreased by $466 million to $5,993 million compared to December 31, 2018, primarily due to debt redemptions as well as the impact of currency movement.

On December 10, 2019, GWL&A redeemed all $232 million (US$175 million) aggregate principal amount 6.625% deferrable debentures due November 15, 2034 at a redemption price equal to 100% of the principal amount of the debentures, plus accrued and unpaid interest up to but excluding the redemption date. A portion of the $1.0 billion cash received from the indemnity reinsurance agreement with Protective Life was used for the redemption.

Refer to note 16 in the Company's December 31, 2019 consolidated financial statements for further details of the Company's debentures and other debt instruments.

CAPITAL TRUST SECURITIES

At December 31, 2019, the Company had $150 million principal outstanding of Canada Life Capital Trust Securities – Series B (CLiCS – Series B). Included in the Company's invested assets at December 31, 2019 were CLiCS – Series B with a fair value of $53 million and principal value of $37 million (fair value of $51 million at December 31, 2018).

Each holder of the CLiCS – Series B is entitled to receive a semi-annual non-cumulative fixed cash distribution of $37.645 per CLiCS – Series B, representing an annual yield of 7.529% payable out of Canada Life Capital Trust's (CLCT) distributable funds. Subject to regulatory approval, CLCT may redeem the CLiCS – Series B, in whole or in part, at any time and the CLiCS – Series B are callable at par on June 30, 2032.

EQUITY

Share capital outstanding at December 31, 2019 was $8,347 million, which comprises $5,633 million of common shares, $2,464 million of fixed rate First Preferred Shares, $213 million of 5-year rate reset First Preferred Shares and $37 million of floating rate First Preferred Shares.

Common shares

At December 31, 2019, the Company had 927,281,186 common shares outstanding with a stated value of $5,633 million compared to 987,739,408 common shares with a stated value of $7,283 million at December 31, 2018.

The Company commenced a normal course issuer bid (NCIB) on February 1, 2019 for one year to purchase and cancel up to 20,000,000 of its common shares at market prices in order to mitigate the dilutive effect of stock options granted under the Company's Stock Option Plan and for other capital management purposes. During the twelve months ended December 31, 2019, the Company repurchased and subsequently cancelled 2,000,000 common shares (2018 - 2,127,300) under its NCIB at an average cost per share of $32.91 (2018 - $32.25).

Subsequent to December 31, 2019, in order to mitigate the dilutive effect of stock options granted under the Company's Stock Option Plan and for other capital management purposes, the Company announced a new NCIB commencing January 22, 2020 and terminating January 21, 2021 to purchase for cancellation up to but not more than 20,000,000 of its common shares at market prices.

On March 4, 2019, the Company announced a substantial issuer bid (the Offer) pursuant to which the Company offered to purchase for cancellation up to $2 billion of its common shares from shareholders for cash. The Offer commenced on March 8, 2019 and expired on April 12, 2019. On April 17, 2019, the Company purchased and subsequently cancelled 59,700,974 common shares under the Offer at a price of $33.50 per share for an aggregate purchase price of $2 billion. The excess paid over the average carrying value under the Offer was $1,628 million and was recognized as a reduction to accumulated surplus. Transaction costs of $3 million were incurred in connection with the Offer and charged to accumulated surplus.

Preferred shares

At December 31, 2019, the Company had 11 series of fixed rate First Preferred Shares, one series of 5-year rate reset First Preferred Shares and one series of floating rate First Preferred Shares outstanding with aggregate stated values of $2,464 million, $213 million and $37 million, respectively.

The terms and conditions of the outstanding First Preferred Shares are set out in the table below:

	Great-West Lifeco Inc.						
	Series F	Series G	Series H	Series I	Series L	Series M	Series N[(1)]
General Type	Fixed Rate	Fixed Rate	Fixed Rate	Fixed Rate	Fixed Rate	Fixed Rate	5-Year Rate Reset
Cumulative/Non-Cumulative	Non-cumulative	Non-cumulative	Non-cumulative	Non-cumulative	Non-cumulative	Non-cumulative	Non-cumulative
Date Issued	Jul 10, 2003	Sep 14, 2004	Aug 12, 2005	Apr 12, 2006	Oct 2, 2009	Mar 4, 2010	Nov 23, 2010
Shares Outstanding	7,740,032	12,000,000	12,000,000	12,000,000	6,800,000	6,000,000	8,524,422
Amount Outstanding (Par)	$193,500,800	$300,000,000	$300,000,000	$300,000,000	$170,000,000	$150,000,000	$213,110,550
Yield	5.90%	5.20%	4.85%	4.50%	5.65%	5.80%	2.176%
Earliest Issuer Redemption Date	Sep 30, 2008	Dec 31, 2009	Sep 30, 2010	Jun 30, 2011	Dec 31, 2014	Mar 31, 2015	Dec 31, 2020

	Great-West Lifeco Inc.					
	Series O[(2)]	Series P	Series Q	Series R	Series S	Series T
General Type	Floating Rate	Fixed Rate	Fixed Rate	Fixed Rate	Fixed Rate	Fixed Rate
Cumulative/Non-Cumulative	Non-cumulative	Non-cumulative	Non-cumulative	Non-cumulative	Non-cumulative	Non-cumulative
Date Issued	Dec 31, 2015	Feb 22, 2012	Jul 6, 2012	Oct 11, 2012	May 22, 2014	May 18, 2017
Shares Outstanding	1,475,578	10,000,000	8,000,000	8,000,000	8,000,000	8,000,000
Amount Outstanding (Par)	$36,889,450	$250,000,000	$200,000,000	$200,000,000	$200,000,000	$200,000,000
Yield	Floating	5.40%	5.15%	4.80%	5.25%	5.15%
Earliest Issuer Redemption Date	Dec 31, 2015	March 31, 2017	Sep 30, 2017	Dec 31, 2017	Jun 30, 2019	Jun 30, 2022

(1) The Series N, Non-Cumulative 5-Year Rate Reset First Preferred Shares carry an annual fixed non-cumulative dividend rate of 2.176% up to but excluding December 31, 2020 and are redeemable at the option of the Company on December 31, 2020 and on December 31 every five years thereafter for $25.00 per share plus all declared and unpaid dividends up to but excluding the date of redemption. Subject to the Company's right of redemption and certain other restrictions on conversion described in the Series N share conditions, each Series N share is convertible into one Series O share at the option of the holders on December 31, 2020 and on December 31 every five years thereafter.

(2) The Series O, Non-Cumulative Floating Rate First Preferred Shares carry a floating non-cumulative dividend rate equal to the relevant Government of Canada Treasury Bill rate plus 1.30% and are redeemable at the option of the Company for $25.50 per share, unless the shares are redeemed on December 31, 2020 or on December 31 in each fifth year thereafter in which case the redemption price will be $25.00 per share, plus in each case all declared and unpaid dividends up to but excluding the date of redemption. Subject to the Company's right of redemption and certain other restrictions on conversion described in the Series O share conditions, each Series O share is convertible into one Series N share at the option of the holders on December 31, 2020 and on December 31 every five years thereafter.

The terms and conditions of the First Preferred Shares do not allow the holder to convert to common shares of the Company or to otherwise cause the Company to redeem the shares. Preferred shares issued by the Company are commonly referred to as perpetual and represent a form of financing that does not have a fixed term.

NON-CONTROLLING INTERESTS

The Company's non-controlling interests include participating account surplus in subsidiaries and non-controlling interests in subsidiaries. Refer to note 19 in the Company's December 31, 2019 consolidated financial statements for further details of the Company's non-controlling interests.

Non-controlling interests	December 31	
	2019	2018
Participating account surplus in subsidiaries:		
Great-West Life	**$ 595**	$ 608
London Life	**1,866**	1,827
Canada Life	**284**	288
GWL&A	**14**	14
	$ 2,759	$ 2,737
Non-controlling interests in subsidiaries	**$ 107**	$ 138

At December 31, 2019, the carrying value of non-controlling interests decreased by $9 million to $2,866 million compared to December 31, 2018. For the twelve months ended December 31, 2019, net earnings attributable to participating account before policyholder dividends were $1,374 million and policyholder dividends were $1,364 million.

Effective January 1, 2020, following the amalgamation of Great-West Life, London Life and Canada Life, non-controlling interests attributable to participating account surplus previously recorded in the Great-West Life, London Life, and Canada Life will be recorded in the amalgamated company, The Canada Life Assurance Company.

LIQUIDITY AND CAPITAL MANAGEMENT AND ADEQUACY

LIQUIDITY

The Company's liquidity requirements are largely self-funded, with short-term obligations being met by internal funds and maintaining levels of liquid investments adequate to meet anticipated liquidity needs. The Company holds cash, cash equivalents and short-term bonds at the Lifeco holding company level and with the Lifeco consolidated subsidiary companies. At December 31, 2019, the Company and its operating subsidiaries held cash, cash equivalents and short-term bonds of $8.9 billion ($7.8 billion at December 31, 2018) and other liquid assets and marketable securities of $86.6 billion ($93.2 billion at December 31, 2018). Included in the cash, cash equivalents and short-term bonds at December 31, 2019 was $0.7 billion ($1.0 billion at December 31, 2018) at the Lifeco holding company level which includes cash at Great-West Lifeco U.S. LLC, the Company's U.S. holding company. The decrease of $0.3 billion at the Lifeco holding company level was primarily due to the settlement of the substantial issuer bid on April 17, 2019, partially offset by the proceeds of the sale, via indemnity reinsurance, of the U.S. individual life insurance business to Protective Life. In addition, the Company maintains committed lines of credit with Canadian chartered banks for potential unanticipated liquidity needs, if required.

The Company does not have a formal common shareholder dividend policy. Dividends on outstanding common shares of the Company are declared and paid at the sole discretion of the Board of Directors of the Company. The decision to declare a dividend on the common shares of the Company takes into account a variety of factors including the level of earnings, adequacy of capital and availability of cash resources.

As a holding company, the Company's ability to pay dividends and, in part, its ability to deploy capital is dependent upon the Company receiving dividends from its operating subsidiaries. The Company's operating subsidiaries are subject to regulation in a number of jurisdictions, each of which maintains its own regime for determining the amount of capital that must be held in connection with the different businesses carried on by the operating subsidiaries. The requirements imposed by the regulators in any jurisdiction may change from time to time, and thereby impact the ability of the operating subsidiaries to pay dividends to the Company.

CASH FLOWS

Cash flows	For the three months ended December 31		For the twelve months ended December 31	
	2019	2018	**2019**	2018
Cash flows relating to the following activities:				
Operations	**$ 1,291**	$ 1,565	**$ 6,110**	$ 6,494
Financing	**(781)**	(260)	**(3,981)**	(1,267)
Investment	**224**	(1,170)	**(1,539)**	(4,776)
	734	135	**590**	451
Effects of changes in exchange rates on cash and cash equivalents	**41**	151	**(130)**	166
Increase (decrease) in cash and cash equivalents in the period	**775**	286	**460**	617
Cash and cash equivalents, beginning of period	**3,853**	3,882	**4,168**	3,551
Cash and cash equivalents, end of period	**$ 4,628**	$ 4,168	**$ 4,628**	$ 4,168

The principal source of funds for the Company on a consolidated basis is cash provided by operating activities, including premium income, net investment income and fee income. These funds are used primarily to pay policy benefits, policyholder dividends and claims, as well as operating expenses and commissions. Cash flows generated by operations are mainly invested to support future liability cash requirements. Cash flows related to financing activities include the issuance and repayment of capital instruments and associated dividends and interest payments.

In the fourth quarter of 2019, cash and cash equivalents increased by $0.8 billion from September 30, 2019. Cash flows provided by operations during the fourth quarter of 2019 were $1.3 billion, a decrease of $0.3 billion compared to the fourth quarter of 2018. Cash flows used in financing were $0.8 billion, primarily used for the payments of dividends to common and preferred shareholders of $0.4 billion and net debt redemptions of $0.3 billion. For the three months ended December 31, 2019, cash inflows from investment activities related to net disposals of $0.2 billion of investment assets.

For the twelve months ended December 31, 2019, cash and cash equivalents increased by $0.5 billion from December 31, 2018. Cash flows provided by operations were $6.1 billion, a decrease of $0.4 billion compared to the same period in 2018, which included $1.0 billion of cash received during the second quarter of 2019 as a result of the indemnity reinsurance agreement with Protective Life. Cash flows used in financing were $4.0 billion, primarily used for the purchase and cancellation of common shares of $2.0 billion relating to the Company's substantial issuer bid, the payment of dividends to common and preferred shareholders of $1.7 billion and net debt redemptions of $0.3 billion. In the first quarter of 2019, the Company increased the quarterly dividend to common shareholders from $0.389 per common share to $0.413 per common share. For the twelve months ended December 31, 2019, cash flows were used by the Company to acquire an additional $1.5 billion of investment assets.

COMMITMENTS/CONTRACTUAL OBLIGATIONS

Commitments/contractual obligations
At December 31, 2019

	Payments due by period						
	Total	**1 year**	**2 years**	**3 years**	**4 years**	**5 years**	**Over 5 years**
1) Debentures and other debt instruments	$ 5,454	$ 500	$ —	$ —	$ 730	$ —	$ 4,224
2) Lease obligations	753	83	78	66	56	53	417
3) Purchase obligations	316	125	57	29	13	8	84
4) Credit-related arrangements							
(a) Contractual commitments	1,042	1,006	19	17	—	—	—
(b) Letters of credit	see note 4(b) below						
5) Pension contributions	280	280	—	—	—	—	—
Total contractual obligations	**$ 7,845**	**$ 1,994**	**$ 154**	**$ 112**	**$ 799**	**$ 61**	**$ 4,725**

1) Refer to note 16 in the Company's December 31, 2019 consolidated financial statements. Excluded from debentures and other debt instruments are unamortized transaction costs.
2) For a further description of the Company's lease obligations, refer to note 18 in the Company's December 31, 2019 consolidated financial statements.
3) Purchase obligations are commitments to acquire goods and services, essentially related to information services.
4) (a) Contractual commitments are essentially commitments of investment transactions made in the normal course of operations in accordance with policies and guidelines that are to be disbursed upon fulfillment of certain contract conditions.
(b) Letters of credit (LC) are written commitments provided by a bank. The total amount of LC facilities is US$2.3 billion of which US$1.8 billion were issued as of December 31, 2019.

The Reinsurance business unit periodically uses letters of credit as collateral under certain reinsurance contracts for on-balance sheet policy liabilities. The Company may be required to seek collateral alternatives if it is unable to renew existing LCs on maturity. Various Lifeco subsidiaries have provided LCs as follows:

To external parties
Clients residing in the United States are required pursuant to their insurance laws to obtain LCs issued on the Company's behalf from approved banks in order to further secure the Company's obligations under certain reinsurance contracts.

Great-West Life has two LC facilities for US$1,100 million, which can be used by Great-West Life and its subsidiaries. As of December 31, 2019, Great-West Life subsidiaries have issued US$197 million to external parties.

Certain London Reinsurance Group subsidiaries and London Life have provided LCs totaling US$7 million to external parties. Additionally, Great-West Life & Annuity Insurance Company has provided LCs totaling US$9 million to external parties. The LCs are renewable annually for an indefinite period of time.

To internal parties
Great-West Life has three LC facility for US$900 million for use by Great-West Life and its subsidiaries. As of December 31, 2019, US$722 million has been issued to the Company's U.S. Branch.

GWL&A also has a US$70 million LC facility in place. As of December 31, 2019, US$70 million has been issued to Great-West Life & Annuity Insurance Company of South Carolina as beneficiary, to allow it to receive statutory capital credit.

Canada Life has a £117 million LC issued to Canada Life Limited (CLL) as beneficiary, to allow CLL to receive statutory capital credit in the United Kingdom for a loan made from Canada Life.

In addition, using capacity from the facilities listed above, Great-West Life subsidiaries have issued US$612 million to other subsidiaries and the Company's U.S. Branch.

5) Pension contributions include funding estimates for defined benefit pension plans, defined contribution pension plans and other post-employment plans. These contributions are subject to change, as contribution decisions are affected by many factors including market performance, regulatory requirements and management's ability to change funding policy. Funding estimates beyond 2020 are excluded due to the significant variability in the assumptions required to project the timing of future contributions.

CAPITAL MANAGEMENT AND ADEQUACY

At the holding company level, the Company monitors the amount of consolidated capital available and the amounts deployed in its various operating subsidiaries. The amount of capital deployed in any particular company or country is dependent upon local regulatory requirements as well as the Company's internal assessment of capital requirements in the context of its operational risks and requirements and strategic plans. The Company's practice is to maintain the capitalization of its regulated operating subsidiaries at a level that will exceed the relevant minimum regulatory capital requirements in the jurisdictions in which they operate. The capitalization decisions of the Company and its operating subsidiaries also give consideration to the impact such actions may have on the opinions expressed by various credit rating agencies that provide financial strength and other ratings to the Company.

The Board of Directors reviews and approves an annual capital plan as well as capital transactions undertaken by management pursuant to the plan. The capital plan is designed to ensure that the Company maintains adequate capital, taking into account the Company's strategy, risk profile and business plans. The Company has established policies and procedures designed to identify, measure and report all material risks. Management is responsible for establishing capital management procedures for implementing and monitoring the capital plan. In addition to undertaking capital transactions, the Company uses and provides traditional and structured reinsurance to support capital and risk management.

In Canada, OSFI has established a capital adequacy measurement for life insurance companies incorporated under the Insurance Companies Act (Canada) and their subsidiaries, known as the Life Insurance Capital Adequacy Test (LICAT).

The LICAT ratio compares the regulatory capital resources of a company to its Base Solvency Buffer or required capital. The Base Solvency Buffer is calibrated so that a life insurer can both withstand severe stress events and have assets remaining to allow continued support of its existing business. The total Base Solvency Buffer is the aggregate of all OSFI defined capital requirements multiplied by a fixed scalar of 1.05. The total capital resources include equity items such as common shares, retained earnings and participating policyholders' surplus. There are deductions for goodwill, intangibles and some deferred tax assets. Assets backing certain provisions for adverse deviation within the insurance contract liabilities reported on the financial statements are also included in total capital resources.

OSFI has established a Supervisory Target Total Ratio of 100%, and a Supervisory Minimum Total Ratio of 90%. The internal target range of the LICAT ratio for Lifeco's major Canadian operating subsidiaries is 110% to 120% (on a consolidated basis).

Great-West Life's consolidated LICAT ratio at December 31, 2019 was 135% (140% at December 31, 2018). The LICAT ratio does not take into account any impact from $0.7 billion of liquidity at the Lifeco holding company level at December 31, 2019 ($1.0 billion at December 31, 2018).

During the second quarter, the Company repurchased and subsequently cancelled common shares for aggregate consideration of $2.0 billion. The dividends paid by Great-West Life to Lifeco to support this transaction decreased Great-West Life's consolidated LICAT ratio by approximately 6 points.

During the fourth quarter, the Company entered into a long-term reinsurance agreement to accept longevity risk. The impact of the transaction decreased the LICAT ratio by approximately 3.5 points at Great-West Life.

Effective January 1, 2020, following the amalgamation of Great-West Life, London Life and Canada Life and their holding companies, Canada Life Financial Corporation and London Insurance Group Inc., into a single life insurance company, The Canada Life Assurance Company, The Canada Life Assurance Company's consolidated LICAT is equivalent to Great-West Life's consolidated LICAT ratio.

LICAT Ratio	Dec. 31 2019	Dec. 31 2018
Tier 1 Capital	$ 11,952	$ 12,455
Tier 2 Capital	3,637	3,686
Total Available Capital	15,589	16,141
Surplus Allowance & Eligible Deposits	12,625	10,665
Total Capital Resources	$ 28,214	$ 26,806
Base Solvency Buffer (includes OSFI scalar 1.05)	$ 20,911	$ 19,165
Total Ratio (OSFI Supervisory Target = 100%)(1)	135%	140%

(1) Total Ratio (%) = Total Capital Resources / Base Solvency Buffer (after 1.05 scalar)

At December 31, 2019, the Risk-Based Capital (RBC) ratio of GWL&A, Lifeco's regulated U.S. operating company, is estimated to be 627% of the Company Action Level set by the National Association of Insurance Commissioners. GWL&A reports its RBC ratio annually to U.S. Insurance Regulators. The RBC ratio is included for information only and is not intended as a means to rank insurers generally or for any other purposes.

OSFI Regulatory Capital Initiatives

The Company will continue to work with OSFI, the Canadian Institute of Actuaries, and other industry participants, as the LICAT guideline further evolves to allow for any future development including adaptations relating to the IFRS 17 accounting standard and developments relating to Segregated Fund Guarantee Risk requirements.

The International Accounting Standards Board (IASB) has issued IFRS 17, *Insurance Contracts*, which will replace IFRS 4, *Insurance Contracts* with a current proposed effective date of January 1, 2022. IFRS 17 includes, among other things, new requirements for the recognition, measurement, presentation and disclosures of insurance contracts the Company issues and reinsurance contracts it holds. The new standard is expected to have a significant impact for insurers related to the timing of earnings recognition and on the presentation and disclosure of results. Adoption of the standard is expected to lead to further review and possible amendments to the OSFI LICAT Guideline. Refer to the "Accounting Policies - International Financial Reporting Standards" section for further details.

RETURN ON EQUITY

Return on Equity(1)	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018
Canada	15.0 %	16.3 %	19.4 %
U.S. Financial Services	5.1 %	4.5 %	12.1 %
U.S. Asset Management (Putnam)	(9.7)%	(0.7)%	(2.5)%
Europe	19.1 %	17.4 %	15.9 %
Total Lifeco Net Earnings Basis	11.7 %	12.4 %	14.0 %

Adjusted Return on Equity(1)	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018
Canada	15.0 %	16.3 %	19.4 %
U.S. Financial Services	12.3 %	11.6 %	12.1 %
U.S. Asset Management (Putnam)	1.2 %	(0.7)%	(2.5)%
Europe	18.9 %	17.4 %	16.6 %
Total Lifeco Adjusted Net Earnings Basis	13.8 %	13.4 %	14.3 %

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

The Company reported ROE of 11.7% at December 31, 2019, compared to 14.0% at December 31, 2018. The Company reported adjusted ROE based on adjusted net earnings of 13.8% at December 31, 2019, compared to 14.3% at December 31, 2018.

RATINGS

The Company's financial leverage ratio has been maintained at a level consistent with credit rating agencies' targets for highly rated entities and provides the Company with financial flexibility to invest in organic growth and acquisition strategies. Refer to the "Non-IFRS Financial Measures" section in this MD&A for additional details.

Lifeco maintains ratings from five independent ratings companies. Credit ratings are intended to provide investors with an independent measure of the credit quality of the securities of a corporation and are indicators of the likelihood of payment and the capacity of a corporation to meet its obligations in accordance with the terms of each obligation. In 2019, the credit ratings for Lifeco and its major operating subsidiaries were unchanged (set out in table below). The Company continued to receive strong ratings relative to its North American peer group resulting from its conservative risk profile, stable net earnings and consistent dividend track record. These ratings are not a recommendation to buy, sell or hold the securities of the Company or its subsidiaries and do not address market price or other factors that might determine suitability of a specific security for a particular investor. The ratings also may not reflect the potential impact of all risks on the value of securities and are subject to revision or withdrawal at any time by the rating agency.

Lifeco's operating companies are assigned a group rating from each rating agency. This group rating is predominantly supported by the Company's leading position in the Canadian insurance market and competitive positions in the U.S. and European markets. Each of Lifeco's operating companies benefits from the strong implicit financial support and collective ownership by Lifeco. There were no changes to the Company's group credit ratings in 2019.

Following Lifeco's announcement on January 24, 2019 that its subsidiary, GWL&A, had reached an agreement to sell, via indemnity reinsurance, substantially all of its individual life insurance and annuity business, Moody's Investors Service (Moody's) placed the Aa3 insurance financial strength (IFS) ratings of GWL&A and its subsidiary, Great-West Life & Annuity Insurance Company of New York, on review for downgrade. Subsequently, on June 4, 2019, Moody's announced it had concluded its review and confirmed the Aa3 IFS ratings of GWL&A and its subsidiary, Great-West Life & Annuity Insurance Company of New York. The A3 issuer rating of GWL&A's U.S. holding company, GWL&A Financial, Inc., and the Baa1(hybrid) senior debt rating of debentures issued by an affiliate, Great-West Life & Annuity Insurance Capital, LP, were also confirmed. The outlook for GWL&A Financial, Inc., and its subsidiaries that were under review, is now stable.

Rating agency	Measurement	Lifeco	Great-West Life	London Life	Canada Life	Irish Life	GWL&A
A.M. Best Company	Financial Strength		A+	A+	A+		A+
DBRS Limited	Issuer Rating	A (high)	AA				
	Financial Strength		AA	AA	AA		NR
	Senior Debt	A (high)					
	Subordinated Debt				AA (low)		
Fitch Ratings	Insurer Financial Strength		AA	AA	AA	AA	AA
	Senior Debt	A					
	Subordinated Debt				A+		
Moody's Investors Service	Insurance Financial Strength		Aa3	Aa3	Aa3		Aa3
Standard & Poor's Ratings Services	Insurer Financial Strength		AA	AA	AA		AA
	Senior Debt	A+					
	Subordinated Debt				AA-		

Effective January 1, 2020, Great-West Life, London Life, Canada Life and their holding companies, Canada Life Financial Corporation and London Insurance Group Inc., amalgamated into a single life insurance company, The Canada Life Assurance Company. The ratings of the affected companies were updated to reflect the Company's current corporate structure and are consistent with existing ratings.

SEGMENTED OPERATING RESULTS

The consolidated operating results of Lifeco, including the comparative figures, are presented on an IFRS basis after capital allocation. Consolidated operating results for Lifeco comprise the net earnings of Great-West Life and its operating subsidiaries, London Life and Canada Life; GWL&A and Putnam; together with Lifeco's Corporate results.

For reporting purposes, the consolidated operating results are grouped into four reportable segments – Canada, United States, Europe and Lifeco Corporate – reflecting geographic lines as well as the management and corporate structure of the companies.

Effective January 1, 2020, Great-West Life, London Life and Canada Life and their holding companies, Canada Life Financial Corporation and London Insurance Group Inc. amalgamated into a single life insurance company, The Canada Life Assurance Company.

CANADA

The Canada segment of Lifeco includes the operating results of the Canadian businesses operated by Great-West Life, London Life and Canada Life, together with an allocation of a portion of Lifeco's Corporate results. There are two primary business units included in this segment. Through the Individual Customer business unit, the Company provides life, disability and critical illness insurance products as well as wealth savings and income products to individual clients. Through the Group Customer business unit, the Company provides life, accidental death and dismemberment, critical illness, health and dental protection, creditor insurance as well as retirement savings and income products and other specialty products to group clients in Canada.

BUSINESS PROFILE

INDIVIDUAL CUSTOMER

Individual Customer comprises both insurance and wealth management product lines sold to individual customers.

Individual insurance includes individual life, disability and critical illness insurance products and services. Individual wealth management includes individual wealth savings and income products and services. The Company is a leader in Canada for all insurance and wealth management products and services and utilizes diverse, complementary distribution channels: Freedom 55 Financial™ (Freedom), Wealth and Insurance Solutions Enterprise (WISE), managing general agencies (MGAs) and national accounts, including IG Wealth Management, a member of the Power Financial Corporation group of companies. Through Financial Horizons Group, the Company participates in the MGA channel, distributing products from across the insurance industry.

The individual lines of business accessed the various distribution channels under distinct product brands offered by Great-West Life, London Life, Canada Life and Quadrus. Effective January 1, 2020, following the amalgamation of Great-West Life, London Life and Canada Life, products are offered under the Canada Life and Quadrus brands. By offering this broad suite of products and services through multiple distribution channels, the Company is able to provide advice and product solutions to meet the needs of Canadians at all phases of their lives.

GROUP CUSTOMER

Group Customer includes group life and health benefits, group creditor, and group retirement and investment product lines.

Through its group life and health benefit product lines, the Company offers effective benefit solutions for small, medium and large plan sponsors. The Company offers a wide range of traditional group products and services including life, accidental death and dismemberment, critical illness, disability, health and dental as well as specialty products. In addition, specialty product development has been a focus over the past several years as the Company seeks to provide customized solutions to increasingly unique customer needs. Products to address the needs of mental health in the workplace, high cost medications, optional products purchased by plan members directly and wellness programs are examples of this.

The Company's creditor business, conducted through its Canada Life subsidiary, offers creditor insurance products through large financial institutions and credit card companies. Canada Life is a leader in the creditor insurance business in Canada.

Group retirement and investment product lines include group Registered Retirement Savings Plans (RRSP), Tax-Free Savings Accounts (TFSA), group retirement income products, and institutional investment services. The Company is focused on innovation within its savings and investment product lines and will be focused on launching Registered Education Savings Plans for members in 2020.

Through the Company's extensive network of Group sales offices located across the country, it distributes its products through brokers, consultants and financial security advisors.

MARKET OVERVIEW

PRODUCTS AND SERVICES

INDIVIDUAL CUSTOMER

The Company provides an array of individual insurance and individual wealth management products that are distributed through multiple sales channels.

MARKET POSITION	PRODUCTS AND SERVICES	DISTRIBUTION[3]

• A leader in individual life insurance sales measured by new annualized premium with 21.7% market share [1]
• A significant provider of individual disability and critical illness insurance with 13.5% market share of new sales[1]
• An industry leader with 27.1% market share of individual segregated fund assets[2]
	Individual Life Insurance
	• Term life
	• Universal life
	• Participating life
	
	Living Benefits
	• Disability
	• Critical illness
	
	Individual Wealth Management
	• Savings plans
	  • RRSPs
	  • Non-registered savings programs
	  • TFSAs
	  Invested in:
	  • Segregated funds
	  • Mutual funds
	  • Guaranteed investment options
	
	• Retirement Income Plans
	  • Segregated funds with GMWB rider
	  • Retirement income funds
	  • Life income funds
	  • Payout annuities
	  • Deferred annuities
	
	• Residential mortgages
	• Banking products
		Wealth and Insurance Solutions Enterprise
		• 2,147 financial security advisors
		
		Freedom 55 Financial™
		• 2,392 financial security advisors
		
		Affiliated Partnerships
		• 7,311 independent brokers associated with 32 MGAs
		• 1,692 advisors associated with 14 national accounts
		• 1,828 IG Wealth Management consultants who actively sell Canada Life products
		• 109 direct brokers and producer groups
		
		Financial Horizons Group
		• 3,680 independent brokers selling products from across the insurance industry, including Canada Life
		
		Quadrus Investment Services Ltd. (also included in WISE & Freedom advisor counts):
		• 3,514 investment representatives

(1) Nine months ended September 30, 2019
(2) As at November 30, 2019
(3) WISE & Freedom includes all contracted advisors. Affiliated Partnerships and Financial Horizons Group include advisors who placed new business in 2019.

GROUP CUSTOMER

The Company provides an array of life, health and creditor insurance products that are distributed primarily through Group sales offices across the country.

MARKET POSITION	PRODUCTS AND SERVICES	DISTRIBUTION

• Employee benefits to over 30,000 plan sponsors[1]
• 21% market share for employee benefit plans[1]
• Leading market share for creditor products with coverage provided to over 7.2 million plan members[3]
• 20% market share of group capital accumulation plans[1]
• 20% new sales market share of single premium group annuities[2]
	Group Life and Health Benefits
	• Life
	• Disability
	• Critical illness
	• Accidental death & dismemberment
	• Dental
	• Expatriate coverage
	• Extended health care
	
	Group Creditor
	• Life
	• Disability
	• Job loss
	• Critical illness
	
	Group Retirement & Investment Services
	• Group Capital Accumulation Plans including:
	  • Defined contribution pension plans
	  • Group RRSPs & TFSAs
	  • Deferred profit sharing plans
	  • Non-registered savings programs
	Invested in:
	  • Segregated funds
	  • Guaranteed investment options
	  • Single company stock
	
	• Retirement Income Plans
	  • Payout annuities
	  • Deferred annuities
	  • Retirement income funds
	  • Life income funds
	
	• Investment management services only plans
	Invested in:
	  • Segregated funds
	  • Guaranteed investment options
	  • Securities
	
	Specialty Products and Services
	• Dialogue™
	• Best Doctors™
	• Contact
	• Individual Health
		• Group Life and Health and Group Retirement and Investment Services are distributed through brokers, consultants, and financial security advisors. Sales and service support are provided by an integrated team of over 635 employees, located in 28 offices across the country, including 115 account executives[3].
		• Group Creditor products and services are distributed primarily though large financial institutions and serviced through a dedicated sales and service organization.

(1) As at December 31, 2018
(2) As at September 30, 2019
(3) As at November 30, 2019

COMPETITIVE CONDITIONS

INDIVIDUAL CUSTOMER

The individual insurance marketplace is highly competitive. Competition focuses on service, technology, product features, price and financial strength, as indicated by ratings issued by nationally recognized agencies. The Company's broad spectrum of distribution associates, including exclusive and independent channels, provide important strategic advantages within the Canadian market.

The individual wealth management marketplace is also very competitive. The Company's main competitors include mutual fund companies, insurance companies, banks and investment advisors as well as other service and professional organizations. New FinTech competitors have entered the marketplace leading to increased competition. Competition focuses on ease of doing business through technology, service, variety of investment options, investment performance, product features, price (fees) and financial strength. Individual wealth management's broad spectrum of distribution associates, including exclusive and independent channels, provide important strategic advantages within the Canadian market.

GROUP CUSTOMER

The group life and health benefits market in Canada is highly competitive. There are three large group insurance carriers with significant market positions, a number of smaller companies operating nationally and several regional and niche competitors. The Company has a significant market share of 21%, which is supported by an extensive distribution network who have access to a wide range of products and services. This strong market share position is a distinct advantage for competing successfully in the Canadian group insurance market.

The group capital accumulation plan market is also very competitive. Three major insurance companies hold a significant market share while several smaller insurance companies have an important market presence.

The pension risk transfer business continues to grow in the Canadian marketplace as more companies with defined benefit pension plans (open or closed) look to transfer the investment and longevity risk to insurance companies. Helping the market with the capacity to meet this demand, existing companies have increased their presence in the marketplace, including major independent and bank-owned insurance companies with strong balance sheets and new entrants.

Selected consolidated financial information - Canada

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Premiums and deposits[1]	**$ 7,229**	$ 7,053	$ 6,638	**$ 27,346**	$ 26,298
Sales[1]	**3,609**	3,520	3,447	**13,249**	13,186
Fee and other income	**457**	447	428	**1,766**	1,736
Net earnings - common shareholders	**188**	300	310	**1,051**	1,275
Total assets	**$ 176,304**	$ 174,149	$ 160,906		
Proprietary mutual funds and institutional assets[1]	**6,986**	6,853	6,214		
Total assets under management[1]	**183,290**	181,002	167,120		
Other assets under administration[1]	**17,118**	17,210	13,615		
Total assets under administration[1]	**$ 200,408**	$ 198,212	$ 180,735		

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

Net earnings - common shareholders	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Individual Customer	**$ 87**	$ 85	$ 171	**$ 431**	$ 685
Group Customer	**114**	206	144	**632**	630
Corporate	**(13)**	9	(5)	**(12)**	(40)
Net earnings - common shareholders	**$ 188**	$ 300	$ 310	**$ 1,051**	$ 1,275

2019 DEVELOPMENTS

- On April 3, 2019, the Company announced its three Canadian life insurance companies, The Great-West Life Assurance Company, London Life Insurance Company and The Canada Life Assurance Company, are moving to one brand in Canada: Canada Life. Following the required approvals, the Company also proceeded with the amalgamation of Great-West Life, London Life and Canada Life, and their holding companies, Canada Life Financial Corporation and London Insurance Group Inc., into a single life insurance company, The Canada Life Assurance Company. This amalgamation was effective January 1, 2020 and will create operating efficiencies and simplify the Company's capital structure to allow for more efficient use of capital, although it is not expected to have a material financial impact.
- During the fourth quarter of 2019, as part of the move to the Canada Life brand and amalgamation to one company, new advisor initiatives were announced. The Company launched its new Canada Life segregated funds shelf, bringing together the best funds from its three legacy shelves and removing duplication of mandates creating a simpler and better performing fund shelf for advisors in all channels. Additionally, the Company launched preview illustrations for its new Canada Life participating life insurance product, which were available for sales effective January 2, 2020. This new product is available to advisors in all channels and supported by the amalgamated Canada Life participating account.
- During the year the Company launched other new tools and products to improve customer experience and help them meet their financial and wellness objectives, including:
    - A new goals-based asset management program; Constellation Managed Portfolios, to help individuals manage their individual retirement and savings plans to achieve financial goals.
    - Introduced new term 30 and term to age 65 life insurance products, available through SimpleProtect, the company’s digital insurance application.
    - Rolled out “Flexbox”; a product designed to provide insurance and wealth solutions to small businesses with up to 10 plan participants.
    - Enhanced Group life and health customer experience, including:
        - The introduction of the HealthConnected portal, which features engagement elements like wearable device integration, team challenges and wellness strategy games.
        - A new paperless claims experience, which allows members to submit all claim types from their desktop or mobile device.

- During 2019, the Company completed the following acquisitions to help position for growth:
  - On January 31, 2019, Great-West Life Realty Advisors Inc. (GWLRA), a wholly owned subsidiary of the Company, completed its acquisition of Guggenheim Real Estate LLC (GRE), the real estate private equity platform of Guggenheim Investments. The transaction is not expected to have a material impact on the Company's financial results.
  - On August 1, 2019, Financial Horizons Group (FHG), a managing general agency and wholly owned subsidiary of the Company, completed its acquisitions of TORCE Financial Group Inc. and VANCE Financial Group Inc. These acquisitions give FHG a significant presence to serve a diverse customer base in the Toronto and Vancouver markets. These transactions are not expected to have a material impact on the Company's financial results.
- The Company earned an A- ('Leadership') rating on CDP's 2019 Climate Change Questionnaire, a rating which identifies the global leaders in the management of carbon, climate change risks and low carbon opportunities. The Company once again achieved the highest rating among Canadian insurance companies for the fifth consecutive year.

BUSINESS UNITS - CANADA

INDIVIDUAL CUSTOMER

OPERATING RESULTS

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Premiums and deposits[1]	**$ 3,110**	$ 2,490	$ 2,862	**$ 10,619**	$ 10,461
Sales[1]	**2,718**	2,020	2,479	**9,318**	9,287
Fee and other income	**258**	252	242	**995**	997
Net earnings	**87**	85	171	**431**	685

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

Premiums and deposits
Premiums and deposits for the fourth quarter of 2019 increased by $0.2 billion to $3.1 billion compared to the same quarter last year, primarily due to an increase in segregated fund deposits. The increase in segregated fund deposits was primarily due to an increase in transfers of business from Great-West Life and London Life to Canada Life due to the move to a single brand and the launch of the new Canada Life segregated fund shelf on November 4, 2019.

For the twelve months ended December 31, 2019, premiums and deposits increased by $0.2 billion to $10.6 billion compared to the same period last year, primarily due to an increase in participating life insurance premiums.

Premiums and deposits for the fourth quarter of 2019 increased by $0.6 billion compared to the previous quarter, primarily due to an increase in segregated fund deposits and participating life insurance premiums.

Sales
Sales for the fourth quarter of 2019 increased by $0.2 billion to $2.7 billion compared to the same quarter last year, primarily due to higher segregated fund and third party mutual fund sales.

For the twelve months ended December 31, 2019, sales of $9.3 billion were comparable to the same period last year as higher third party mutual fund sales were mostly offset by a decrease in segregated fund sales.

Sales for the fourth quarter of 2019 increased by $0.7 billion compared to the previous quarter, primarily due to the same reasons discussed for the in-quarter results.

For the individual wealth investment fund business, net cash outflows for the fourth quarter of 2019 were $299 million compared to $216 million for the same quarter last year and $291 million for the previous quarter. Net cash outflows for the twelve months ended December 31, 2019 were $1,386 million compared to $789 million for the same period last year.

Assets under administration - Individual Wealth

	December 31	
	2019	2018
Assets under management[1]		
Risk-based products	**$ 4,920**	$ 5,002
Segregated funds	**32,915**	30,925
Proprietary Mutual Funds	**6,803**	6,037
Total assets under management[1]	**$ 44,638**	$ 41,964
Other assets under administration[1][2]	**$ 9,996**	$ 8,397
Total assets under administration - Individual Wealth[1]	**$ 54,634**	$ 50,361

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(2) Includes third party mutual funds distributed by Quadrus.

Fee and other income

Fee and other income for the fourth quarter of 2019 increased by $16 million to $258 million compared to the same quarter last year, primarily due to higher average assets under management and an increase in other income related to Financial Horizons Group.

For the twelve months ended December 31, 2019, fee and other income of $995 million was comparable to the same period last year.

Fee and other income for the fourth quarter of 2019 increased by $6 million compared to the previous quarter, primarily due to the same reasons discussed for the in-quarter results.

Net earnings

Net earnings for the fourth quarter of 2019 decreased by $84 million to $87 million compared to the same quarter last year. The decrease was primarily due to unfavourable contributions from insurance contract liability basis changes and less favourable impact of new business, partially offset by higher contributions from investment experience. Insurance contract liability basis changes in the fourth quarter of 2019 include the strengthening of actuarial reserves driven by impact of updates to policyholder behaviour assumptions, updates to morbidity assumptions and refinements to certain investment-related assumptions.

For the twelve months ended December 31, 2019, net earnings decreased by $254 million to $431 million compared to the same period last year. The decrease was primarily due to unfavourable contributions from insurance contract liability basis changes, lower net fee income and less favourable policyholder behaviour experience, partially offset by higher contributions from investment experience.

Net earnings for the fourth quarter of 2019 of $87 million were comparable to the previous quarter, primarily due to less favourable impact of new business and unfavourable contributions from investment experience, partially offset by higher contributions from insurance contract liability basis changes.

For the fourth quarter of 2019, the net loss attributable to the participating account was $30 million compared to $19 million for the same quarter last year, primarily due to lower contributions from insurance contract liability basis changes, partially offset by a more favourable impact of new business.

For the twelve months ended December 31, 2019, net earnings attributable to the participating account were $13 million compared to a net loss of $21 million for the same period last year, primarily due to higher contributions from insurance contract liability basis changes.

The net loss attributable to the participating account for the fourth quarter of 2019 was $30 million compared to net earnings of $47 million for the previous quarter, primarily due to lower contributions from insurance contract liability basis changes.

OUTLOOK – INDIVIDUAL CUSTOMER

Refer to Cautionary Note regarding Forward-looking Information and Cautionary Note regarding non-IFRS Financial Measures at the beginning of this document.

The Individual Customer business unit delivered solid business results in 2019, notwithstanding actuarial reserve strengthening, while launching the new Canada Life brand and preparing to amalgamate the companies. The new single brand will bring efficiencies and focus that when added to the Company's reputation for strength and stability, combined with prudent business practices as well as the depth and breadth of its distribution channels, positions the Company well for 2020 and beyond.

In 2020, Individual Customer will continue to advance on strategies to position for growth. The Company will further establish the value propositions for advisors in all channels, providing them with strategies and tools for helping customers focus on achieving long-term financial security regardless of life stage and market fluctuations. This commitment to advice is beneficial to strong customer retention as well as helping advisors attract new customers to the Company. A key distribution strategy will be to maximize the use of common tools, processes and support, while tailoring support to specific segments of advisors where appropriate.

The Company will continue to competitively develop, price and market its comprehensive range of individual insurance and individual wealth management products while maintaining its focus on sales and service support to customers and advisors in all channels. The Company will also continue to monitor and respond to the impacts of long-term interest rates and fee income compression.

Operational expense management continues to be critically important to delivering strong financial results. The Company will seek to achieve this through disciplined expense controls and effective development and implementation of strategic investments. Management has identified a number of areas of focus for these investments to facilitate the objective of organic growth, including continuing to invest in digital solutions to support advisors and customers and addressing its legacy of administration systems and processes to unlock the potential for future growth.

GROUP CUSTOMER

OPERATING RESULTS

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Premiums and deposits[(1)]	**$ 4,119**	$ 4,563	$ 3,776	**$ 16,727**	$ 15,837
Sales[(1)]	**891**	1,500	968	**3,931**	3,899
Fee and other income	**184**	179	172	**708**	685
Net earnings	**114**	206	144	**632**	630

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

Premiums and deposits

Premiums and deposits for the fourth quarter of 2019 increased by $0.3 billion to $4.1 billion compared to the same quarter last year, primarily due to higher segregated fund deposits.
For the twelve months ended December 31, 2019, premiums and deposits increased by $0.9 billion to $16.7 billion compared to the same period last year. The increase was primarily due to ASO deposits for group insurance, higher segregated fund deposits and higher group insurance premiums.

Premiums and deposits for the fourth quarter of 2019 decreased by $0.4 billion to $4.1 billion compared to the previous quarter, primarily due to lower segregated fund deposits and lower premiums from single premium group annuities (SPGAs).

Sales

Sales for the fourth quarter of 2019 decreased by $0.1 billion to $0.9 billion compared to the same quarter last year, primarily due to lower sales of SPGAs.

For the twelve months ended December 31, 2019, sales of $3.9 billion were comparable to the same period last year.

Sales for the fourth quarter of 2019 decreased by $0.6 billion compared to the previous quarter, primarily due to lower SPGA sales, lower segregated fund sales for group wealth and lower large case sales for group insurance. Sales of large cases can be highly variable from quarter to quarter.

For the group wealth segregated fund business, net cash inflows for the fourth quarter of 2019 were $122 million, compared to net cash outflows of $73 million for the same quarter last year and net cash inflows of $242 million for the previous quarter. For the twelve months ended December 31, 2019, net cash inflows were $529 million compared to net cash outflows of $50 million for the same period last year.

Assets under administration - Group Retirement & Investment Services

	December 31	
	2019	2018
Assets under management[1]		
Risk-based products	**$ 8,532**	$ 8,207
Segregated funds	**52,697**	45,708
Institutional assets	**183**	177
Total assets under management[1]	**$ 61,412**	$ 54,092
Other assets under administration[1][2]	**$ 472**	$ 400
Total assets under administration - Group Retirement & Investment Services[1]	**$ 61,884**	$ 54,492

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(2) Includes mutual funds distributed by Quadrus, stock purchase plans administered by London Life and portfolio assets managed by GLC Asset Management Group.

Fee and other income

Fee and other income for the fourth quarter of 2019 increased by $12 million to $184 million compared to the same quarter last year, primarily due to higher average assets under management driven by higher average equity market levels.

For the twelve months ended December 31, 2019, fee and other income increased by $23 million to $708 million compared to the same period last year, primarily due to higher average assets under management driven by higher average equity market levels and higher ASO fee income.

Fee and other income for the fourth quarter of 2019 increased by $5 million compared to the previous quarter, primarily due to the same reason discussed for the year-to-date results.

Net earnings
Net earnings for the fourth quarter of 2019 decreased by $30 million to $114 million compared to the same quarter last year. The decrease was primarily due to lower contributions from insurance contract liability basis changes and less favourable morbidity experience, partially offset by higher contributions from investment experience. Insurance contract liability basis changes in the fourth quarter of 2019 include the impact of updates to mortality assumptions and refinements to certain investment related assumptions.

For the twelve months ended December 31, 2019, net earnings increased by $2 million to $632 million compared to the same period last year. The increase was primarily due to higher contributions from investment experience, partially offset by lower contributions from insurance contract liability basis changes.

Net earnings for the fourth quarter of 2019 decreased by $92 million compared to the previous quarter, primarily due to lower contributions from insurance contract liability basis changes and investment experience.

OUTLOOK – GROUP CUSTOMER
Refer to Cautionary Note regarding Forward-looking Information and Cautionary Note regarding non-IFRS Financial Measures at the beginning of this document.

During 2019, the Company maintained its strong competitive position in the Canadian group market with leading or strong market share in all case size, regional and benefit market segments. The Company believes that this market share position, together with its distribution capacity, will facilitate continued growth in net premium income.

Additionally, through ongoing investment in digital technologies and innovative benefit solutions, the Company expects to continue to enhance its competitive position in the marketplace. For example, in 2020 the Company will be launching an integrated plan member digital platform to service customers of Group Benefits and Group Savings products. This platform will facilitate a more streamlined experience for both members and plan sponsors.

The Canadian distribution landscape continues to evolve and the Company is working closely with all distribution partners to demonstrate how it can help build on the value of their advice.

CANADA CORPORATE
Canada Corporate consists of items not associated directly with or allocated to the Canadian business units.

For the fourth quarter of 2019, Canada Corporate had a net loss of $13 million compared to $5 million for the same quarter last year, primarily due to lower net investment income on seed capital.

The net loss for the twelve months ended December 31, 2019 was $12 million compared to $40 million for the same period last year, primarily due to changes in certain income tax estimates and higher net investment income on seed capital. These items were partially offset by higher expenses related to expenses in preparation for the amalgamation of the Canadian life insurance companies.

In the fourth quarter of 2019, the net loss was $13 million compared to net earnings of $9 million in the previous quarter, primarily due to the less favourable impact of changes to certain income tax estimates and lower net investment income on seed capital.

UNITED STATES
The United States operating results for Lifeco include the results of GWL&A (which operates primarily as 'Empower Retirement'), Putnam and the results of the insurance businesses in the United States branches of Great-West Life and Canada Life, together with an allocation of a portion of Lifeco's corporate results.

Through its Financial Services business unit, and specifically the Empower Retirement brand, the Company provides an array of financial security products, including employer-sponsored defined contribution plans, administrative and recordkeeping services, individual retirement accounts, fund management as well as investment and advisory services. Following the close of the reinsurance transaction with Protective Life in the second quarter of 2019, Financial Services also includes a retained block of life insurance, predominately participating policies, which are now administered by Protective Life, as well as a closed retrocession block of life insurance.

Following the close of the reinsurance transaction with Protective Life in the second quarter of 2019, the Reinsured Insurance & Annuity Business, which was previously reflected in Financial Services, is being reported as a separate business unit. The Reinsured Insurance & Annuity Business unit reflects substantially all of the individual life insurance and annuity business which has been sold, through indemnity reinsurance, to Protective Life effective June 1, 2019. These products include life insurance, annuity and executive benefits, which are no longer offered by the U.S. segment.

Through its Asset Management business unit, the Company provides investment management, certain administrative functions, distribution and related services, through a broad range of investment products.

TRANSLATION OF FOREIGN CURRENCY

Foreign currency assets and liabilities are translated into Canadian dollars at the market rate at the end of the financial period. All income and expense items are translated at an average rate for the period.

Impact of currency movement is a non-IFRS financial measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

BUSINESS PROFILE

FINANCIAL SERVICES

Empower Retirement offers employer-sponsored defined contribution plans, individual retirement accounts, enrollment services, communication materials, investment options and education services. The Great-West Investments brand offers fund management, investment and advisory services. The Empower Institutional brand, formerly FASCore, offers private label recordkeeping and administrative services for other providers of defined contribution plans. Empower Retirement is the second largest defined contribution recordkeeper in the U.S. and the largest provider of services to state defined contribution plans.

ASSET MANAGEMENT

Putnam provides investment management, certain administrative functions and distribution services. Putnam offers a broad range of investment products, including equity, fixed-income, absolute return and alternative strategies, through Putnam Funds, Putnam World Trust Funds and institutional portfolios (including hedge fund and other alternative strategies), model-based separately managed accounts (SMAs) and model portfolios. Revenue is derived from the value and composition of assets under management and performance fees as well as service and distribution fees. Accordingly, fluctuations in the financial markets and changes in the composition of assets or accounts affect revenues and results of operations.

MARKET OVERVIEW

PRODUCTS AND SERVICES

The Company provides a focused product offering that is distributed through a variety of channels.

FINANCIAL SERVICES

MARKET POSITION	PRODUCTS AND SERVICES	DISTRIBUTION
• Second largest defined contribution recordkeeper in the country[(1)] by participants providing services for 9.4 million participant accounts and 39,634 plans[(2)] • 22% market share in state and local government deferred compensation plans, based on number of participant accounts[(3)] • Great-West Lifetime Funds are the 15th largest target date fund offering in the U.S.[(2)]	• Employer-sponsored defined contribution plans, enrollment services, communication materials, investment options and education services • Administrative and recordkeeping services for financial institutions and employer-sponsored defined contribution plans and associated defined benefit plans • Fund management, investment and advisory services • Individual retirement accounts (IRAs)	• Retirement services products distributed to plan sponsors through brokers, consultants, advisors, third-party administrators and banks • Empower Institutional recordkeeping and administrative services distributed through institutional clients • IRAs available to individuals through the Retirement Solutions Group

(1) As at July 18, 2019
(2) As at December 31, 2019
(3) As at December 31, 2018

ASSET MANAGEMENT

MARKET POSITION	PRODUCTS AND SERVICES	DISTRIBUTION
• A global asset manager with assets under management of US$181.7 billion[(1)] • Global distribution includes sales teams that are focused on major institutional markets in the U.S., Europe, the Middle East, Asia and Australia and through a long-standing strategic distribution relationship in Japan	Investment Management Products & Services • Individual retail investors - a family of open-end and closed-end mutual funds, college savings plans and variable annuity products • Institutional investors - defined benefit and defined contribution investment only plans sponsored by corporations, state, municipal and other governmental authorities, university endowment funds, charitable foundations, and collective investment vehicles (both U.S. and non-U.S.) • Investment services for defined contribution investment only plans • Alternative investment products across the fixed-income, quantitative and equity groups • Seven equity model-based separately managed accounts (SMAs) and six multi-asset model portfolios Administrative Services • Transfer agency, underwriting, distribution, shareholder services, trustee and other fiduciary services	Individual Retail Investors • A broad network of distribution relationships with unaffiliated broker dealers, financial planners, registered investment advisors and other financial institutions that distribute the Putnam Funds and defined contribution investment only services to their customers, which, in total, includes approximately 136,000 advisors[(1)] • Sub-advisory relationships and Putnam-labeled funds as investment options for insurance companies and non-U.S. residents • Retail distribution channels are supported by Putnam's sales and relationship management team • Retirement plan sponsors and participants are supported by Putnam's dedicated defined contribution investment only professionals and through a relationship with Empower Retirement Institutional Investors • Supported by Putnam's dedicated account management, product management and client service professionals

(1) As at December 31, 2019

COMPETITIVE CONDITIONS

FINANCIAL SERVICES

The retirement and investment marketplaces are competitive. The Company's competitors include mutual fund companies, insurance companies, banks, investment advisors and certain service and professional organizations. No one competitor or small number of competitors is dominant. Competition focuses on name recognition, service, technology, cost, variety of investment options, investment performance, product features, price and financial strength as indicated by ratings issued by nationally recognized agencies.

ASSET MANAGEMENT

The investment management business is competitive. Putnam competes with other providers of investment products and services, primarily based on the range of investment products offered, investment performance, distribution, scope and quality of shareholder and other services as well as general reputation in the marketplace. Putnam's investment management business is also influenced by general securities market conditions, government regulations, global economic conditions as well as advertising and sales promotional efforts. Putnam competes with other mutual fund firms and institutional asset managers that offer investment products similar to Putnam as well as products that Putnam does not offer. Putnam also competes with a number of mutual fund sponsors that offer their funds directly to the public. Conversely, Putnam offers its funds only through intermediaries.

Selected consolidated financial information - United States

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Premiums and deposits[(1)(2)(5)]	**$ 19,480**	$ 17,670	$ 20,588	**$ 70,475**	$ 72,475
Sales[(1)]	**31,781**	31,245	32,080	**163,087**	105,948
Fee and other income[(3)(5)]	**679**	665	644	**3,767**	2,603
Net earnings - common shareholders[(5)]	**(121)**	77	55	**(61)**	388
Net earnings (US$) - common shareholders[(4)(5)]	**(92)**	59	41	**(45)**	292
Adjusted net earnings - common shareholders[(1)(5)]	**114**	77	55	**373**	388
Adjusted net earnings (US$) - common shareholders[(1)(4)(5)]	**87**	59	41	**282**	292
Total assets	**$ 85,612**	$ 87,090	$ 85,941		
Proprietary mutual funds and institutional assets[(1)]	**257,301**	250,183	235,075		
Total assets under management[(1)]	**342,913**	337,273	321,016		
Other assets under administration[(1)]	**792,110**	778,450	630,881		
Total assets under administration[(1)]	**$ 1,135,023**	$ 1,115,723	$ 951,897		

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

(2) For the twelve months ended December 31, 2019, premiums and deposits excluded the initial ceded premium of $13,889 million (US$10,365 million) related to the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business.

(3) For the twelve months ended December 31, 2019, fee and other income included a ceding commission of $1,080 million (US$806 million) related to the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business.

(4) Net earnings (US$) - common shareholders and adjusted net earnings (US$) - common shareholders do not include $9 million of net foreign currency exchange gains for the twelve months ended December 31, 2018 as they do not have a US$ equivalent. These amounts are only included in Canadian dollar net earnings.

(5) Following the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business to Protective Life on June 1, 2019, the Company recorded a net loss of $199 million (US$148 million) related to the transaction in the Reinsured Insurance & Annuity Business results. For the twelve months ended December 31, 2019, the impacts to the Consolidated Statements of Earnings are outlined in the table below:

Impact on Consolidated Statements of Earnings of reinsurance of U.S. individual life insurance and annuity business:	
Net premiums (initial ceded premiums)	$ (13,889)
Fee and other income (initial ceding commission)	1,080
Net investment income	219
Total paid or credited to policyholders	12,463
Operating, administrative and other expenses	(120)
Total pre-tax net loss per note 3 in the Company's December 31, 2019 consolidated financial statements	**(247)**
Income taxes	48
Total after-tax net loss	**$ (199)**

Net earnings - common shareholders	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Financial Services[1]	**$ 100**	$ 63	$ 48	**$ 278**	$ 240
Asset Management	**18**	13	(29)	**33**	(61)
Corporate	**(239)**	1	—	**(236)**	52
Reinsured Insurance & Annuity Business[1][2]	**—**	—	36	**(136)**	157
Net earnings - common shareholders	**$ (121)**	$ 77	$ 55	**$ (61)**	$ 388
Adjustments[2]					
Revaluation of a deferred tax asset[3]	**199**	—	—	**199**	—
Restructuring costs[3]	**36**	—	—	**36**	—
Net charge on sale, via reinsurance, of a U.S. business	**—**	—	—	**199**	—
Adjusted net earnings - common shareholders[2]	**$ 114**	$ 77	$ 55	**$ 373**	$ 388
Financial Services (US$)[1]	**$ 76**	$ 49	$ 36	**$ 211**	$ 184
Asset Management (US$)	**13**	9	(22)	**24**	(47)
Corporate (US$)	**(181)**	1	—	**(179)**	33
Reinsured Insurance & Annuity Business[1][2]	**—**	—	27	**(101)**	122
Net earnings (US$) - common shareholders	**$ (92)**	$ 59	$ 41	**$ (45)**	$ 292
Adjustments[2]					
Revaluation of a deferred tax asset (US$)[3]	**151**	—	—	**151**	—
Restructuring costs (US$)[3]	**28**	—	—	**28**	—
Net charge on sale, via reinsurance, of a U.S. business (US$)	**—**	—	—	**148**	—
Adjusted net earnings (US$) - common shareholders[2]	**$ 87**	$ 59	$ 41	**$ 282**	$ 292

(1) Reinsured Insurance & Annuity Business reflects business transferred to Protective Life Insurance on June 1, 2019 and includes the net charge on sale, via reinsurance, of a U.S. business of $199 million (US$148 million). Comparative figures have been adjusted to reflect current presentation.
(2) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(3) The revaluation of a deferred tax asset of $199 million (US$151 million) and restructuring costs of $36 million (US$28 million) are included in the Corporate results.

2019 DEVELOPMENTS

- On June 5, 2019, the Securities and Exchange Commission adopted and released Regulation Best Interest (the Rule). The Rule establishes a new standard of conduct requiring broker-dealers to satisfy a higher standard of care and disclosure when recommending securities and investment strategies, including rollovers and account recommendations, to retail clients and retirement plan participants. The Rule does not apply to discussions with plan sponsors. The Rule is effective June 30, 2020 and the Company intends to fully comply with the Rule by that date. Management does not expect that the Rule will prevent the Company from executing on its overall business strategy and growth objectives.

- During 2019, Putnam undertook actions to realign its resources to better position itself for current and future opportunities. These actions included technology modernization, product consolidation, a reduction in staff and facilities reorganization. During the fourth quarter of 2019, the Company recorded restructuring costs which reduced net earnings by $36 million (US$28 million) relating to these initiatives. The Company expects to realize US$33 million in pre-tax annual operating expense savings as a result of the restructuring activities mostly by the end of the fourth quarter of 2020. As of December 31, 2019, approximately US$24 million in pre-tax annual operating expense savings have been achieved. These restructuring costs are included in the U.S. Corporate results.
- During the fourth quarter of 2019, management determined that a revaluation of the deferred income tax asset pertaining to the Asset Management business unit was appropriate due to timing uncertainty in projected taxable income available to utilize certain restricted net operating losses generated in the earliest loss years. The impact was a charge to net earnings of $199 million (US$151 million) and is included in the U.S. Corporate results.

BUSINESS UNITS – UNITED STATES

FINANCIAL SERVICES

2019 DEVELOPMENTS

- Effective June 1, 2019, GWL&A, a subsidiary of the Company, completed the sale, via indemnity reinsurance, of substantially all of its individual life insurance and annuity business to Protective Life who now assumes the economics and risks associated with the reinsured business. The transaction resulted in an after-tax transaction value of approximately $1.6 billion (US$1.2 billion), excluding one-time expenses. The transaction value included a ceding commission of $1,080 million (US$806 million) and a capital release of approximately $530 million (US$400 million). The business transferred included bank-owned and corporate-owned life insurance, single premium life insurance, individual annuities as well as closed block life insurance and annuities. Because the transaction is structured as a reinsurance agreement, the Company will hold both the liability and offsetting reinsurance asset. Protective Life will assume the economics and risks associated with the reinsured business.

  In the second quarter of 2019, the Company recognized a loss related to this transaction of $199 million (US$148 million), which included transaction costs of $63 million (US$47 million) and $36 million (US$27 million) due to updated expense assumptions primarily related to stranded overhead. The liabilities transferred and ceding commission received at the closing of this transaction are subject to future adjustments. In October 2019, Protective Life provided the Company with its listing of proposed adjustments with respect to the liabilities transferred. In December 2019, the Company formally objected to these proposed adjustments. The Master Transaction Agreement requires the parties to attempt to resolve these differences in an informal manner and that process is ongoing. Based on the information presently known, it is difficult to predict the outcome of this matter with certainty, but this matter is not expected to materially impact the consolidated financial position of the Company.

  GWL&A has retained a block of life insurance, predominately participating policies, which are now administered by Protective Life, as well as a closed retrocession block of life insurance.
- Empower Retirement participant accounts have grown to 9.4 million at December 31, 2019 from 8.8 million at December 31, 2018.
- Empower Retirement assets under administration were US$673 billion at December 31, 2019, up from US$516 billion at December 31, 2018.
- During the third quarter of 2019, Empower Retirement announced it entered into a 21-year agreement with the Denver Broncos Football Club and Metropolitan Football Stadium District for the naming rights to the Denver Broncos' stadium, which will now be known as “Empower Field at Mile High.” The agreement gives Empower Retirement national brand and media exposure, serving as the home for the Broncos and more than 300 other events annually.
- During 2019, the Company received the following awards and rankings:
  - In a PLANADVISER Retirement Plan Adviser Survey, Empower Retirement was rated the overall most favourable plan provider and number 1 by retirement professionals in seven categories.

- In a Newsweek list of "America's Best Companies for Customer Service 2019", Empower Retirement was in the top three ranked companies with which to save for retirement by U.S. customers who have used the services.
- In a PLANSPONSOR survey, Empower Retirement received 50 best-in-class awards.

OPERATING RESULTS

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Premiums and deposits[(1)(2)(3)]	**$ 3,150**	$ 3,071	$ 2,595	**$ 11,783**	$ 10,375
Sales[(1)(2)(4)]	**15,798**	16,885	14,234	**105,380**	44,447
Fee and other income[(2)]	**376**	369	318	**1,428**	1,270
Net earnings[(2)(5)]	**100**	63	48	**278**	240
Premiums and deposits (US$)[(1)(2)(3)]	**$ 2,386**	$ 2,327	$ 1,967	**$ 8,877**	$ 8,014
Sales (US$)[(1)(2)(4)]	**11,968**	12,792	10,783	**79,353**	34,301
Fee and other income (US$)[(2)]	**285**	280	241	**1,076**	981
Net earnings (US$)[(2)(5)]	**76**	49	36	**211**	184

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(2) The operating results of Financial Services have been restated for comparative periods to reflect the impact of the reinsurance transaction with Protective Life, which closed on June 1, 2019. Following the close of the reinsurance transaction, and included in Financial Services results, the Company will retain a block of life insurance, predominately participating policies, which are now administered by Protective Life, as well as a closed retrocession block of life insurance.
(3) For the three months and twelve months ended December 31, 2019, premiums and deposits included US$54 million and US$166 million, respectively, relating to the retained policies (US$54 million and US$192 million for the three and twelve months ended December 31, 2018, US$34 million for the three months ended September 30, 2019).
(4) For the three months and twelve months ended December 31, 2019, sales included US$0.3 billion and US$1.1 billion, respectively, relating to Putnam managed funds sold on the Empower Retirement platform (US$0.3 billion and US$1.1 billion for the three and twelve months ended December 31, 2018, and US$0.3 billion for the three months ended September 30, 2019).
(5) For the three months and twelve months ended December 31, 2019, net earnings included a net loss of US$19 million and net earnings of US$6 million, respectively, relating to the retained policies (US$4 million and US$31 million for the three and twelve months ended December 31, 2018, and US$6 million for the three months ended September 30, 2019).

Premiums and deposits

Premiums and deposits for the fourth quarter of 2019 of US$2.4 billion increased by US$0.4 billion compared to the same quarter last year and by US$0.1 billion compared to the previous quarter, primarily due to higher deposits from existing Empower Retirement participants.

Premium and deposits for the twelve months ended December 31, 2019 increased by US$0.9 billion to US$8.9 billion compared to the same period last year, primarily due to the same reasons discussed for the in-quarter results.

Sales

Sales in the fourth quarter of 2019 increased by US$1.2 billion to US$12.0 billion compared to the same quarter last year, primarily due to higher Empower Retirement mid and small sized plans, partially offset by lower Empower Retirement large plan sales. Large plan sales can be highly variable from period to period and tend to be lower margin; however, contribute to covering fixed overhead costs.

For the twelve months ended December 31, 2019, sales increased by US$45.1 billion to US$79.4 billion compared to the same period last year, primarily due to higher Empower Retirement sales across all products lines, including several large plan sales.

Sales in the fourth quarter of 2019 decreased by US$0.8 billion compared to the previous quarter, primarily due to lower Empower Retirement large plan sales, partially offset by higher small and mid-sized plan sales.

Empower Retirement - assets under administration (US$)

	December 31	
	2019	2018
General account - fixed options	**$ 13,532**	$ 12,979
Segregated funds - variable options	**19,504**	14,966
Proprietary mutual funds[(1)]	**30,949**	24,098
Unaffiliated retail investment options & administrative services only	**609,316**	463,883
	$ 673,301	$ 515,926

(1) At December 31, 2019, proprietary mutual funds included US$13.7 billion in Putnam managed funds (US$10.6 billion at December 31, 2018).

Empower Retirement customer account values at December 31, 2019 increased by US$157.4 billion compared with December 31, 2018, primarily due higher equity market levels and net cash inflows across investment categories, primarily within unaffiliated retail investment options & administrative services only.

Fee and other income

Fee income is derived primarily from assets under management, assets under administration, shareholder servicing fees, administration and recordkeeping services and investment advisory services. Generally, fees are earned based on assets under management, assets under administration or the number of plans and participants for which services are provided.

Fee and other income for the fourth quarter of 2019 of US$285 million increased by US$44 million compared to the same quarter last year and by US$5 million compared to the previous quarter, primarily due to higher average equity markets and growth in participants.

For the twelve months ended December 31, 2019, fee and other income increased by US$95 million to US$1,076 million compared to the same period last year, primarily due to the same reasons discussed for the in-quarter results.

Net earnings

Net earnings for the fourth quarter of 2019 of US$76 million increased by US$40 million compared to the same quarter last year. The increase was primarily due to the impact of a partial settlement of an employee pension plan, higher contributions from investment experience and net business growth, partially offset by higher operating expenses.

For the twelve months ended December 31, 2019, net earnings increased by US$27 million to US$211 million compared to the same period last year. The increase was primarily due to the impact of a valuation adjustment on an employee pension plan, higher contributions from investment experience and net business growth, partially offset by lower contributions from insurance contract liability basis changes and higher operating expenses.

Net earnings for the fourth quarter of 2019 of US$76 million increased by US$27 million compared to the previous quarter, primarily due to the impact of a valuation adjustment on an employee pension plan and higher contributions from investment experience, partially offset by higher operating expenses.

OUTLOOK – FINANCIAL SERVICES

Refer to Cautionary Note regarding Forward-looking Information and Cautionary Note regarding non-IFRS Financial Measures at the beginning of this document.

As the second largest recordkeeping provider in the U.S., Empower Retirement is positioned for significant growth opportunities with expertise and diversification across all plan types, company sizes and market segments. The Financial Services business unit continually examines opportunities to structure products and develop strategies to stimulate growth in assets under management.

In 2020, Empower Retirement's strategies to drive sales growth will continue to include active marketing of the brand, investing in product differentiation and offering a best-in-class service model. In 2019, service enhancements were made to this model including standardizing and improving client-facing tools, optimizing advisor relationship management and client alignment as well as adopting best practices for participant communications. In 2020, investments will continue to be made to improve the customer web experiences, including adding innovative capabilities and ease of service products. These efforts are expected to increase customer retention and ultimately increase participant retirement savings.

ASSET MANAGEMENT

2019 DEVELOPMENTS

- Putnam's ending assets under management (AUM) at December 31, 2019 of US$181.7 billion increased by US$21.5 billion compared to the same period last year, while average AUM for the twelve months ended December 31, 2019 of US$173.2 billion increased by US$0.6 billion compared to the same period last year. For the three and twelve months ended December 31, 2019, mutual fund net inflows were US$1.5 billion and US$2.4 billion, respectively.
- Putnam continues to sustain strong investment performance relative to its peers. As of December 31, 2019, approximately 82% of Putnam's fund assets performed at levels above the Lipper median on a three-year basis, and approximately 86% on a five-year basis.
- During the fourth quarter of 2019, Putnam began offering seven equity model-based separately managed accounts and six multi-asset model portfolios. These offerings will help to satisfy emerging preferences among investors for strategies that are generally cost-effective, tax efficient and provide opportunities for customization, enabling investors to screen for certain investments that are in conflict with their personal values.
- For the 30th consecutive year, Putnam has been recognized by DALBAR Inc. for mutual fund service quality. This recognition includes Putnam being named as a DALBAR Mutual Fund Service Award winner for 28 of those years. Additionally, Putnam has been named the sole recipient of DALBAR's Total Client Experience Award recognizing overall mutual fund customer service quality for the past nine years.

OPERATING RESULTS

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Sales(1)	**$ 15,983**	$ 14,360	$ 17,483	**$ 57,299**	$ 59,848
Fee income					
Investment management fees	**206**	205	199	**813**	821
Performance fees	**2**	(3)	(8)	**(10)**	(38)
Service fees	**37**	37	37	**149**	148
Underwriting & distribution fees	**58**	57	57	**230**	241
Fee income	**303**	296	285	**1,182**	1,172
Core net earnings(1)	**28**	22	(18)	**78**	(11)
Less: Financing and other expenses (after-tax)(1)	**(10)**	(9)	(11)	**(45)**	(50)
Reported net earnings (loss)	**18**	13	(29)	**33**	(61)
Sales (US$)(1)	**$ 12,108**	$ 10,879	$ 13,245	**$ 43,185**	$ 46,164
Fee income (US$)					
Investment management fees (US$)	**155**	155	151	**611**	634
Performance fees (US$)	**2**	(2)	(6)	**(6)**	(30)
Service fees (US$)	**28**	28	28	**112**	115
Underwriting & distribution fees (US$)	**44**	43	43	**173**	186
Fee income (US$)	**229**	224	216	**890**	905
Core net earnings (US$)(1)	**21**	17	(14)	**59**	(8)
Less: Financing and other expenses (after-tax) (US$)(1)	**(8)**	(8)	(8)	**(35)**	(39)
Reported net earnings (loss) (US$)	**13**	9	(22)	**24**	(47)
Pre-tax operating margin(1)	**7.2%**	9.5%	(10.8)%	**8.1%**	(1.5)%
Average assets under management (US$)(1)	**$ 178,023**	$ 174,268	$ 168,743	**$ 173,159**	$ 172,579

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

Sales
Sales in the fourth quarter of 2019 decreased by US$1.1 billion to US$12.1 billion compared to the same quarter last year, primarily due to a decrease in mutual fund sales of US$1.0 billion.

For the twelve months ended December 31, 2019, sales decreased by US$3.0 billion to US$43.2 billion compared to the same period last year, primarily due to a decrease in mutual fund sales of US$2.0 billion and a decrease in institutional sales of US$1.0 billion.

Sales in the fourth quarter of 2019 increased by US$1.2 billion compared to the previous quarter, primarily due to a US$1.1 billion increase in mutual fund sales.

Fee income
Fee income is derived primarily from investment management fees, performance fees, transfer agency and other service fees, as well as underwriting and distribution fees. Generally, fees are earned based on AUM and may depend on financial markets, the relative performance of Putnam's investment products, the number of retail accounts and sales. Performance fees are generated on certain mutual funds and institutional portfolios and are generally based on a rolling 36-month performance period for mutual funds and a 12-month performance period for institutional portfolios. Performance fees on mutual funds are symmetric, and as a result, can be positive or negative.

Fee income for the fourth quarter of 2019 increased by US$13 million to US$229 million compared to the same quarter last year. The increase was primarily due to higher investment management fees, driven by higher average AUM and higher institutional and mutual fund performance fees.

For the twelve months ended December 31, 2019, fee income decreased by US$15 million to US$890 million compared to the same period last year. The decrease was primarily due to lower investment management fees, driven by a change in asset mix, as well as lower underwriting and distribution fees, partially offset by improved mutual fund performance fees.

Fee income for the fourth quarter of 2019 increased by US$5 million compared to the previous quarter, primarily due to higher institutional performance fees.

Net earnings

Core net earnings for the fourth quarter of 2019 were US$21 million compared to a core net loss of US$14 million for the same quarter last year. Core net earnings increased by US$35 million primarily due to higher net investment income on seed capital and higher net fee income. In the fourth quarter of 2019, reported net earnings, including financing and other expenses, were US$13 million compared to a reported net loss of US$22 million for the same quarter last year. Financing and other expenses for the fourth quarter of 2019 of US$8 million were comparable to the same quarter last year.

For the twelve months ended December 31, 2019, core net earnings were US$59 million, compared to a core net loss of US$8 million for the same period last year, primarily due to higher net investment income on seed capital and lower operating expenses, which included the impact of expense reduction initiatives, partially offset by lower net fee income. For the twelve months ended December 31, 2019, reported net earnings, including financing and other expenses, were US$24 million compared to a reported net loss of US$47 million for the same period last year. Financing and other expenses for the twelve month period ended December 31, 2019 decreased by US$4 million to US$35 million compared to the same period last year, primarily due to lower net financing costs as a result of debt refinancing during the prior year.

Core net earnings for the fourth quarter of 2019 were US$21 million compared to core net earnings of US$17 million for the previous quarter. Core net earnings increased by US$4 million, primarily due to higher fee income, higher net investment income and additional tax benefits, partially offset by higher operating expenses. Reported net earnings, including financing and other expenses, for the fourth quarter of 2019, were US$13 million compared to reported net earnings of US$9 million for the previous quarter. Financing and other expenses for the fourth quarter of 2019 of US$8 million were comparable to the previous quarter.

ASSETS UNDER MANAGEMENT

Assets under management (US$)[(1)]

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Beginning assets	**$ 174,191**	$ 174,661	$ 177,199	**$ 160,200**	$ 171,458
Sales - Mutual funds	**7,798**	6,703	8,817	**27,474**	29,454
Redemptions - Mutual funds	**(6,316)**	(5,642)	(8,341)	**(25,031)**	(27,036)
Net asset flows - Mutual funds	**1,482**	1,061	476	**2,443**	2,418
Sales - Institutional	**4,310**	4,176	4,428	**15,711**	16,710
Redemptions - Institutional	**(5,587)**	(6,784)	(6,055)	**(22,081)**	(18,712)
Net asset flows - Institutional	**(1,277)**	(2,608)	(1,627)	**(6,370)**	(2,002)
Net asset flows - Total	**205**	(1,547)	(1,151)	**(3,927)**	416
Impact of market/performance	**7,328**	1,077	(15,848)	**25,451**	(11,674)
Ending assets	**$ 181,724**	$ 174,191	$ 160,200	**$ 181,724**	$ 160,200
Average assets under management					
Mutual funds	**86,824**	83,937	79,198	**83,096**	79,780
Institutional assets	**91,199**	90,331	89,545	**90,063**	92,799
Total average assets under management	**$ 178,023**	$ 174,268	$ 168,743	**$ 173,159**	$ 172,579

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

Average AUM for the three months ended December 31, 2019 were US$178.0 billion, an increase of US$9.3 billion or 5% compared to the same quarter last year, primarily due to the impact of markets and cumulative mutual fund net asset inflows, partially offset by cumulative institutional net asset outflows. Net asset inflows for the fourth quarter of 2019 were US$0.2 billion compared to net assets outflows of US$1.2 billion for the same quarter last year. In-quarter mutual fund net asset inflows were US$1.5 billion and institutional net asset outflows were US$1.3 billion.

Average AUM for the twelve months ended December 31, 2019 increased by US$0.6 billion to US$173.2 billion compared to the same period last year, primarily due to the same reasons discussed for the in-quarter results. Net asset outflows for the twelve months ended December 31, 2019 were US$3.9 billion compared to net assets inflows of US$0.4 billion for the same period last year. Year-to-date mutual fund net asset inflows of US$2.4 billion were more than offset by institutional net asset outflows of US$6.4 billion.

Average AUM for the three months ended December 31, 2019 increased by US$3.8 billion compared to the previous quarter, primarily due to the impact of markets.

OUTLOOK – ASSET MANAGEMENT

Refer to Cautionary Note regarding Forward-looking Information and Cautionary Note regarding non-IFRS Financial Measures at the beginning of this document.

Putnam remains committed to providing strong, long-term investment performance across asset classes for its clients and investors in the mutual fund, institutional and retirement marketplaces.

In 2020, Putnam will continue to focus efforts on driving growth and market share through new sales and asset retention in all markets it serves including Global Institutional, PanAgora (Putnam's quantitative institutional manager), U.S. Retail and Defined Contribution Investment Only, while maintaining its industry recognized reputation for service excellence.

Innovation will remain a key differentiator in 2020, as Putnam further develops its product offerings, service features and operational functions, while bolstering its corporate and business/product brand image with a wide range of key constituents. Putnam continues to increasingly incorporate digital technology throughout its business to drive greater efficiencies and create business opportunities.

Putnam will continue to focus on growth of revenues and assets in 2020, while at the same time managing firm-wide expenses, as the firm seeks to build a scalable, profitable asset management franchise.

UNITED STATES CORPORATE

U.S. Corporate consists of items not associated directly with or allocated to the United States business units, including the impact of certain non-continuing items related to the U.S. segment.

In the fourth quarter of 2019, the net loss was US$181 million compared to net earnings of nil for the same period in 2018, which includes the impact of a revaluation of a deferred tax asset of US$151 million and restructuring costs of US$28 million both related to the Asset Management business unit. Excluding these items, the adjusted net loss increased by US$2 million primarily due to higher operating expenses, partially offset by higher net investment income.

Excluding the revaluation of a deferred tax asset and restructuring costs related to the Asset Management business unit discussed for the in-quarter results, net earnings for the twelve months ended December 31, 2019 were nil compared to net earnings of US$33 million in the same period in 2018. The decrease was primarily due to a gain in the prior year which resulted from the termination an interest rate hedge as part of a debt refinancing transaction.

Excluding a revaluation of a deferred tax asset and restructuring costs related to the Asset Management business unit discussed for the in-quarter results, the net loss in the fourth quarter of 2019, was US$2 million comparable to net earnings of US$1 million in the previous quarter.

The 2018 year-to-date U.S. Corporate U.S. dollar net earnings do not include $9 million of net foreign currency exchange gains which occurred in the second quarter of 2018 as a results of debt redemptions as they do not have a U.S. dollar equivalent. These amounts are only included in Canadian dollar net earnings.

REINSURED INSURANCE & ANNUITY BUSINESS

OPERATING RESULTS

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Premiums and deposits[1][2]	**$ 347**	$ 239	$ 510	**$ 1,393**	$ 2,252
Sales[1]	**—**	—	363	**408**	1,653
Fee and other income[3]	**—**	—	41	**1,157**	161
Net earnings	**—**	—	36	**(136)**	157
Adjusted net earnings[1]	**—**	—	36	**63**	157
Premiums and deposits (US$)[1][2]	**$ 262**	$ 181	$ 386	**$ 1,049**	$ 1,739
Sales (US$)[1]	**—**	—	275	**306**	1,277
Fee and other income (US$)[3]	**—**	—	31	**864**	124
Net earnings (US$)	**—**	—	27	**(101)**	122
Adjusted net earnings(US$)[1]	**—**	—	27	**47**	122

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(2) For the twelve months ended December 31, 2019, premiums and deposits excluded the initial ceded premium of $13,889 million (US$10,365 million) related to the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business.
(3) For the twelve months ended December 31, 2019, fee and other income included a ceding commission of $1,080 million (US$806 million) related to the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business.

The Reinsured Insurance & Annuity Business unit results reflect sales, fee and other income and net earnings up to June 1, 2019. Following the sale, via indemnity reinsurance, on June 1, 2019 to Protective Life, there were no additional sales, fee and other income and net earnings related to this business unit. Premiums and deposits for the three months ended December 31, 2019 of US$262 million and for the three months ended September 30, 2019 of US$181 million primarily related to deposits received on separate accounts, with the economics ceded to Protective Life, resulting in no net earnings impact.

EUROPE

The Europe segment comprises two distinct business units: Insurance & Annuities and Reinsurance, together with an allocation of a portion of Lifeco's corporate results. Insurance & Annuities provides protection and wealth management products, including payout annuity products, through subsidiaries of Canada Life in the U.K., the Isle of Man and Germany, as well as through Irish Life in Ireland. Reinsurance operates primarily in the U.S., Barbados and Ireland, and is conducted through Canada Life, London Life and their subsidiaries.

TRANSLATION OF FOREIGN CURRENCY

Foreign currency assets and liabilities are translated into Canadian dollars at the market rate at the end of the financial period. All income and expense items are translated at an average rate for the period.

Impact of currency movement is a non-IFRS financial measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

BUSINESS PROFILE

INSURANCE & ANNUITIES

The core products offered in the U.K. are bulk and individual payout annuities, equity release mortgages, investments (including life bonds, retirement drawdown and pension), individual protection and group insurance. These products are distributed through independent financial advisors and employee benefit consultants. The U.K.'s international operations based in the Isle of Man and Dublin, Ireland offer investment, savings and individual protection products that are sold through independent financial advisors and private banks in the U.K. and in other selected territories.

On June 21, 2018, Canada Life Limited, an indirect wholly-owned subsidiary of the Company, announced an agreement to sell a heritage block of individual policies to Scottish Friendly which were a mainly closed block. The transfer to Scottish Friendly completed on November 1, 2019. Canada Life Investments will continue to manage a portion of unit-linked assets which transferred to Scottish Friendly.

The core products offered by Irish Life in Ireland are savings and investments, individual and group life insurance, health insurance and pension products. These products are distributed through independent brokers, a direct sales force and tied agent bank branches. Irish Life Health offers individual and corporate health plans, distributed through independent brokers and direct channels. Irish Life Investment Managers (ILIM) is one of the Company's fund management operations in Ireland with approximately €85 billion of assets under management. In addition to managing assets on behalf of companies in the Lifeco group, ILIM also manages assets for a wide range of institutional and retail clients, occupational defined benefit and defined contribution pension schemes, large multinational corporations, charities and domestic companies.

The German operation focuses on pension, lifetime GMWB and individual protection products that are distributed through independent brokers and multi-tied agents.

Insurance & Annuities continues to expand its presence in its defined market segments by focusing on the introduction of innovative products and services, the quality of its service offerings as well as the enhancement of distribution capabilities and intermediary relationships.

REINSURANCE

Reinsurance provides capital and risk solutions and operates primarily in the U.S., Barbados and Ireland. In the U.S., the reinsurance business operates through branches of Canada Life, London Life, subsidiaries of London Life and an indirect subsidiary of GWL&A. In Barbados, the reinsurance business operates primarily through branches of Canada Life, London Life and subsidiaries of London Life. In Ireland, the reinsurance business operates through a subsidiary of Canada Life. Effective January 1, 2020, following the amalgamation of Great-West Life, London Life and Canada Life, the Reinsurance business will be operated through the Canada Life branches, subsidiaries of Canada Life and an indirect subsidiary of GWL&A.

The Company's business includes both reinsurance and retrocession business transacted directly with clients or through reinsurance brokers. As a retrocessionaire, the Company provides reinsurance to other reinsurers to allow those companies to manage their insurance risk.

The product portfolio offered by the Company includes life, annuity/longevity, mortgage and property catastrophe reinsurance, provided on both a proportional and non-proportional basis.

In addition to providing reinsurance products to third parties, the Company also utilizes internal reinsurance transactions between companies in the Lifeco group. These transactions are undertaken to better manage insurance risks relating to retention, volatility and concentration; and to facilitate capital management for the Company, its subsidiaries and branch operations. These internal reinsurance transactions produce benefits that are reflected in one or more of the Company's other business units.

MARKET OVERVIEW

PRODUCTS AND SERVICES

INSURANCE & ANNUITIES

MARKET POSITION	PRODUCTS AND SERVICES	DISTRIBUTION
U.K. • Group life market share 25%[1] • Group income protection market share 17%[1] • Payout annuities market share 17% (Advisor only)[2] • A market leading international life company selling into the U.K. market, with over 30% market share[3] • Among the top five in the onshore unit-linked single premium bond market, with 19% market share (Advisor only)[3] • An award winning competitor in the equity release market with a market share of 8.4%[6] **Ireland** • Life assurance company market share 34%[4] • Retail life and pensions market share 31%[4] • Group pensions, group risk and corporate annuities market share 39%[4] • ILIM is one of the largest institutional fund managers in Ireland with €85 billion assets under management[5] • Third largest health insurance business through Irish Life Health[1] **Germany** • 5% share of the broker market[3]	**U.K.** • Individual and bulk payout annuities • Fixed term annuities • Individual savings and investments (retirement drawdown & pension, onshore & international bonds and collective investment funds) • Group and individual life insurance • Group income protection (disability) • Group and individual critical illness • Equity release mortgages **Ireland** • Individual and group risk & pensions • Individual and bulk payout annuities • Health insurance • Wealth management services • Individual savings and investment • Institutional investment management **Germany** • Pensions • Income protection (disability) • Critical illness • Variable annuities (GMWB) • Individual life insurance	**U.K.** • Financial advisors • Private banks • Employee benefit consultants **Ireland** • Independent brokers • Pensions and investment consultants • Direct sales force • Tied bank branch distribution with various Irish banks **Germany** • Independent brokers • Multi-tied agents

(1) As at December 31, 2018
(2) Market share based on annualized first quarter to third quarter 2019 data through financial advisors, restricted whole market advisors and non-advised distributor.
(3) Based on annualized first quarter to third quarter 2019 data
(4) As at June 30, 2019
(5) As at December 31, 2019
(6) Equity Release Council market statistics for fourth quarter 2018 to third quarter 2019

REINSURANCE

MARKET POSITION	PRODUCTS AND SERVICES	DISTRIBUTION
• Among the top two life reinsurers in the U.S. for assumed structured life reinsurance[1] • Leading player in the evolving European structured life reinsurance market • Ranked 6th for traditional mortality reinsurance in the U.S. • Leading provider of U.K. and other European annuity/longevity reinsurance • Long-standing provider of a range of property and casualty catastrophe retrocession coverages	**Life** • Yearly renewable term • Co-insurance • Modified co-insurance • Capital relief solutions **Mortgage Reinsurance** • Stop loss **Annuity / Longevity** • Payout annuity • Longevity protection • Fixed annuity **Property & Casualty** • Catastrophe retrocession	• Independent reinsurance brokers • Direct placements

(1) As at November 30, 2019

COMPETITIVE CONDITIONS

United Kingdom

In the U.K., the Company has strong market positions for payout annuities, wealth management and group risk, where it is a market leader. Combined sales from the onshore and international wealth management businesses put Canada Life as one of the top single investment premium bond providers in the U.K.

The market for payout annuities continued to grow in 2019. Due to a regulatory initiative, the Company has benefited from an increase in the proportion of customers seeking the best price in the open market. This has increased the proportion of customers buying annuities through financial advisors, which are the Company's primary distribution channel. The Company continues to offer both standard and enhanced annuities as well as investment based pension and drawdown products for customers wanting to take advantage of the greater pension flexibility introduced in recent years. The Company expects further growth in the retirement retail market and is well placed to continue to grow in this market, supported by the expertise and addition of equity release mortgages gained through the Retirement Advantage purchase in 2018. The equity release mortgage sector is becoming an increasingly important part of the retirement retail market and is expected to be an area of growth. The Company also offers bulk annuities aimed at trustees of defined benefits plans who want to insure pension annuities in payment. This is a large market and demand from trustees remains strong. The market is expected to grow as pension plan funding improves and trustees consider ways to reduce risk. With expertise and experience in longevity and investment products, the Company is well placed to continue to grow bulk annuity new business.

In international wealth management operations, there was market growth of 7% during the year. Continued efforts to increase sales within the retail market along with strong sales from the institutional sector of the market resulted in total sales of £1.4 billion for 2019. Future estate planning continues to be an area of focus for U.K. advisors and Canada Life International remains one of the leading companies in this sector of the market.

Ireland

The Company continues to be the largest life assurance company in Ireland with a market share of 34% as at June 30, 2019. Irish Life follows a multi-channel distribution strategy with the largest broker distribution network, the largest direct sales force and the largest Bancassurance distribution network where it has tied relationships with five banks.

Irish Life Investment Managers is one of Ireland's largest institutional fund managers with approximately €85 billion of assets under management, including funds managed for other companies within the Lifeco group, as at December 31, 2019. During 2019, in addition to maintaining its market leading position in Ireland, ILIM continued to expand its global footprint with international assets under management growth through new institutional relationships and mandates.

Setanta Asset Management, a subsidiary of the Company, manages assets for a number of institutional clients, both third-party institutions as well as for companies in the Lifeco group and has approximately €12 billion of assets under management as at December 31, 2019.

The Company operates its Irish health insurance business under the Irish Life Health brand, where it has a top three position.

Germany

The Company has established a leading position among providers of products to the German independent intermediary market. The Company is among the top six providers in the independent intermediary market through continuous product, technology and service improvements and sales have grown 9% in 2019. The market for traditional German insurance products has been challenging following the introduction of Solvency II in 2016 combined with the continued low interest rate environment. This new environment is moving German insurance providers to offer hybrid and lighter guarantee products which provides increased competition in the Canada Life product categories.

Reinsurance

In the U.S. life reinsurance market, insurers continue to view reinsurance as an important tool for risk and capital management. Several competitors are now focusing on growing their market share, which resulted in increased competition. However, an independent industry survey released in November 2019 confirmed that the Company remains one of the top two providers of risk and capital management solutions in the U.S. market.

The Company has also had success in traditional life reinsurance as the number of remaining life reinsurers is declining due to consolidation and clients valuing diversification of reinsurers. The Company's financial strength and ability to offer risk and capital solutions and traditional mortality reinsurance continues to be a competitive advantage.

In Europe, Solvency II dominates the regulatory landscape and interest in capital relief transactions that produce capital benefits continues to grow. Demand for longevity reinsurance remains very strong in the U.K., the Netherlands in particular and some other continental European countries. As a result, there are now more reinsurers participating in this market, but even so, demand for longevity coverage continues to be strong.

Selected consolidated financial information - Europe

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Premiums and deposits[1]	**$ 12,387**	$ 11,694	$ 10,357	**$ 52,817**	$ 40,489
Fee and other income	**379**	384	348	**1,548**	1,480
Net earnings - common shareholders	**452**	357	349	**1,390**	1,311
Adjusted net earnings - common shareholders[1]	**444**	357	349	**1,382**	1,367
Total assets	**$ 189,251**	$ 185,387	$ 180,842		
Proprietary mutual funds and institutional assets[1]	**56,261**	51,389	40,375		
Total assets under management[1]	**245,512**	236,776	221,217		
Other assets under administration[1]	**48,738**	46,040	45,024		
Total assets under administration[1][2]	**$ 294,250**	$ 282,816	$ 266,241		

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(2) At December 31, 2019, total assets under administration excludes $8.4 billion of assets managed for other business units within the Lifeco group of companies ($8.2 billion at September 30, 2019 and $7.8 billion at December 31, 2018).

Net earnings - common shareholders

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Insurance & Annuities	**$ 334**	$ 306	$ 271	**$ 1,050**	$ 1,036
Reinsurance	**124**	55	89	**353**	377
Europe Corporate[1]	**(6)**	(4)	(11)	**(13)**	(102)
Net earnings - common shareholders	**$ 452**	$ 357	$ 349	**1,390**	$ 1,311
Adjustments[1]					
Net gain on Scottish Friendly transaction	**(8)**	—	—	**(8)**	—
Restructuring costs	**—**	—	—	**—**	56
Adjusted net earnings - common shareholders[1]	**$ 444**	$ 357	$ 349	**$ 1,382**	$ 1,367

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

2019 DEVELOPMENTS

- On January 31, 2020, the U.K. left the European Union (EU) and entered a transition arrangement that will last until the end of 2020. The Company's U.K. and other European businesses have taken the necessary steps to handle the immediate impacts of Brexit and will continue to monitor any further steps that may become necessary as the U.K. and Europe negotiate their future relationship. While market volatility continues, it is not expected to have a material impact on the Company's financial results as the Company's businesses are principally domestic to the countries where they are based.
- In 2018, Canada Life Limited, an indirect wholly-owned U.K. subsidiary of the Company, announced an agreement to sell a heritage block of individual policies to Scottish Friendly, comprised of unit-linked policies and non unit-linked policies. On October 22, 2019, the required court approval for the transfer of these policies was received and this transfer occurred, effective November 1, 2019. In the fourth quarter of 2019, the Company recognized a gain of $8 million after-tax related to this transaction which is included in the Europe Corporate results.
- As of December 31, 2019, £14 million of pre-tax annualized expense reductions have been achieved relating to the U.K. restructuring program compared to £11 million at September 30, 2019. The Company remains on track to achieve targeted annual expense reductions of £20 million pre-tax by the end of the fourth quarter of 2020 from various sources including systems and process improvements and a reduction in headcount.
- Subsequent to December 31, 2019, on February 3, 2020, Irish Life, through its subsidiary Invesco Limited, completed the acquisition of Acumen & Trust DAC, an Irish financial services consultancy firm expanding into the areas of employee benefits consulting and individual financial advice.
- Subsequent to December 31, 2019, on February 10, 2020, Irish Life announced the sale of Irish Progressive Services International Limited, a wholly owned subsidiary whose principal activity is the provision of outsourced administration services for life assurance companies, to a member of the FNZ group of companies. The proposed transaction will be subject to customary closing conditions including receipt of required regulatory approvals and is expected to be completed in the second half of 2020. The Company expects to recognize a gain related to this transaction. This business did not have a material impact on the Company's net earnings for the twelve months ended December 31, 2019.
- On October 21, 2019, the Company's German business completed its acquisition of an interest in Jung DMS & Cie AG (JDC), one of the leading broker pools in Germany. While the transaction is not expected to have a material impact on the Company's financial results, it expands the Company's footprint in the German market.

- During the fourth quarter of 2019, Irish Life Investment Managers announced the conversion of their entire discretionary book of assets under management (€15 billion) to a responsible investment approach, which explicitly considers Environmental, Social and Governance (ESG) factors in the investment approach, the first investment manager in Europe to do so.
- In October 2018, the Company rebranded Retirement Advantage (the trading name of MGM Advantage Life Limited) as Canada Life and announced the intention to transfer the legal ownership of all insurance policies written by MGM Advantage Life Limited to Canada Life Limited. The Part VII transfer was approved on December 18, 2019, and the legal transfer of the Retirement Advantage business took place on January 1, 2020.
- On December 18, 2019, the Reinsurance business unit entered into a long-term longevity reinsurance agreement with an insurance company in the Netherlands. The agreement covers approximately €12 billion of pension liabilities and close to 200,000 pensioners. In exchange for ongoing premium payments, the Company will pay the actual benefit obligations incurred by the insurance company.
- During the fourth quarter of 2019, the Company received the following awards:
    - At the International Investment Awards, Canada Life International received Best International Life Group (U.K.), Best International Portfolio Bond for the Premiere Account, Best International Trust and Estate Planning for the Wealth Preservation Account, Best International Savings Plan for the Offshore Savings Account.
    - At the 2019 Irish Pensions Awards, Irish Life Investment Managers won “Investment Manager of the Year” for the fifth time in eight years, while Setanta Asset Management won “Equities Manager of the Year” for the second consecutive year. Additionally, Irish Life Investment Managers won “Property Investment/Fund Managers of the Year” at the 2019 KPMG Irish Independent Property Industry Excellence Awards.
    - Focus Money awarded the best insurer’s financial strength rating to Canada Life Assurance Europe plc and best available Product Rating (FFF+) from Franke & Bornberg for the Company's German Essential ability product Premium Grundfähigkeitsschutz.

BUSINESS UNITS – EUROPE

INSURANCE & ANNUITIES

OPERATING RESULTS

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Premiums and deposits[(1)(2)]	**$ 7,931**	$ 7,596	$ 6,485	**$ 35,374**	$ 26,985
Sales[(1)(2)]	**6,566**	7,098	5,972	**31,976**	24,481
Fee and other income	**377**	382	345	**1,539**	1,467
Net earnings	**334**	306	271	**1,050**	1,036

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.
(2) For the three and twelve months ended December 31, 2019, premiums and deposits and sales exclude $0.1 billion and $0.8 billion, respectively, of assets managed for other business units within the Lifeco group of companies ($0.4 billion and $0.9 billion for the three and twelve months ended December 31, 2018 and $0.3 billion for the three months ended September 30, 2019).

Premiums and deposits
Premiums and deposits for the fourth quarter of 2019 increased by $1.4 billion to $7.9 billion compared to the same quarter last year, primarily due to higher fund management sales in Ireland, partially offset by lower pension sales in Ireland.

For the twelve months ended December 31, 2019, premiums and deposits increased by $8.4 billion to $35.4 billion compared to the same period last year, primarily due to higher fund management sales in Ireland, partially offset by lower bulk annuity sales in the U.K., lower pension sales in Ireland and the impact of currency movement.

Premiums and deposits for the fourth quarter of 2019 increased by $0.3 billion compared to the previous quarter, primarily due to an increase in fund management sales and higher pension sales in Ireland, partially offset by lower bulk annuity sales in the U.K.

Sales

Sales for the fourth quarter of 2019 increased by $0.6 billion to $6.6 billion compared to the same quarter last year, primarily due to higher fund management sales in Ireland, partially offset by lower pension sales in Ireland.

For the twelve months ended December 31, 2019, sales increased by $7.5 billion to $32.0 billion compared to the same period last year, primarily due to higher fund management sales in Ireland and higher wealth management sales in the U.K. These items were partially offset by lower bulk annuity sales in the U.K., lower retail and pension sales in Ireland and the impact of currency movement.

Sales for the fourth quarter of 2019 decreased by $0.5 billion compared to the previous quarter, primarily due to lower fund management sales in Ireland and lower bulk annuity sales in the U.K., partially offset by higher Ireland retail sales.

Fee and other income

Fee and other income for the fourth quarter of 2019 increased by $32 million to $377 million compared to the same quarter last year, primarily due to higher management fees in Ireland and Germany and higher investment related fee income in Ireland partially offset by lower management fees in the U.K. resulting from the policies sold to Scottish Friendly and the impact of currency movement.

For the twelve months ended December 31, 2019, fee and other income increased by $72 million to $1,539 million compared to the same period last year. The increase was primarily due to higher management fees in Ireland and Germany and higher investment related fee income in Ireland, partially offset by lower other income in Ireland, lower management fees in the U.K., and the impact of currency movement.

Fee and other income for fourth quarter of 2019 decreased by $5 million compared to the previous quarter, primarily due to lower management fees in the U.K., partially offset by higher management fee income in Germany.

Net earnings
Net earnings for the fourth quarter of 2019 increased by $63 million to $334 million compared to the same quarter last year. The increase was primarily due to the resolution of an outstanding issue with a foreign tax authority and higher contributions from investment experience, partially offset by adverse morbidity experience in Ireland. To address the evidence of an adverse trend in claims in Ireland, pricing action has been taken during 2019, which will take effect in 2020, and the Company will continue to monitor its progress.

Net earnings for the twelve months ended December 31, 2019 increased by $14 million to $1,050 million compared to the same period last year. The increase was primarily due to higher contributions from investment experience, which included the impact of bond and mortgage upgrades in 2019, higher realized gains on surplus assets, favourable impact of new business, favourable mortality experience in the U.K. and the impact of changes to certain tax estimates, including the resolution of an outstanding issue with a foreign tax authority. The increase was partially offset by the impact of impairment charges on mortgage loans and reductions in expected property cash flows primarily associated with a U.K. retail tenant entering a prepackaged administration, lower contributions from insurance contract liability basis changes and adverse morbidity experience in Ireland.

Net earnings for the fourth quarter of 2019 increased by $28 million compared to the previous quarter, primarily due to the resolution of an outstanding tax issue with a foreign tax authority and higher contributions from investment experience, partially offset by lower contributions from insurance contract liability basis changes.

OUTLOOK – INSURANCE & ANNUITIES
Refer to Cautionary Note regarding Forward-looking Information and Cautionary Note regarding non-IFRS Financial Measures at the beginning of this document.

United Kingdom – The outlook for the retail payout annuities market in 2020 is for modest growth. Since April 2015, individuals have had greater flexibility for accessing their savings in retirement. As expected, some individuals have chosen to remain invested in the market while drawing a pension income rather than buying a payout annuity. However, the Company expects that the attractiveness of guaranteed income from annuities will remain a key part of customers' retirement planning in the future and the Company sees the opportunity to grow its payout annuity business in line with the expected growth in the overall retirement market.

The Retirement Advantage acquisition in early 2018 created a strong platform for growth in the U.K.'s growing equity release and retirement income markets. The Company will continue to develop products for individuals who require additional pension flexibility. The overall size of the retirement market continues to grow as more employers transition from defined benefit to defined contribution pension plans, with significant growth expected in equity release, pension consolidation and income drawdown. The Company will also look to further develop its presence in the bulk annuity market where trustees of defined benefit schemes want to remove longevity risk by insuring its pension liabilities near to or already in payment.

Canada Life continues to be a key player in the single premium investment bond marketplace. It will continue to develop its presence in both the international and onshore market segments. The Company's distribution strategy for onshore will remain focused on financial advisors. In the international wealth management segment, the outlook for 2020 is cautiously optimistic with an expectation that the market will continue to grow. The majority of the Company's business growth is expected to be through discretionary fund management wealth advisors, the retail market and through tax and estate planning products.

The outlook for the group risk operation remains positive and has benefited from additional risk business as a result of the U.K. Government's Pensions Auto Enrollment initiative in the workplace, which commenced in October 2012 and completed in 2018. Larger Canada Life plans have grown, as the pension legislation increased the membership of the associated group plans. The Company expects the expansion of the existing customer base experienced in recent years will moderate as employers have implemented the changes required by the legislation. The Company's group operations will continue to maintain new pricing discipline, reflecting the current low interest rate environment.

The Prudential Regulation Authority (PRA) granted approval for Canada Life to use an internally designed, Partial Internal Model (PIM) to calculate its capital requirement under the Solvency II regulatory regime with effect from December 31, 2019. This replaces the industry-standard, Standard Formula approach, and results in a more risk sensitive and appropriate Solvency II capital treatment to support the growth of the businesses going forward.

Following the acquisition of U.K. financial services provider Retirement Advantage in 2018, final court approval for the legal transfer of the insurance business into Canada Life Limited was granted in December 2019. Going forward this will deliver further synergies and savings, as well as continuing to provide an enhanced product offering to customers.

Ireland – The Irish economy continues to perform positively with expected gross domestic product (GDP) growth of 5% in 2019, and projected to trend at 3% in 2020. Economic forecasts for 2020 remain impacted by Brexit, though the reduced risk of a disorderly transition has eased concerns. Unemployment rates at 5% are the lowest since January 2007. Consumer sentiment remains cautious, but improved notably in the later months of 2019. Attitudes of Irish households towards savings and investment declined in the fourth quarter of 2019, reflecting the low interest rate environment for savings and uncertainty in the investment outlook.

Irish Life's vision is to be "Ireland's home of Health and Wealth", strengthening and expanding its position as the largest assurance company in Ireland and accelerating growth profitability across its retail, corporate, health and investment management businesses following its multi-channel distribution strategy within a competitive market. Supporting this is Irish Life's ExO Innovation Hub (ExO) with a mission to secure and further the evolution of technology and digital solutions at the heart of the organization. The collaborative and symbiotic influence of ExO in Irish Life ensures all products, digital and offline, better match actual needs and wants of the customer.

Germany – The outlook for the German business continues to be positive and the Company expects continued growth in assets under management and its share of the market during 2020. The Company is positioning itself to further strengthen its presence through continued investments in product development, distribution technology and service improvements. 2019 saw the roll-out of a new administration platform that will allow the business to support its customers more effectively and to expand the Company's share of the group pensions market.

REINSURANCE

OPERATING RESULTS

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Premiums and deposits[1]	**$ 4,456**	$ 4,098	$ 3,872	**$ 17,443**	$ 13,504
Fee and other income	**2**	2	3	**9**	13
Net earnings	**124**	55	89	**353**	377

(1) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

Premiums and deposits

Reinsurance premiums can vary significantly from period to period depending on the terms of underlying treaties. For certain life reinsurance transactions, premiums will vary based on the form of the transaction. Treaties where insurance contract liabilities are assumed on a proportionate basis will typically have significantly higher premiums than treaties where claims are not incurred by the reinsurer until a threshold is exceeded. Earnings are not directly correlated to premiums received.

Premiums and deposits for the fourth quarter of 2019 increased from $3.9 billion to $4.5 billion compared to the same quarter last year. The increase was primarily due to new reinsurance agreements and higher volumes relating to existing business.

For the twelve months ended December 31, 2019, premiums and deposits increased by $3.9 billion to $17.4 billion compared to the same period last year, primarily due to the same reasons discussed for the in-quarter results.

Premiums and deposits for the fourth quarter of 2019 increased by $0.4 billion compared to the previous quarter, primarily due to the same reasons discussed for the in-quarter results.

Fee and other income
Fee and other income for the fourth quarter of 2019 of $2 million was comparable to the previous quarter and the prior year.

For the twelve months ended December 31, 2019, fee and other income decreased by $4 million to $9 million compared to the same period last year, primarily due to restructured reinsurance agreements.

Net earnings
Net earnings for the fourth quarter of 2019 increased by $35 million to $124 million compared to the same quarter last year. The increase was primarily due to favourable impacts from new business, which included the initial impact of the new €12 billion long-term longevity reinsurance agreement, and higher business volumes, partially offset by lower contributions from insurance contract liability basis changes and less favourable claims experience in the life and annuity business.

For the twelve months ended December 31, 2019, net earnings decreased by $24 million to $353 million compared to the same period last year, primarily due to less favourable claims experience in the life and annuity business and lower contributions from insurance contract liability basis changes, partially offset by higher business volumes and favourable initial impacts from new business.

Net earnings for the fourth quarter of 2019 increased by $69 million compared to the previous quarter, primarily due to favourable initial impacts from new business and higher business volumes.

OUTLOOK - REINSURANCE
Refer to Cautionary Note regarding Forward-looking Information and Cautionary Note regarding non-IFRS Financial Measures at the beginning of this document.

The U.S. life reinsurance industry is focused on accessing certain demographics, including the low to middle income families market. If the industry is successful, this could create renewed growth, otherwise expected sales and volume will remain stable.

In Europe, low interest rates and the associated financial impact on reserve and capital positions under Solvency II is a key market dynamic. The Company’s reinsurance business unit continues to help European clients and other affiliated companies meet these capital challenges through innovative reinsurance solutions. Demand for longevity reinsurance remains very strong and will remain a focus for 2020.

2019 was the third consecutive year of significant hurricane and typhoon events. The Company expects 2020 retrocessional pricing to continue to increase. Insurance linked securities capacity is expected to be slightly down due to trapped collateral from 2017 to 2019 events. The Company’s primary focus for 2020 will be to continue to support the core client base with prudent attachment levels and risk adjusted premiums.

EUROPE CORPORATE
The Europe Corporate account includes financing charges and the impact of certain non-continuing items as well as the results for the legacy international businesses.

In the fourth quarter of 2019, Europe Corporate had a net loss of $6 million compared to a net loss of $11 million for the same period last year. Excluding the net gain on the Scottish Friendly transaction of $8 million, the adjusted net loss of $14 million was comparable to the same quarter last year.

For the twelve months ended December 31, 2019, Europe Corporate had a net loss of $13 million compared to $102 million for the same period last year. Included in the 2018 year-to-date results were $56 million of restructuring costs related to the U.K. operations. Excluding this item and the net gain on the Scottish Friendly transaction discussed for the in-quarter results, the adjusted net loss decreased by $25 million primarily due to lower strategic and business development expenses.

For the three months ended December 31, 2019, Europe Corporate had a net loss of $6 million compared to $4 million for the previous quarter. Excluding the net gain on the Scottish Friendly transaction discussed for the in-quarter results, the adjusted net loss increased by $10 million primarily to negative contributions from insurance contract liability basis changes associated with the legacy international business.

LIFECO CORPORATE OPERATING RESULTS

The Lifeco Corporate segment includes operating results for activities of Lifeco that are not associated with the major business units of the Company.

The net loss for the three months ended December 31, 2019 was $6 million compared to a net loss of $4 million for the same period last year, primarily due to lower net investment income, partially offset by lower operating expenses.

The net loss for the twelve months ended December 31, 2019, 2019 was $21 million compared to a net loss of $13 million for the same period last year, primarily due to lower net investment income.

The net loss for the three months ended December 31, 2019 was $6 million compared to a net loss of $4 million for the previous quarter, primarily due to higher operating expenses.

RISK MANAGEMENT

OVERVIEW

As a diverse financial services company, the effective management of risk is integral to the success of the Company’s business. The Company is committed to a comprehensive system of risk management, which is embedded across all business activities, operated through a three lines of defence organization and overseen by the Board of Directors. The Company's three lines of defence include business unit and support functions, oversight functions including the risk function and the Company's internal audit function. The Company has a prudent and measured approach to risk management. This approach is built on a strong risk culture and is guided by an integrated Enterprise Risk Management (ERM) Framework.

The Company’s ERM Framework facilitates the alignment of business strategy with risk appetite, informs and improves the deployment of capital; and supports the identification, mitigation and management of exposure to possible losses and risks. The Company’s Risk Function is responsible for the Risk Appetite Framework (RAF), the supporting risk policies and risk limit structure, and provides independent risk oversight across the Company’s operations.

There are three main sections to this Risk Management disclosure: ERM Framework, Risk Management and Control Practices and Exposures and Sensitivities.

ENTERPRISE RISK MANAGEMENT FRAMEWORK

The Company’s Board and Management Committees provide oversight of the ERM Framework which is comprised of five components: Risk Culture, Risk Governance, RAF, Risk Processes and Risk Infrastructure & Policies.

RISK CULTURE

Risk culture is defined as the system of values and behaviours which reflect the Company's collective sense of responsibility to fulfill its promises and safeguard the Company's financial strength and reputation while growing shareholder value. This culture reflects the Company's commitment to treat customers fairly and support open communication and ethical behaviour.

This culture is instilled through a mindset of risk awareness as demonstrated by:

- Consistent tone from the Board of Directors and senior management in respect of behavioural and ethical expectations;
- Recognition that risk is inherent in the Company's business success and reflects opportunity when appropriately managed;
- Common commitment throughout the Company to the importance of continuous management of risk, including clear accountability for and ownership of specific risks and risk areas;
- Rewarding positive risk taking and management behaviours while challenging and remediating those that are inappropriate;
- Encouragement of risk event reporting and the presence of robust whistleblowing processes, actively seeking to learn from mistakes; and
- Recognition that risk management skills and knowledge are valued, encouraged and developed, throughout the Company and supported by an appropriately resourced Risk Function.

RISK GOVERNANCE

Risk governance sets out the roles and responsibilities for the Board of Directors (Board) and Board Committees.

Board of Directors

The mandate of the Board, which it discharges directly or through one of its Committees, is to supervise the management of the business and affairs of the Company. The Board is ultimately accountable and responsible for the governance and oversight of risk throughout the Company. The Board annually approves the strategic goals, objectives, plans and initiatives for Lifeco and in so doing reviews the risks associated with Lifeco's diverse business, strategic goals and high priority initiatives. Key risk responsibilities include:

- Approving the RAF and ERM Policy;
- Monitoring the implementation and maintenance by management of appropriate systems, policies, procedures and controls to manage the risks associated with the Company's businesses and operations;
- Annually approving Lifeco's business, financial and capital plans and monitoring the implementation by management thereof;
- Upon the recommendation of the Risk Committee, adopting a Code of Conduct applicable to Directors, officers and employees of the Company; and
- Periodically approving policies designed to support independence of the Internal Audit, Risk, Finance, Actuarial and Compliance oversight functions.

Risk Committee
The Risk Committee of the Board of Directors is responsible for assisting the Board with risk management oversight and governance throughout the Company. The Risk Committee's responsibilities include:

- Review and oversight of the ERM Policy and RAF;
- Review, approval and oversight of the credit, market, insurance, operational, conduct, strategic and other risk policies;
- Approval of the risk limit framework, associated risk limits and monitoring adherence to those limits;
- Approval of the organizational structure and resources of the risk management and compliance functions;
- Evaluation of the Company's risk culture;
- Discussion of the risks in aggregate and by type of risk;
- Review relevant reports including stress testing and financial condition testing;
- Review and approval of the Own Risk and Solvency Assessment (ORSA) Report;
- Periodically approve the recovery plan playbook;
- Review of the risk impact of business strategies, capital plans, financial plans and the new business initiatives;
- Review and assessment of the performance of the Company's Chief Risk Officer (CRO) and Chief Compliance Officer (CCO);
- Monitoring compliance with the Company's Code of Conduct;
- Periodic consideration and input regarding the relationships between risk and compensation; and
- Review and assessment of the effectiveness of risk management across the Company including processes to ensure effective identification, measurement, management, monitoring and reporting on significant current and emerging risks.

The Risk Committee is required to meet, at least annually, with the Audit Committee and with the Company's Chief Internal Auditor. Members of the Risk Committee are independent of management.

Audit Committee - The primary mandate of the Audit Committee is to review the financial statements of the Company and public disclosure documents containing financial information and to report on such review to the Board, to be satisfied that adequate procedures are in place for the review of the Company’s public disclosure documents that contain financial information and to oversee the work and review the independence of the external auditor. The Audit Committee is also responsible for reviewing, evaluating and approving the internal control procedures that are implemented and maintained by management. The Audit Committee is required to meet, at least annually, with the Risk Committee.

Conduct Review Committee - The primary mandate of the Conduct Review Committee is to require management to establish satisfactory procedures for the consideration and approval of transactions with related parties and to review and, if deemed appropriate, to approve related party transactions in accordance with such procedures.

Governance and Nominating Committee - The primary mandate of the Governance and Nominating Committee is to oversee the Company’s approach to governance matters, to recommend to the Board effective corporate governance policies and processes, to assess the effectiveness of the Board, Board Committees and the Directors and to recommend to the Board candidates for election as Directors and candidates for appointment to Board Committees.

Human Resources Committee - The primary mandate of the Human Resources Committee is to support the Board in its oversight of compensation, talent management and succession planning. This includes the responsibility to approve compensation policies, to review the designs of major compensation programs, to approve compensation arrangements and any benefit or perquisite plan for senior executives of the Company and to recommend to the Board compensation arrangements for the Directors and for the President and Chief Executive Officer. The mandate also includes the responsibility to review succession plans for the President and Chief Executive Officer and other senior executives, to review talent management programs and initiatives and to review the leadership capabilities required to support the advancement of the Company's strategic objectives. The Human Resources Committee is also responsible for considering the implications of the risks associated with the Company's compensation policies, plans and practices and in doing so meets annually with the Chief Risk Officer. The Human Resources Committee also meets with the Risk Committee on an as needed basis.

Investment Committee - The primary mandate of the Investment Committee is to oversee the Company's global investment strategy and activities, including approving the Company's Investment Policy and monitoring the Company's compliance with the Investment Policy. The mandate also includes reviewing the Company's annual investment plan and monitoring emerging risks, market trends and performance, investment regulatory issues and any other matters relevant to the oversight of the Company's global investment function.

Senior Management Risk Committees

The Executive Risk Management Committee (ERMC) is the primary senior management committee that oversees all forms of risk and the implementation of the ERM Framework. The members are the CEO, the heads of each major Business Segment, the heads of key oversight functions and heads of support functions as appropriate. The Board Risk Committee delegates authority for the approval and management of lower level risk limits to the ERMC. The Company's CRO leads the Risk Function and chairs the ERMC. Its responsibilities include reviewing compliance with the RAF, risk policies and risk standards. It also assesses the risk impact of business strategies, capital and financial plans, and material initiatives. The following three enterprise-wide sub-committees, chaired by the Risk Function, report to the ERMC to provide advice and recommendations on each of the key risk categories:

- Market and Credit Risk Committee
- Insurance Risk Committee
- Operational Risk Committee

The oversight responsibilities of the above committees include identification, measurement, management, monitoring and reporting of their respective risks.

Accountabilities

The Company has adopted a Three Lines of Defence model to clearly segregate risk management and risk oversight responsibilities and applies the ERM Framework rigorously across the enterprise:

- **First Line:** Business units and business support functions, including Investment Management, Human Resources, Information Services and Legal, are the ultimate owners of the risk and have primary risk management as well as risk-taking responsibility and accountability through day-to-day operations within ongoing business process.
- **Second Line:** The Risk Function has the primary and overall responsibility and accountability for independent oversight of risk-taking and risk management of the first line of defence. In this role, the Risk Function receives support from other oversight functions including Actuarial, Compliance and Finance; and
- **Third Line:** Internal Audit is responsible for independent assurance of the adequacy of the design and operational effectiveness of the Company's ERM Framework.

The Company's CRO reports directly, both to the President and Chief Executive Officer and to the Board Risk Committee. The CRO is responsible for ensuring that the Risk Function is appropriately resourced and effective in executing its responsibilities. The accountabilities of the CRO include reporting on compliance with the ERM Policy and RAF as well as for escalating matters that require attention.

Regional ERMCs monitor all risk categories for businesses and operations within their respective business segments. Risk resources and capabilities are aligned with the Company's business segments and operating units. Further support is provided by centrally based risk areas of expertise.

Although the Company takes steps to anticipate and minimize risks in general, no risk management framework can guarantee that all risks will be identified, appreciated or mitigated effectively. Unforeseen future events may have a negative impact on the Company's business, financial condition and results of operations.

RISK APPETITE FRAMEWORK

The Company has an articulated Risk Appetite Framework (RAF) that includes the following elements along with the associated governance structure:

- **Risk Strategy:** Risk philosophy of the Company that links to the business strategy
- **Risk Appetite Statement:** Qualitative reflection of the aggregate level of risk and types of risk that the Company is willing to accept to achieve its business objective
- **Risk Preference:** Qualitative description of risk tolerances
- **Risk Limit Framework:** Quantitative components of the RAF including breach and escalation process

Risk Strategy

The Company's business strategy is aligned with its risk strategy and risk appetite. The risk strategy supports the Company's main objectives to keep its commitments while growing shareholder value. The risk strategy requires:

- diversification of products and services, customers, distribution channels and geographies;
- a prudent and measured approach to risk-taking,
- resilience of business operations and sustainable growth,
- conducting business to safeguard the Company's reputation and deliver fair customer outcomes through maintaining high standards of integrity based on the Code of Conduct and sound sales and marketing practices, and
- generating returns to grow shareholder value through profitable and growing operations while maintaining a strong balance sheet.

Risk Appetite Statement

The Company's Risk Appetite Statement has four key components:

- **Strong Capital Position**: The Company intends to maintain a strong balance sheet and not take risks that would jeopardize its financial strength;
- **Mitigated Earnings Volatility**: The Company seeks to avoid substantial earnings volatility through appropriate diversification and limiting exposure to more volatile lines of business;
- **Strong Liquidity**: The Company intends to maintain a high quality, diversified investment portfolio with sufficient liquidity to meet the demands of policyholder and financing obligations under normal and stressed conditions; and
- **Treating Customers Fairly and Maintaining the Company's Reputation:** The Company considers, across all business activities and operations, the potential impact on its reputation. This includes building and maintaining trust with the Company's customers and other stakeholders.

Risk Preference

The Company has established qualitative risk preferences for each risk type. Each risk is assigned a risk preference level, in the context of understanding and managing these risk. The current level of exposure is regularly measured and risk tolerances are expressed quantitatively through actual constraints to the Company's risk profile within pre-agreed limits. Maximum guidelines are established to monitor risk concentration and inform the risk limit setting process.

Risk Limit Framework

A comprehensive structure of risk limits and controls is in place across the Company. Enterprise risk limits are further broken down by business unit and risk type. The limit structure is accompanied by comprehensive limit approval and breach management processes to ensure effective governance and oversight of the RAF.

The Company and its subsidiaries are subject to various regulatory regimes. The capital requirements under these regulatory capital regimes are reflected in the development of risk limits. Business units are responsible for operating within the risk appetite and the risk limit framework and satisfying local needs as required.

RISK PROCESSES

Risk processes follow a cycle of identification, measurement, management, monitoring and reporting and are designed to ensure both current and emerging risks are assessed against the RAF.

Risk Identification, Measurement and Management

Risk identification requires the structured analysis of the current and emerging risks facing the Company, so that they are understood and appropriately controlled. Processes are designed to ensure risks are considered, assessed, prioritized and addressed in all business initiatives and changes, including investment strategies, product design, significant transactions, annual planning and budgeting as well as potential business acquisitions and disposals.

Risk measurement provides the means to quantify and assess the Company’s risk profile and monitor the profile against the risk limits. Any material new business development or change in strategy warrants an independent assessment of risk and potential impact on reputation, in addition to measurement of the impact on capital, earnings and liquidity. Stress and scenario testing is used to evaluate risk exposures against the risk appetite. Sensitivity testing of key risks is used to evaluate the impact of risk exposures independent of other risks. Scenario testing is used to evaluate the combined impact of multiple risk exposures.

The Company has processes in place to identify risk exposures on an ongoing basis and, where appropriate, develops mitigation strategies to proactively manage these risks. Effective risk management requires the selection and implementation of approaches to accept, reject, transfer, avoid or control risk, including mitigation plans. It is based on a control framework that includes risk limits, Key Risk Indicators (KRIs) and stress and scenario testing to ensure appropriate escalation and resolution of potential issues in a timely manner.

A key responsibility of the Risk Function is to ensure that the risk appetite is applied consistently across the Company and that limits are established to ensure that risk exposures comply with the risk appetite and Company-wide risk policies.

Risk Monitoring, Reporting and Escalation

Risk monitoring relates to ongoing oversight and tracking of the Company’s risk exposures, ensuring that the risk management approaches in place remain effective. Monitoring may also identify risk-taking opportunities.

Risk reporting presents an accurate and timely picture of existing and emerging risk issues and exposures as well as their potential impact on business activities. Reporting highlights the risk profile relative to the risk appetite and associated risk limits.

A clearly defined escalation protocol has been established in respect of breaches of the RAF, risk policies, operating standards and guidelines. Remediation plans are reviewed by the Risk Function and escalated to designated management and Board committees.

RISK INFRASTRUCTURE AND POLICIES

The Company's organization and infrastructure is established to provide resources and risk systems to support adequate and appropriate risk policies, operating standards and guidelines and processes. The Company takes a consistent approach to risk management is taken across key risk types.

The Company has codified its procedures and operations related to risk management and oversight requirements in a set of guiding documents composed of risk policies, operating standards and associated guidelines. This comprehensive documentation framework provides detailed and effective guidance across all risk management processes. These documents enable a consistent approach to risk management and oversight across the Company's businesses and are reviewed and approved regularly, in accordance with an established authority hierarchy, by the Board of Directors, the Board Risk Committee or a senior management committee. Similar policy structures have been developed and are maintained by each region.

RISK MANAGEMENT AND CONTROL PRACTICES

The Company's risk profile is impacted by a variety of risks and its risk management and independent oversight processes are tailored to the type, volatility and magnitude of each risk. The Company has defined specific risk management and oversight processes for risks, broadly grouped in the following categories:

1. Market and Liquidity Risk
2. Credit Risk
3. Insurance Risk
4. Operational Risk
5. Conduct Risk
6. Strategic Risk

MARKET AND LIQUIDITY RISK

Risk Description

Market risk is the risk of loss resulting from potential changes in market rates, prices or liquidity in various markets such as for interest rates, real estate, currency, common shares and commodities. Exposure to this risk results from business activities including investment transactions which create on-balance sheet and off-balance sheet positions.

Liquidity risk is the risk of the Company's inability to generate the necessary funds to meet its obligations as they come due, including off-balance sheet commitments and obligations.

Market and Liquidity Risk Management

The Company's Market Risk Policy sets out the market risk management framework and provides the principles for market risk management. This policy is supported by other policies and guidelines that provide detailed guidance.

A governance structure has been implemented for the management of market risk. The business units, including Investment Management, are the ultimate owners of market risk and as such have primary responsibility for the identification, measurement, management, monitoring and reporting of market risk. The Company has established a senior management committee to provide oversight of market risk, which includes completing reviews and making recommendations regarding risk limits, the risk policy and associated compliance, breach management and mitigation pertaining to market risk. Each region has established oversight committees and operating committees to help manage market risk within the region. The Company has developed risk limits, KRIs and measures to support the management of market and liquidity risk in compliance with the Company's RAF. The Risk Function works with the business units and other oversight functions to identify current and emerging market risks and take appropriate action, if required.

The Company is willing to accept market risk and liquidity risk in certain circumstances as a consequence of its business model and seeks to mitigate the risk wherever practical. To reduce market risk, the Company uses a dynamic hedging program associated with segregated fund and variable annuity guarantees. This is supplemented by a general macro equity hedging program.

Risks and risk management activities associated with the broad market and liquidity risk categories are detailed below.

Interest Rate Risk

Interest rate risk is the risk of loss resulting from the effect of the volatility and uncertainty of future interest rates on asset cash flows relative to liability cash flows and on assets backing surplus. This also includes changes in the amount and timing of cash flows related to asset and liability optionality, including interest rate guarantees and book value surrender benefits in the liabilities.

The Company's principal exposure to interest rate risk arises from certain general fund and segregated fund products. The Company's Asset Liability Management (ALM) strategy has been designed to mitigate interest rate risks associated with general fund products, with close matching of asset cash flows and insurance and investment contract obligations. Products with similar risk characteristics are grouped together to ensure an effective aggregation and management of the Company's ALM positions. Asset portfolios supporting insurance and investment contract liabilities are segmented to align with the duration and other characteristics (e.g. liquidity) of the associated liabilities.

A prolonged period of low interest rates may adversely impact the Company's earnings and regulatory capital and could impact the Company's business strategy. During periods of prolonged low interest rates, investment earnings may be lower because the interest earned on new fixed income investments will likely have declined with the market interest rates, and hedging costs may increase. Also, early repayment on investments held such as mortgage-backed securities, asset-backed securities, and callable bonds, may be experienced and proceeds forced to be reinvested at lower yields, which will reduce investment margins.

Crediting rates within general fund products are set prudently and a significant proportion of the Company's portfolio of crediting rate products includes pass-through features, which allow for the risk and returns to be shared with policyholders. Asset management and related products permit redemptions; however, the Company attempts to mitigate this risk by establishing long-term customer relationships, built on a strategic customer focus and an emphasis on delivering strong fund performance.

The Company has established dynamic hedging programs to hedge interest rate risk sensitivity associated with segregated fund and variable annuity guarantees. These hedging programs are designed to offset changes in the economic value of liabilities using derivative instruments. The Company's approach to dynamic hedging of interest rate risk principally involves transacting in interest rate swaps. The hedge asset portfolios are dynamically rebalanced within approved thresholds and rebalancing criteria.

Where the Company's insurance and investment products have benefit or expense payments that are dependent on inflation (e.g. inflation-indexed annuities, pensions and disability claims), the Company generally invests in real return instruments to mitigate changes in the real dollar liability cash flows. Some protection against changes in the inflation index can be achieved, as any related change in the fair value of the assets will be largely offset by a similar change in the fair value of the liabilities.

Equity Risk

Equity risk is the risk of loss resulting from the sensitivity of the value of assets, liabilities, financial instruments and fee revenue to changes in the level or in the volatility of market prices of common shares and real estate. This includes the equity risk associated with the Company's general fund assets and investments on account of segregated fund policyholders.

The Company's principal exposure to equity risk arises from segregated funds and fee income associated with the Company's assets under management. Approved investment and risk policies also provide for general fund investments in equity markets within defined limits.

The Company has established dynamic hedging programs to hedge equity risk sensitivity associated with segregated fund and variable annuity guarantees. The hedging programs are designed to mitigate exposure to changes in the economic value of these liabilities using derivative instruments. The Company's approach to dynamic hedging of equity risk principally involves the short selling of equity index futures. The hedge asset portfolios are dynamically rebalanced within approved thresholds and rebalancing criteria. The Company's product-level hedging programs are supplemented by a general macro hedging strategy.

For certain very long-dated liabilities it is not practical or efficient to closely match liability cash flows with fixed-income investments. Therefore, certain long-dated asset portfolios target an investment return sufficient to meet liability cash flows over the longer term. These liabilities are partially backed by a diversified portfolio of non-fixed income investments, including equity and real estate investments, in addition to long dated fixed-income instruments. Real estate losses can arise from fluctuations in the value of or future cash flows from the Company's investments in real estate.

The Company has established a macro equity hedging program. The objective of the program is to reduce the Company's exposure to equity tail-risk and to maintain overall capital sensitivity to equity market movements within Board approved risk appetite limits. The program is designed to hedge a portion of the Company's capital sensitivity due to movements in equity markets arising from sources outside of dynamically hedged segregated fund and variable annuity exposures.

Foreign Exchange Risk

Foreign exchange risk is the risk of loss resulting from changes in currency exchange rates against the reporting currency. The Company's foreign exchange investment and risk management policies and practices are to match the currency of the Company's general fund investments with the currency of the underlying insurance and investment contract liabilities. To enhance portfolio diversification and improve asset liability matching, the Company may use foreign exchange derivatives to mitigate currency exchange risk to the extent this is practical using forward contracts and swaps.

The Company has net investments in foreign operations. As a result, the Company's revenue, expenses and income denominated in currencies other than the Canadian dollar are subject to fluctuations due to the movement of the Canadian dollar against these currencies. Such fluctuations affect the Company's financial results. The Company has exposures to the U.S. dollar resulting from the operations of Great-West Financial and Putnam in the United States segment and the Reinsurance business unit within the Europe segment; and to the British pound and the euro resulting from operations of business units within the Europe segment operating in the U.K., the Isle of Man, Ireland and Germany.

In accordance with IFRS, foreign currency translation gains and losses from net investments in foreign operations, net of related hedging activities and tax effects, are recorded in accumulated other comprehensive income (loss). Strengthening or weakening of the Canadian dollar end-of-period market rate compared to the U.S. dollar, British pound and euro end-of-period market rates impacts the Company's total share capital and surplus. Correspondingly, the Company's book value per share and capital ratios monitored by rating agencies are also impacted.

- A 5% appreciation (depreciation) of the average exchange rate of the Canadian dollar to each of the British pound, euro and U.S. dollar would increase (decrease) net earnings in 2019 by $41 million, $26 million and $3 million, respectively.

- A 5% appreciation (depreciation) of the Canadian dollar end-of-period market rate compared to each of the U.S. dollar, British pound and euro end-of-period market rates would decrease (increase) the unrealized foreign currency translation gains, including the impact of instruments designated as hedges of net investments on foreign operations, in accumulated other comprehensive income (loss) of shareholders' equity by approximately $311 million, $324 million and $135 million, respectively, as at December 31, 2019.

Management may use forward foreign currency contracts and foreign denominated debt to mitigate the volatility arising from the movement of rates as they impact the translation of net investments in foreign operations. The Company uses non-IFRS financial measures such as constant currency calculations to assist in communicating the effect of currency translation fluctuation on financial results.

Liquidity Risk

The Company's liquidity risk management framework and associated limits are designed to ensure that the Company can meet cash and collateral commitments as they fall due, both on an expected basis and under a severe liquidity stress.

In the normal course of certain reinsurance business, the Company provides letters of credit (LCs) to other parties, or beneficiaries. A beneficiary will typically hold a LC as collateral to secure statutory credit for insurance and investment contract liabilities ceded to or amounts due from the Company.

The Company may be required to seek collateral alternatives if it is unable to renew existing LCs at maturity. The Company monitors its use of LCs on a regular basis and assesses the ongoing availability of these and alternative forms of operating credit. The Company has contractual rights to reduce the amount of LCs issued to the LC beneficiaries for certain reinsurance treaties. The Company staggers the maturities of LCs to reduce the renewal risk.

Liquidity	**December 31**	
	2019	2018
Cash, cash equivalents and short-term bonds	**$ 8,852**	$ 7,795
Other liquid assets and marketable securities		
Government bonds	**30,865**	33,443
Corporate bonds	**41,792**	46,378
Common/Preferred shares (public)	**9,766**	8,873
Residential mortgages - insured	**4,141**	4,530
	$ 86,564	$ 93,224
Total	**$ 95,416**	$ 101,019

Cashable liability characteristics	**December 31**	
	2019	2018
Surrenderable insurance and investment contract liabilities[1]		
At market value	**$ 21,606**	$ 21,202
At book value	**44,829**	54,798
Total	**$ 66,435**	$ 76,000

(1) Cashable liabilities include insurance and investment contract liabilities classified as held for sale.

The carrying value of the Company's liquid assets and marketable securities is approximately $95.4 billion or 1.4 times the Company's surrenderable insurance and investment contract liabilities. The Company believes that it holds adequate and appropriate liquid assets to meet anticipated cash flow requirements as well as to meet cash flow needs under a severe liquidity stress.

Approximately 57% (approximately 53% in 2018) of insurance and investment contract liabilities are non-cashable prior to maturity or claim, with a further 14% approximately (13% in 2018) of insurance and investment contract liabilities subject to fair value adjustments under certain conditions.

The majority of liquid assets and other marketable securities comprise fixed-income securities whose value is inversely related to interest rates. Consequently, a significant rise in prevailing interest rates would result in a decrease in the value of this pool of liquid assets. Also, a high interest rate environment may encourage holders of certain types of policies to terminate their policies, thereby placing demands on the Company's liquidity position.

For a further description of the Company's financial instrument risk management policies, refer to note 9 in the Company's December 31, 2019 consolidated financial statements.

CREDIT RISK

Risk Description
Credit risk is the risk of loss resulting from an obligor's potential inability or unwillingness to fully meet its contractual obligations. Exposure to this risk occurs any time funds are extended, committed or invested through actual or implied contractual agreements. Components of credit risk include: loan loss/principal risk, pre-settlement/replacement risk and settlement risk. Obligors include issuers, debtors, borrowers, brokers, policyholders, reinsurers, derivative counterparties and guarantors.

Credit exposure resulting from the purchase of fixed-income securities, which are primarily used to support policyholder liabilities, is a core business risk that is appropriately factored into the Company's risk appetite. The Company also manages financial contracts with counterparties. Such contracts may be used to mitigate insurance and market risks (reinsurance ceded agreements and derivative contracts) or they may arise from the Company's direct business operations (Reinsurance business unit) and may result in counterparty risk. The risk arising from these types of arrangements is included in the Company's measurement of its risk profile.

Credit Risk Management
The Company's credit risk management framework focuses on minimizing undue concentration to issuers, connected companies, industries or individual geographies by emphasizing diversification. Diversification is achieved through the establishment of appropriate concentration limits and transaction approval authority protocols. The Company's approach to credit risk management includes the continuous review of its existing risk profile relative to the RAF as well as to the projection of potential changes in the risk profile under stress scenarios.

Effective governance of credit risk management requires the involvement of dedicated senior management committees, experienced credit risk personnel, and with the guidance of appropriate credit risk policies, standards and processes. For credit risk, the Investment Committee is responsible for the approval of investment decisions of significant size or level of complexity, and oversight of the Company's global investment strategy, including compliance with investment limits and policies as well as breach management. Additionally, the Investment Committee reviews the Company's investment policies, procedures, guidelines, and corresponding limits to ensure that investment decisions are in compliance with the Company's RAF. The Risk Committee advises the Board of Directors on credit risk oversight matters and approves and monitors compliance with credit risk policies and limits. The Risk Committee also provides oversight of the Credit Risk Policy and related processes and is responsible for ensuring compliance with the Company's RAF.

The Investment Committee and Risk Committee are supported by senior management committees. The Global Management Investment Review Committee (GMIRC) and the Management Investment Review Committees (MIRCs) for each regional business segment review and approve new investments above the transaction approval authority delegated to management and manage credit risk across invested assets and counterparties. The Market and Credit Risk Committee (MCRC), is the ERMC sub-committee responsible for providing global oversight of market and credit risk management activities, including credit risk limit approval and breach of management processes, and market and credit risk policy compliance.

The Company has established business-segment specific Investment and Lending Policies, including investment limits for each asset class, which are approved by the Investment Committee. These policies and limits are complemented by the Credit Risk Policy which describes credit risk management processes and describes the role of the Risk Function in the oversight of credit risk, including the setting and monitoring of aggregate concentration risk limits, and the approval and escalation of exceptions.

The Company identifies credit risk through an internal credit risk rating system which includes a detailed assessment of an obligor's creditworthiness based on a thorough and objective analysis of business risk, financial profile, structural considerations and security characteristics including seniority and covenants. Credit risk ratings are expressed using a 22-point scale that is consistent with those used by external rating agencies. In accordance with the Company's policies, internal credit risk ratings cannot be higher than the highest rating provided by certain independent ratings companies. The Risk Function reviews and approves the credit risk ratings assigned by Investment Management for all new investments and reviews the appropriateness of ratings assigned to outstanding exposures.

The Risk Function assigns credit risk parameters (probabilities of default, rating transition rates, loss given default, exposures at default) to all credit exposures to measure the Company's aggregate credit risk profile. In addition, the Risk Function establishes limits and processes, performs stress and scenario testing (using stochastically generated and deterministic scenarios) and assesses compliance with the limits established in the RAF. It regularly reports on the Company's credit risk profile to executive management, the Board of Directors and various committees at enterprise, regional and legal entity levels.

Investment Management and the Risk Function are independently responsible for the monitoring of exposures relative to limits as well as for the management and escalation of risk limit breaches as they occur. The Investment Management Function is also responsible for the continuous monitoring of its portfolios for changes in credit outlook, and performs regular credit reviews of all relevant obligors and counterparties, based on a combination of bottom-up credit analysis and top-down views on the economy and assessment of industry and sub-sector outlooks. Watch Lists are also used at the regional business segment levels to plan and execute the relevant risk mitigation strategies.

The Risk Function oversees monitoring, breach management and escalation activities, and has developed risk limits, KRIs and risk budgets to act as early warnings against unacceptable levels of concentration and to support the management of credit risk limits in compliance with the Company's RAF.

Counterparty Risk

Counterparties include both reinsurers and derivative counterparties.

The Company uses reinsurance to mitigate insurance risks. This mitigation results in increased credit risk to reinsurance counterparties from the potential failure to collect reinsurance recoveries due to either the inability, or an unwillingness to fulfill their contractual obligation.

Counterparties providing reinsurance to the Company are reviewed for financial soundness as part of an ongoing monitoring process. The minimum financial strength of reinsurers is outlined in the Reinsurance Risk Management Policy. The Company seeks to minimize reinsurance credit risk by setting rating-based limits on net ceded exposure by counterparty as well as seeking protection in the form of collateral or funds withheld arrangements where possible.

The Company enters into derivative contracts primarily to mitigate market risks. Derivative counterparty risk is the risk of loss resulting from the potential failure of the derivative counterparty to meet their financial obligations under the contract. Derivative products are traded through exchanges or with counterparties approved by the Board of Directors or the Investment Committee. The Company seeks to mitigate derivative credit risk by setting rating-based counterparty limits in its investment policies and through collateral arrangements where possible. In addition, the Company includes potential future exposure of derivatives in its measure of total exposure against single name limits.

INSURANCE RISK

Risk Description

Insurance risk is the risk of loss resulting from adverse changes in experience associated with contractual promises and obligations arising from insurance contracts. Insurance risk includes uncertainties around the ultimate amount of net cash flows (premiums, commissions, claims, payouts and related settlement expenses), the timing of the receipt and payment of these cash flows, as well as the impact of policyholder behaviour (e.g. lapses).

The Company identifies six broad categories of insurance risk, which may contribute to financial losses: mortality risk, morbidity risk, longevity risk, lapse risk, expense risk and property catastrophe risk. Mortality risk, morbidity risk and longevity risk are core business risks and the exchange of these risks into value is a core business activity. Lapse risk and expense risk associated with offering core products are accepted as a consequence of the business model and mitigated where appropriate. Property catastrophe risk is a selectively accepted business risk which is constrained, actively managed and controlled within risk limits.

Insurance Risk Management

Insurance products involve commitments by the insurer to provide services and financial obligations with coverage for extended periods of time. To provide insurance protection effectively, the insurer must design and price products so that the premiums received, and the investment income earned on those premiums, will be sufficient to pay future claims and expenses associated with the product. This requires the insurer, in pricing products and establishing insurance contract liabilities, to make assumptions regarding expected levels of income, claims and expenses and how policyholder behaviours and market risks might impact these assumptions. As a result, the Company is exposed to product design and pricing risk which is the risk of financial loss resulting from transacting business where the costs and liabilities arising in respect of a product line exceed the pricing expectations.

Insurance contract liabilities are established to fund future claims and include a provision for adverse deviation, set in accordance with professional actuarial standards. Insurance contract liability valuation requires regular updating of assumptions to reflect emerging experience.

A governance structure has been implemented for the management of insurance risk. Business units are the ultimate owners of insurance risk and as such have primary responsibility for the identification, measurement, management, monitoring and reporting of insurance risk. The Risk function, supported by Corporate Actuarial, is primarily responsible for oversight of the insurance risk management framework. The Company has established an Insurance Risk Committee to provide oversight of insurance risk, which includes completing reviews and making recommendations regarding risk limits, the risk policy and associated compliance, breach management and mitigation pertaining to insurance risk. Each region has established oversight committees and operating committees to help manage insurance risk within the region.

The Company's Insurance Risk Policy sets out the insurance risk management framework and provides the principles for insurance risk management. This policy is supported by several other policies and guidelines that provide detailed guidance, including:

- Product Design and Pricing Risk Management Policy and Reinsurance Risk Management Policy, which provide guidelines and standards for the product design and pricing risk management processes and reinsurance ceded risk management practices;

- Corporate Actuarial Valuation Policy, which provides documentation and control standards consistent with the valuation standards of the Canadian Institute of Actuaries; and
- Participating Account Management Policies and Participating Policyholder Dividend Policies, which govern the management of participating accounts and provide for the distribution of a portion of the earnings in the participating account as participating policyholder dividends.

The Risk Function, in conjunction with Corporate Actuarial, implements a number of processes to carry out its responsibility for oversight of insurance risk. It reviews the Insurance Risk Policy relative to current risk exposures and updates it as required. It reviews insurance risk management processes carried out by the business units, including product design and pricing, underwriting, claims adjudication, and reinsurance ceding, and provides challenge as required.

The Risk Function works with the business units and other oversight functions to identify current and emerging insurance risks and take appropriate action, if required. Insurance risk limits, risk budgets and KRIs are set to keep the insurance risk profile within the Company's appetite for insurance risk and the Risk Function regularly monitors the insurance risk profile relative to these measures. Any breaches are required to be escalated so that appropriate remediation may be implemented. The Risk Function performs stress testing and does analysis of insurance risks, including review of experience studies. It provides regular reporting on these activities to the business units, senior management, and risk oversight committees.

Risks and risk management activities associated with the broad insurance risk categories are detailed below.

Mortality and Morbidity Risk

Mortality risk is the risk of loss resulting from adverse changes in the level, trend, or volatility of mortality rates, where an increase in the mortality rate leads to an increase in the value of insurance contract liabilities.

Morbidity risk is the risk of loss resulting from adverse changes in the level, trend, or volatility of disability, health, dental, critical illness and other sickness rates, where an increase in the incidence rate or a decrease in the disability recovery rate leads to an increase in the value of insurance contract liabilities.

There is a risk that the Company will mis-estimate the level of mortality or morbidity, or accept customers who generate worse mortality and morbidity experience than expected.

The Company employs the following practices to manage its mortality and morbidity risk:

- Research and analysis is done regularly to provide the basis for pricing and valuation assumptions to properly reflect the insurance and reinsurance risks in markets where the Company is active.
- Underwriting limits, practices and policies control the amount of risk exposure, the selection of risks insured for consistency with claims expectations and support the long-term sustainability of the Company.
- The insurance contract liabilities established to fund future claims include a provision for adverse deviation, set in accordance with professional standards. This margin is required to provide for the possibilities of mis-estimation of the best estimate and/or future deterioration in the best estimate assumptions.
- The Company sets retention limits for mortality and morbidity risks. Aggregate risk is managed through a combination of reinsurance and capital market solutions to transfer the risk where appropriate.
- For Group life products, exposure to a concentrated mortality event due to concentration of risk in specific locations for example, could have an impact on financial results. To manage the risk, concentrations are monitored for new business and renewals. The Company may impose single-event limits on some group plans and declines to quote in localized areas where the aggregate risk is deemed excessive.

- Effective plan design and claims adjudication practices, for both morbidity and mortality risks are critical to the management of the risk. As an example, for Group healthcare products, inflation and utilization will influence the level of claims costs, which can be difficult to predict. The Company manages the impact of these and similar factors through plan designs that limit new costs and long-term price guarantees and include the ability to regularly re-price for emerging experience.
- The Company manages large blocks of business, which, in aggregate, are expected to result in relatively low statistical fluctuations in any given period. For some policies, these risks are shared with the policyholder through adjustments to future policyholder charges or in the case of participating policies through future changes in policyholder dividends.

Longevity Risk
Longevity risk is the risk of loss resulting from adverse changes in the level, trend, or volatility of mortality rates, where a decrease in the mortality rate leads to an increase in the value of insurance contract liabilities. Annuities, some segregated fund products with Guaranteed Minimum Withdrawal Benefits and longevity reinsurance are priced and valued to reflect the life expectancy of the annuitant. There is a risk that annuitants could live longer than was estimated by the Company, which would increase the value of the associated insurance contract liabilities.

Business is priced using mortality assumptions which consider recent Company and industry experience and the latest research on expected future trends in mortality.

Aggregate risk is managed through a combination of reinsurance and capital market solutions to transfer the risk as appropriate. The Company has processes in place to verify annuitants' eligibility for continued income benefits. These processes are designed to ensure annuity payments accrue to those contractually entitled to receive them and help ensure mortality data used to develop pricing and valuation assumptions is as complete as possible.

Lapse Risk
Lapse risk is the risk of loss resulting from adverse changes in the level or volatility of the rates of policy lapses, terminations, renewals and/or surrenders.

Many products are priced and valued to reflect the expected duration of contracts. There is a risk that the contract may be terminated before expenses can be recovered, to the extent that higher costs are incurred in early contract years. Risk also exists where the contract is terminated later than assumed, on certain long-term level premium products where costs increase by age.

Business is priced using policy termination assumptions which consider product designs and policyholder options, recent Company and industry experience and the latest research on expected future trends. Assumptions are reviewed regularly and are updated for new policies as necessary.

The Company also incorporates early surrender charges into certain contracts and incorporates commission chargebacks in its distribution agreements to reduce unrecovered expenses.

Policyholder taxation rules in many jurisdictions help encourage the retention of insurance coverage.

Expense Risk
Expense risk is the risk of loss resulting from adverse variability of expenses incurred with fee-for-service business or in servicing and maintaining insurance, savings or reinsurance contracts, including direct expenses and allocations of overhead costs.

Expense management programs are regularly monitored to control unit costs while maintaining effective service delivery.

Property Catastrophe Risk
Property catastrophe risk is the risk of loss resulting from adverse changes in property damage experience and is mainly related to extreme or catastrophic events.

The reinsurance business in particular has exposure to extreme or catastrophic events that result in property damage. As a retrocessionaire for property catastrophe risk, the Company generally participates at more remote event-loss exposures than primary carriers and reinsurers. Generally, an event of significant size must occur prior to the Company incurring a claim. The Company limits the total maximum claim amount under all property catastrophe contracts. The Company monitors cedant companies' claims experience and research from third party expert risk models on an ongoing basis and incorporates this information in pricing models to ensure that the premium is adequate for the risk undertaken.

OPERATIONAL RISK

Risk Description
Operational Risk is the risk of loss arising from potential problems relating to internal processes, people and systems or from external events. Operational risk can result from either normal day-to-day operations or a specific unanticipated event. Operational risks include legal and regulatory, human resources, infrastructure, technology and cyber, business continuity, process, change, fraud and supplier risks. In addition to operational risks, the Company also manages reputational risk, which can emerge across many businesses and risk types; therefore, reputational considerations are incorporated within each aspect of the Company's business and risk management practices.

Operational Risk Management
While operational risks can be mitigated and managed, they remain an inherent feature of the business model, as multiple processes, systems, and stakeholders are required to interact across the enterprise on an ongoing basis. The Company actively manages operational risk across the enterprise to maintain a strong reputation, standing and financial strength and to protect customers and the Company's value. Ongoing engagement of businesses and support functions across the enterprise through robust training and communications is regularly undertaken for identifying, assessing and mitigating operational risk issues.

Operational risk management governance and oversight reflects a combined effort between business units and oversight functions. The Risk Function is responsible for the development of operational risk management policies and operating standards as well as overseeing operational risk management activities performed in the first line of defence. The Operational Risk Committee has the primary mandate to provide risk oversight for operational risk across the enterprise. In addition, each regional business segment has established committees to oversee operational risk management within their business.

The Company has an Operational Risk Policy that is supported by standards and guidelines that relate to specialized functions including detailed practices related to stress testing, modeling, fraud, regulatory compliance, information technology risk management and risk data aggregation & risk reporting. The Company implements controls to manage operational risk through integrated policies, procedures, processes and practices, with consideration given to the cost/benefit trade-off. Processes and controls are monitored and refined by the business areas and periodically reviewed by the Company's Internal Audit department. Financial reporting processes and controls are further examined by external auditors.

The Company also manages operational risks through the corporate insurance program which mitigates a portion of the operational risk exposure by purchasing insurance coverage that provides protection against unexpected material losses resulting from events such as property loss or damage and liability exposures. The nature and amount of insurance protection purchased is assessed with regard to the Company's risk profile, risk appetite and tolerance for the associated risks, as well as legal requirements and contractual obligations.

The Company employs a combination of operational risk management methods including risk and control assessments, internal control factors and risk events analyses. For the identification of operational risks, the Company utilizes risk and control assessments which systematically identify and assess potential operational risks and associated controls. Internal and external operational risk events are analyzed to identify root causes and provide insights into potential new operational risks that could impact the Company. In addition, scenario analysis is employed to identify and quantify potential severe operational risk exposures, while KRIs, risk appetite preferences, and other processes are leveraged to measure, manage and monitor operational risks.

The Risk Function monitors the status of actions being undertaken to remediate risks to ensure that risk exposures are mitigated in a timely manner. Processes are in place to escalate significant matters to senior management to inform and enable management to take appropriate action when needed. The Risk Function regularly reports on the Company's operational risk profile to executive management, the Board of Directors and various committees at enterprise, regional and legal entity levels.

Key operational risks and the Company's approach to managing them are outlined below.

Legal and Regulatory Risk

Legal and regulatory risk is the risk of loss resulting from non-compliance with specific local or international rules, laws, and regulations, prescribed practices, or ethical standards as well as civil or criminal litigation involving the Company. As a multi-national company, the Company and certain of its subsidiaries are subject to extensive legal and regulatory requirements in Canada, the U.S., the U.K., Ireland, Germany and other jurisdictions. These requirements cover most aspects of the Company's operations including capital adequacy, privacy, liquidity and solvency, investments, the sale and marketing of insurance and wealth products, the business conduct of insurers, asset managers and investment advisors as well as reinsurance processes. Material changes in the legal or regulatory framework or the failure to comply with legal and regulatory requirements could have a material adverse effect on the Company. An increase in the pace of regulatory change could lead to increased operational costs to implement changes and ensure ongoing compliance.

Legal and regulatory risk is managed through coordination between first and second line of defence functions. The Company records, manages and monitors the regulatory compliance environment closely, using the subject matter expertise of both local and enterprise-wide Compliance and Legal stakeholders and reporting on emerging changes that could have a significant impact on the Company's operations or business.

The Company is subject to the risk of litigation relating to its business, operations, products, securities and contractual relationships and it establishes contingency reserves for litigation that it determines are appropriate.

Human Resources Risk

Human Resources risk is the risk of loss resulting from the Company's inability to attract, retain, train and develop the right talent from inadequate recruitment, talent management and succession planning programs and practices, ineffective governance practices or legal action related to discrimination, and can impact the ability of the Company to meet its business objectives. The Company has compensation programs, succession planning, talent management and employee engagement processes that are designed to manage these risks, support a high performance culture and maintain a highly skilled workforce that is reflective of the diverse cultures and practices of the countries in which the Company operates. The Company's ability to recognize and accommodate changing trends with respect to human resources in the industry is important to execute upon business strategies.

Infrastructure Risk
Infrastructure risk is the risk of loss resulting from the reduction or non-availability of any aspect of a fully functioning business environment. This includes corporate facilities, physical assets, human resources and/or technology (technology assets, systems, applications, cloud computing), security (logical, physical and cyber), failures in license management and insufficient software/application support.

The ability to consistently and reliably obtain securities pricing information, accurately process client transactions and provide reports and other customer services is essential to the Company's operations. A failure of any of these services could have an adverse effect on the Company's results of operations and financial condition and could lead to loss of customer confidence, breach of regulatory requirements, harm to the Company's reputation, exposure to disciplinary action and liability to the Company's customers.

The Company invests in and manages infrastructure that is designed to be sustainable and effective in meeting the Company's needs for a fully functioning and secure business operation that protects assets and stakeholder value. Infrastructure risk management programs include strong business continuity capabilities across the enterprise to manage incidents or outages and the recovery of critical functions in the event of a disaster. In addition, security measures are designed to deny unauthorized access to facilities, equipment and resources, and to protect personnel and property from damage or harm (such as espionage, theft or terrorist attacks) and events that could cause serious losses or damage.

Technology and Cyber Risk
Technology and cyber risk is the risk of loss resulting from a purposeful or accidental event related to the use of technology. It includes the risk of cyber-attack that leads to unplanned outages, unauthorized access, or unplanned disclosure of confidential or restricted information resulting in a potential privacy breach. Technology risk also includes the risk of a deterioration in the reliability and availability of internal, customer-facing, or vendor-supported applications, infrastructure systems and/or services. These risks can arise as a result of the Company's use of its own technology or as a result of the use of third party technology providers and other service providers.

The nature of advancing technology introduces additional uncertainty as to how the insurance industry will evolve. Cloud services, which are being adopted by the Company to improve systems flexibility and information security, require scrutiny as digital supply chains grow in complexity.

Technology is a critical component of the Company's business operations and is also central to the Company's customer-focused digital strategy. The Company continues to face technology and cyber risks stemming from legacy technology constraints and the advancement of techniques used in cyber-attacks.

The Company has been implementing new risk management processes and practices designed to allow it to better identify, measure and mitigate this risk, but those processes and practices continue to require further development as well as ongoing updates as technology and business needs evolve. The Company's strategy and approach to managing technology and cyber risks includes policies that govern the technology environment and set standards related to information security and the use of technology, including:

- the use of multiple layers of technologies that are designed to prevent unauthorized access, ransomware attacks, distributed denial of service and other cyber-attacks;
- coordinated global and regional information security offices that gather threat intelligence, detect, monitor and respond to security events and conduct regular threat and vulnerability risk assessments;
- independent oversight and assessment of the approach taken to mitigate technology and cyber risks by the Information Services Risk Management team, an independent group that acts as the second line of defence; and
- regular cyber security awareness sessions and mandatory cyber security training for all employees.

The Company also manages operational risks through the corporate insurance program which mitigates a portion of the operational risk exposure by purchasing insurance coverage that provides protection against unexpected material losses resulting from events such as property loss, cyber-attack or damage and liability exposures. The nature and amount of insurance protection purchased is assessed with regard to the Company's risk profile, risk appetite and tolerance for the associated risks, as well as legal requirements and contractual obligations.

Business Continuity Risk
Business continuity risk is the risk of loss because of the failure to provide for the continuity of business processes and operations under adverse conditions that may arise from natural, technological or human caused events.

A business continuity management framework has been implemented to manage business continuity risks and impacts through the development, testing, training and maintenance in four key areas: emergency response planning incident management planning, business recovery planning and disaster recovery planning.
Poor business resiliency in the face of natural, technological, or human caused events could prevent the Company from carrying out mission-critical business processes, with potential for lost revenue, regulatory sanctions and damage to reputation.

Process Risk
Process risk is the risk of loss resulting from inadequate or failed business processes which can adversely impact the Company's financial results, relationships with customers and reputation. Process risk includes risks arising from significant change initiatives such as business operations changes, major systems implementation, new product introductions and leadership changes. Process risk also includes risk associated with data aggregation and reporting, and model development and use.

Risk management seeks strategic alignment and congruency across all of the Company's business activities, including change initiatives and business-as-usual activities, with the Company's operational risk appetite and considers the potential impact on the Company's reputation. The Company monitors change initiatives to mitigate risks and realize benefits. Core business operational activities have quality control measures in place.

One of the processes relates to model risk and use of models. The Company uses models in many functions and processes that support business decisions and reporting. Model risk is the risk of loss from decisions based on incorrect models or misused model outputs and reports. Robust processes are in place for the management and oversight of model risk as outlined in the Model Risk Management and Validation Standard.

Further, the Company seeks to control processes across the value chain through automation, standardization and process improvements to prevent or reduce operational losses.

Fraud Risk
Fraud risk is the risk of loss resulting from fraudulent activity including misappropriation of assets, identity theft or other breach of civil or criminal law by customers, contractors or other third parties and by employees or distribution associates. The external fraud environment continues to intensify for financial institutions, as increasingly sophisticated methods of organized fraud and cyber fraud are employed. Fraud can result in a financial loss or reputational impact to the Company and have other impacts that are detrimental to customers and other stakeholders.

The Company manages fraud through a combined focus on assessment, prevention, detection, investigation and response. The Company promotes a culture of honesty, integrity, transparency and fairness in its internal operations and further manages fiduciary responsibilities through the Company's Fraud Risk Management Policy and Code of Conduct. The Company has processes and controls in place to prevent fraud and employs various methods to detect fraud. A fraud response framework is in place to deal with events through a coordinated investigative strategy designed to protect stakeholders and the interests of the Company.

Supplier Risk
Supplier risk is the risk of loss resulting from the failure to establish and manage adequate supplier arrangement transactions or other interactions to meet the expected or contracted service level both within the Company and with external parties such as independent brokers, fund managers, reinsurers and other parties. The Company strategically engages suppliers to maintain cost efficiency, to optimize internal resources and capital and to utilize skills, expertise and resources not otherwise available to the Company. Suppliers that do not meet the Company's standards for performance can have a negative impact on the Company's financial results and reputation. To minimize this risk, the Company applies a supplier risk management framework to oversee and monitor interactions with suppliers throughout the entire supplier relationship, including how they meet standards for quality of service and protect stakeholders and the interests of the Company.

CONDUCT RISK

Risk Description
Conduct risk is the risk of unfair outcomes for customers as a result of inadequate or failed processes and/or inappropriate behaviours, offerings or interactions by the Company or its agents. A failure to identify and mitigate conduct risk impacts not only the Company's customers but can also have adverse reputational and financial consequences for the Company due to the cost of customer remediation, damage to reputation and/or regulatory fines.

Conduct Risk Management
The Company manages conduct risk through various processes which include:

- providing appropriate and clear customer disclosures and communications;
- applying product design, complaint, claims management and sales and advice processes that consider outcomes to customers; and
- conducting risk based advisor assessments and suitability reviews, maintaining controls and adhering to Board-approved policies and processes, including the Conduct Risk Policy and the Code of Conduct.

Conduct Risk is incorporated in risk management and compliance activities, including risk and control assessments, internal events reporting, emerging risk assessments, and other measurement, monitoring and reporting activities.

STRATEGIC RISK

Risk Description
Strategic risk is the risk of loss if the Company is unable to meet its key strategic goals resulting in current or prospective impact on the Company's earnings, capital, reputation or standing. Strategic risk may arise from changes in the environment we operate in, lack of responsiveness to industry, economic, regulatory, technological, environmental or other external changes, or from adverse strategic decisions, inadequate consideration of resources and capabilities needed to deliver the strategy, or poor strategy execution.

The Company's ability to maintain leadership positions in today's highly competitive environment is dependent on many factors, including scale, price and yields offered, distribution channels, digital capabilities, financial strength ratings, range of product lines and product quality, brand strength, investment performance, historical dividend levels to provide value added services to distributors and customers and the ability to innovate and deploy innovations rapidly. Competitors and new entrants have significant potential to disrupt the Company's business through targeted strategies to reduce the Company's market share which may include targeting key people and other distributors or aggressively pricing their products. The Company's ability to achieve strategic objectives depends significantly upon the Company's capacity to anticipate and respond quickly to these competitive pressures.

The Company has placed strategic focus on improving technology infrastructure and capabilities. Not adapting effectively to changes in the technological environment or to evolving customer expectations could impact the Company's ability to remain competitive.

There are significant uncertainties relating to the political environment. Increasing geopolitical tensions may result in reduced trade and investment opportunities, failures of national, regional or global governance, interstate conflict or terrorism which may impact the Company's business.

Strategic Risk Management

Inadequate strategic planning or ineffective implementation of strategies may expose the Company to significant business and financial losses and may also have a flow-through effect on reputation and market standing.

The Company manages strategic risk through a formal strategic planning process, industry representation and activities driven by regular assessment and challenge of the existing business model within the context of its operating environment and scanning of the internal and external environment for risks and opportunities. The Risk Function is engaged in the business planning cycle to align business strategies with the Company's Risk Appetite. The Company's strategic plan is reviewed with the Board of Directors and senior management, with the Risk Function providing objective assessment of enterprise strategic risks and risk mitigation plans. Significant risks and opportunities are identified, and a review of the alignment with risk strategy and qualitative risk preferences is completed. Initiatives, including those related to new markets, distribution channels, product design and investments, are also subject to independent risk review.

Holding Company Structure Risk

As a holding company, the Company's ability to pay interest, dividends and other operating expenses and to meet its obligations generally depends upon receipt of sufficient funds from its principal subsidiaries and its ability to raise additional capital.

In the event of bankruptcy, liquidation or reorganization of any of these subsidiaries, insurance and investment contract liabilities of these subsidiaries will be completely provided for before any assets of such subsidiaries are made available for distribution to the Company. In addition, the other creditors of these subsidiaries will generally be entitled to the payment of their claims before any assets are made available for distribution to the Company except to the extent that the Company is recognized as a creditor of the relevant subsidiaries.

Any payment (including payment of interest and dividends) by the principal subsidiaries is subject to restrictions set forth in relevant insurance, securities, corporate and other laws and regulations, which require that solvency and capital standards be maintained by Canada Life, GWL&A, and their subsidiaries and certain subsidiaries of Putnam. There are considerable risks and benefits related to this structure.

Management monitors the solvency and capital positions of its principal subsidiaries opposite liquidity requirements at the holding company level. Management also establishes lines of credit for additional liquidity and may also access capital markets for funds. Management monitors compliance with the regulatory laws and regulations at both the holding company and operating company levels.

Mergers and Acquisitions Risk

From time-to-time, the Company and its subsidiaries evaluate existing companies, businesses, assets, products and services, and such review could result in the Company or its subsidiaries acquiring or disposing of businesses or assets. In the ordinary course of business, the Company considers and discusses the purchase or sale of companies, businesses segments or assets. If effected, such transactions could be material to the Company in size or scope, could result in risks and contingencies, including integration risks, relating to companies, businesses or assets that the Company acquires or expose it to the risk of claims relating to those it has disposed of, could result in changes in the value of the securities of the Company, including the common shares of the Company, and could result in the Company holding additional capital for contingencies that may arise after the transaction is completed. The Company mitigates these risks by conducting due diligence reviews before acquiring or disposing of companies, businesses or business segments or assets, by negotiating terms and conditions for the transaction and putting in place systems and processes to manage the risks after the transaction is completed.

Product Distribution Risk

Product distribution risk is the risk of loss resulting from the Company's inability to market its products through its network of distribution channels and intermediaries. These intermediaries generally offer their clients products in addition to, and in competition with, the Company's products, and are not obligated to continue working with the Company. In addition, certain investors rely on consultants to advise them on the choice of provider and the consultants may not always consider or recommend the Company. The loss of access to a distribution channel, the failure to maintain effective relationships with intermediaries or the failure to respond to changes in distribution channels could have a significant impact on the Company's ability to generate sales.

Product distribution risk is managed by maintaining a broad network of distribution relationships, with products distributed through numerous broker-dealers, managing general agencies, financial planners, banks and other financial institutions.

Sustainability Risk

Sustainability risk is the risk of loss arising from the inability to maintain business operations and sustain the growth of the Company due to negative externalities such as environmental degradation, social risk issues and climate change.

The Company may experience direct or indirect financial, operational or reputational impact stemming from environmental risk events, which include environmental issues, regulatory enforcement or costs associated with changes in environmental laws and regulations. The Company endeavors to respect the environment and to take a balanced and sustainable approach to conducting business. The Company has established environmental policies and guidelines pertaining to the acquisition and ongoing management of investment properties, loans secured by real property and investments in equity and fixed-income securities. These policies are approved by the Board of Directors and are reviewed annually.

EXPOSURES AND SENSITIVITIES

Insurance and Investment Contract Liabilities

In determining the Company's insurance contract liabilities, valuation assumptions are made regarding rates of mortality/morbidity, investment returns, levels of operating expenses, rates of policy termination and rates of utilization of elective policy options or provisions. When the assumptions are revised to reflect emerging experience or change in outlook, the result is a change in the value of liabilities which in turn affects the Company's earnings.

The following table illustrates the approximate impact to the Company's earnings that would arise as a result of changes to management's best estimate of certain assumptions. For changes in asset related assumptions, the sensitivity is shown net of the corresponding impact on earnings of the change in the value of the assets supporting liabilities.

	Increase (decrease) in net earnings	
	2019	2018
Mortality - 2% increase	**$ (279)**	$ (270)
Annuitant mortality - 2% decrease	**$ (601)**	$ (457)
Morbidity - 5% adverse change	**$ (253)**	$ (271)
Investment returns		
Parallel shift in yield curve		
1% increase	**$ —**	$ —
1% decrease	**$ —**	$ —
Change in interest rates		
1% increase	**$ 175**	$ 115
1% decrease	**$ (619)**	$ (465)
Change in equity values		
10% increase	**$ 87**	$ 73
10% decrease	**$ (129)**	$ (266)
Change in best estimate return assumptions for equities		
1% increase	**$ 509**	$ 476
1% decrease	**$ (585)**	$ (539)
Expenses - 5% increase	**$ (125)**	$ (128)
Policy termination and renewal - 10% adverse change	**$ (813)**	$ (649)

Refer to the "Accounting Policies - Summary of Critical Accounting Estimates" section of this document for additional information on earnings sensitivities.

ACCOUNTING POLICIES

SUMMARY OF CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements in accordance with IFRS requires management to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities at the reporting date, and the reported amounts of revenue and expenses during the reporting period. The results of the Company reflect management's judgments regarding the impact of prevailing global credit, equity and foreign exchange market conditions. The estimation of insurance contract liabilities relies upon investment credit ratings. The Company's practice is to use third-party independent credit ratings where available.

The significant accounting estimates include the following:

Fair Value Measurement

Financial and other instruments held by the Company include portfolio investments, various derivative financial instruments, debentures and other debt instruments.

Financial instrument carrying values reflect the liquidity of the markets and the liquidity premiums embedded in the market pricing methods the Company relies upon.

The Company's assets and liabilities recorded at fair value have been categorized based upon the following fair value hierarchy:

Level 1 inputs utilize observable, quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access.

Level 2 inputs utilize other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly.

Level 3 inputs utilize one or more significant inputs that are not based on observable market inputs and include situations where there is little, if any, market activity for the asset or liability.

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the level in the fair value hierarchy within which the fair value measurement in its entirety falls has been determined based on the lowest level input that is significant to the fair value measurement in its entirety. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability.

Refer to note 10 in the Company's December 31, 2019 consolidated financial statements for disclosure of the Company's financial instruments fair value measurement by hierarchy level as at December 31, 2019.

Fair values for bonds classified as fair value through profit or loss or available-for-sale are determined using quoted market prices. Where prices are not quoted in an active market, fair values are determined by valuation models primarily using observable market data inputs. Market values for bonds and mortgages classified as loans and receivables are determined by discounting expected future cash flows using current market rates.

Fair values for equity release mortgages classified as fair value through profit or loss are determined by an internal valuation model that uses discounted future cash flows. Inputs to the model include marketable observable and non-market observable inputs.

Fair values for public stocks are generally determined by the last bid price for the security from the exchange where it is principally traded. Fair values for stocks for which there is no active market are determined by discounting expected future cash flows based on expected dividends and where market value cannot be measured reliably, fair value is estimated to be equal to cost. Fair values for investment properties are determined using independent appraisal services and include management adjustments for material changes in property cash flows, capital expenditures or general market conditions in the interim period between appraisals.

Investment impairment

Investments are reviewed regularly on an individual basis to determine impairment status. The Company considers various factors in the impairment evaluation process, including, but not limited to, the financial condition of the issuer, specific adverse conditions affecting an industry or region, decline in fair value not related to interest rates, bankruptcy or defaults and delinquency in payments of interest or principal. Investments are deemed to be impaired when there is no longer reasonable assurance of timely collection of the full amount of the principal and interest due. The fair value of an investment is not a definitive indicator of impairment, as it may be significantly influenced by other factors including the remaining term to maturity and liquidity of the asset; however, market price is taken into consideration when evaluating impairment.

For impaired mortgages and bonds classified as loans and receivables, provisions are established or write-offs made to adjust the carrying value to the net realizable amount. Wherever possible the fair value of collateral underlying the loans or observable market price is used to establish the estimated realizable value. For impaired available-for-sale bonds recorded at fair value, the accumulated loss recorded in accumulated other comprehensive income (loss) is reclassified to net investment income. Impairments on available-for-sale debt instruments are reversed if there is objective evidence that a permanent recovery has occurred. All gains and losses on bonds classified or designated as fair value through profit or loss are already recorded in net investment income; therefore, in the event of an impairment, the reduction will be recorded in net investment income. As well, when determined to be impaired, interest is no longer accrued and previous interest accruals are reversed.

Goodwill and intangibles impairment testing
Goodwill and indefinite life intangible assets are tested for impairment annually or more frequently if events indicate that impairment may have occurred. Intangible assets that were previously impaired are reviewed at each reporting date for evidence of reversal. In the event that certain conditions have been met, the Company would be required to reverse the impairment charge or a portion thereof.

Goodwill and indefinite life intangible assets have been allocated to cash generating unit groupings, representing the lowest level that the assets are monitored for internal reporting purposes. Goodwill and indefinite life intangible assets are tested for impairment by comparing the carrying value of each cash generating unit grouping containing the assets to its recoverable amount. The recoverable amount is the higher of the asset's fair value less costs of disposal and value-in-use, which is calculated using the present value of estimated future cash flows expected to be generated. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount.

Insurance and investment contract liabilities
Insurance and investment contract liabilities represent the amounts required, in addition to future premiums and investment income, to provide for future benefit payments, policyholder dividends, commission and policy administrative expenses for all insurance and annuity policies in-force with the Company. The Appointed Actuaries of the Company's subsidiaries are responsible for determining the amount of the liabilities to make appropriate provisions for the Company's obligations to policyholders. The Appointed Actuaries determine the liabilities for insurance contracts using generally accepted actuarial practices, according to the standards established by the Canadian Institute of Actuaries. The valuation uses the Canadian Asset Liability Method (CALM). This method involves the projection of future events in order to determine the amount of assets that must be set aside currently to provide for all future obligations and involves a significant amount of judgment.

In the computation of insurance contract liabilities, valuation assumptions have been made regarding rates of mortality/morbidity, investment returns, levels of operating expenses, rates of policy termination and rates of utilization of elective policy options or provisions. The valuation assumptions use best estimates of future experience together with a margin for adverse deviation. These margins are necessary to provide for possibilities of mis-estimation and/or future deterioration in the best-estimate assumptions and provide reasonable assurance that insurance contract liabilities cover a range of possible outcomes. Margins are reviewed periodically for continued appropriateness.

Investment contract liabilities are measured at fair value determined using discounted cash flows utilizing the yield curves of financial instruments with similar cash flow characteristics.

The methods for arriving at these valuation assumptions are outlined below:

Mortality – A life insurance mortality study is carried out annually for each major block of insurance business. The results of each study are used to update the Company’s experience valuation mortality tables for that business. Annuitant mortality is also studied regularly, and the results used to modify established annuitant mortality tables. When there is insufficient data, use is made of the latest industry experience to derive an appropriate valuation mortality assumption. Improvement scales for life insurance and annuitant mortality are updated periodically based on population and industry studies, product specific considerations, as well as professional guidance. In addition, appropriate provisions are made for future mortality deterioration on term insurance.

- A 2% increase in the best estimate life insurance mortality assumption would cause a decrease in net earnings of approximately $279 million.
- A 2% decrease in the best estimate annuitant assumption would cause a decrease in net earnings of approximately $601 million.

Morbidity – The Company uses industry developed experience tables modified to reflect emerging Company experience. Both claim incidence and termination are monitored regularly, and emerging experience is factored into the current valuation. For products for which morbidity is a significant assumption, a 5% decrease in best estimate termination assumptions for claim liabilities and a 5% increase in best-estimate incidence assumptions for active life liabilities would cause a decrease in net earnings of approximately $253 million.

Property and casualty reinsurance – Insurance contract liabilities for property and casualty reinsurance written by London Reinsurance Group Inc. (LRG) are determined using accepted actuarial practices for property and casualty insurers in Canada. The insurance contract liabilities are based on cession statements provided by ceding companies. In addition, insurance contract liabilities also include an amount for incurred but not reported losses, which may differ significantly from the ultimate loss development. The estimates and underlying methodology are continually reviewed and updated and adjustments to estimates are reflected in net earnings. LRG analyzes the emergence of claims experience against expected assumptions for each reinsurance contract separately and at the portfolio level. If necessary, a more in depth analysis is undertaken of the cedant experience.

Investment returns – The assets which correspond to the different liability categories are segmented. For each segment, projected cash flows from the current assets and liabilities are used in CALM to determine insurance contract liabilities. Cash flows from assets are reduced to provide for asset default losses. Testing under several interest rate scenarios (including increasing and decreasing rates) is done to provide for reinvestment risk. The total provision for interest rates is sufficient to cover a broader or more severe set of risks than the minimum arising from the current Canadian Institute of Actuaries' prescribed scenarios.

The range of interest rates covered by these provisions is set in consideration of long-term historical results and is monitored quarterly with a full review annually. An immediate 1% parallel shift in the yield curve would not have a material impact on the Company’s view of the range of interest rates to be covered by the provisions. If sustained, however, the parallel shift could impact the Company’s range of scenarios covered.
The total provision for interest rates also considers the impact of the Canadian Institute of Actuaries' prescribed scenarios.

- The effect of an immediate 1% parallel increase in the yield curve on the prescribed scenarios resulted in interest rate changes to assets and liabilities that will offset each other with no impact to net earnings.
- The effect of an immediate 1% parallel decrease in the yield curve on the prescribed scenarios resulted in interest rate changes to assets and liabilities that will offset each other with no impact to net earnings.

Another way of measuring the interest rate risk associated with this assumption is to determine the effect on the insurance and investment contract liabilities impacting the shareholders' net earnings of the Company of a 1% change in the Company's view of the range of interest rates to be covered by these provisions.

- The effect of an immediate 1% increase in the low and high end of the range of interest rates recognized in the provisions would be to decrease these insurance and investment contract liabilities by approximately $230 million causing an increase in net earnings of approximately $175 million.
- The effect of an immediate 1% decrease in the low and high end of the range of interest rates recognized in the provisions would be to increase these insurance and investment contract liabilities by approximately $811 million causing a decrease in net earnings of approximately $619 million.

In addition to interest rates, the Company is also exposed to movements in equity markets.

Some insurance and investment contract liabilities are supported by investment properties, common stocks and private equities; for example, segregated fund products and products with long-tail cash flows. Generally, these liabilities will fluctuate in line with equity values. However, there may be additional market and liability impacts as a result of changes in the equity values that will cause the liabilities to fluctuate differently than the equity values.

- A 10% increase in equity values would be expected to additionally decrease non-participating insurance and investment contract liabilities by approximately $107 million, causing an increase in net earnings of approximately $87 million.
- A 10% decrease in equity values would be expected to additionally increase non-participating insurance and investment contract liabilities by approximately $162 million, causing a decrease in net earnings of approximately $129 million.

The best-estimate return assumptions for equities are primarily based on long-term historical averages. Changes in the current market could result in changes to these assumptions and will impact both asset and liability cash flows.

- A 1% increase in the best estimate assumption would be expected to decrease non-participating insurance contract liabilities by approximately $645 million causing an increase in net earnings of approximately $509 million.
- A 1% decrease in the best estimate assumption would be expected to increase non-participating insurance contract liabilities by approximately $752 million causing a decrease in net earnings of approximately $585 million.

Expenses – Contractual policy expenses (e.g. sales commissions) and tax expenses are reflected on a best estimate basis. Expense studies for indirect operating expenses are updated regularly to determine an appropriate estimate of future operating expenses for the liability type being valued. Improvements in unit operating expenses are not projected. An inflation assumption is incorporated in the estimate of future operating expenses consistent with the interest rate scenarios projected under CALM as inflation is assumed to be correlated with new money interest rates. A 5% increase in the best estimate maintenance unit expense assumption would cause a decrease in net earnings of approximately $125 million.

Policy termination – Studies to determine rates of policy termination are updated regularly to form the basis of this estimate. Industry data is also available and is useful where the Company has no experience with specific types of policies or its exposure is limited. The Company's most significant exposures are in respect of the T-100 and Level Cost of Insurance Universal Life products in Canada and policy renewal rates at the end of the term for renewable term policies in Canada and Reinsurance. Industry experience has guided the Company's assumptions for these products as its own experience is very limited. A 10% adverse change in the best-estimate policy termination and renewal assumptions would cause a decrease in net earnings of approximately $813 million.

Utilization of elective policy options – There are a wide range of elective options embedded in the policies issued by the Company. Examples include term renewals, conversion to whole life insurance (term insurance), settlement annuity purchase at guaranteed rates (deposit annuities) and guarantee re-sets (segregated fund maturity guarantees). The assumed rates of utilization are based on Company or industry experience when it exists and otherwise based on judgement considering incentives to utilize the option. Generally, whenever it is clearly in the best interests of an informed policyholder to utilize an option, then it is assumed to be elected.

Policyholder dividends and adjustable policy features – Future policyholder dividends and other adjustable policy features are included in the determination of insurance contract liabilities with the assumption that policyholder dividends or adjustable benefits will change in the future in response to the relevant experience. The dividend and policy adjustments are determined consistent with policyholders' reasonable expectations, such expectations being influenced by the participating policyholder dividend policies and/or policyholder communications, marketing material and past practice. It is the Company's expectation that changes will occur in policyholder dividend scales or adjustable benefits for participating or adjustable business respectively, corresponding to changes in the best estimate assumptions, resulting in an immaterial net change in insurance contract liabilities. Where underlying guarantees may limit the ability to pass all of this experience back to the policyholder, the impact of this non-adjustability impacting shareholders' net earnings is reflected in the impacts of changes in best estimate assumptions above.

Income taxes – The Company is subject to income tax laws in various jurisdictions. The Company's operations are complex and related income tax interpretations, regulations and legislation that pertain to its activities are subject to continual change. As multinational life insurance companies, the Company's primary Canadian operating subsidiaries are subject to a regime of specialized rules prescribed under the *Income Tax Act (Canada)* for purposes of determining the amount of the Companies' income that will be subject to tax in Canada.

Tax planning strategies to obtain tax efficiencies are used. The Company continually assesses the uncertainty associated with these strategies and holds an appropriate level of provisions for uncertain income tax positions. Accordingly, the provision for income taxes represents management's interpretation of the relevant income tax laws and its estimate of current and deferred income tax balances for the period. Deferred income tax assets and liabilities are recorded based on expected future income tax rates and management's assumptions regarding the expected timing of the reversal of temporary differences. The Company has substantial deferred income tax assets. The recognition of deferred income tax assets depends on management's assumption that future earnings will be sufficient to realize the deferred benefit. The amount of the asset recorded is based on management's best estimate of the realization of the asset.

The audit and review activities of tax authorities may affect the ultimate determination of the amounts of income taxes payable or receivable, deferred income tax assets or liabilities and income tax expense. Therefore, there can be no assurance that income taxes will be payable as anticipated and/or the amount and timing of receipt or use of the income tax related assets will be as currently expected. Management's experience indicates the taxation authorities are more aggressively pursuing perceived income tax issues and have increased the resources they put to these efforts.

Employee future benefits – The Company's subsidiaries maintain contributory and non-contributory defined benefit and defined contribution pension plans for certain employees and advisors. The defined benefit pension plans provide pensions based on length of service and final average pay. For most plans, active plan participants share in the cost of benefits through employee contributions in respect of current service. Certain pension payments are indexed on either an ad hoc basis or a guaranteed basis. The determination of the defined benefit obligation reflects pension benefits in accordance with the terms of the plans. The assets supporting the funded pension plans are held in separate trusteed pension funds. The obligations for the wholly unfunded plans are included in other liabilities and are supported by general assets. The defined benefit plans of the Company's subsidiaries are closed to new entrants with plans in several geographies also closed to future defined benefit accruals. New hires are eligible only for defined contribution benefits. Active plan participants in defined benefit plans closed to future defined benefit accruals are eligible to accrue defined contribution benefits. The Company's defined benefit plan exposure will continue to be reduced in future years. The defined contribution pension plans provide pension benefits based on accumulated employee and subsidiary Company contributions. The Company's subsidiaries also provide post-employment health, dental and life insurance benefits to eligible employees, advisors and their dependents. These plans are also closed to new entrants. For further information on the Company's pension plans and other post-employment benefits refer to note 24 in the Company's December 31, 2019 consolidated financial statements.

For the defined benefit plans of the Company's subsidiaries, service costs and net interest costs are recognized in the Consolidated Statements of Earnings. Service costs include current service cost, administration expenses, past service costs and the impact of curtailments and settlements. Re-measurements of the defined benefit liability (asset) due to asset returns less (greater) than interest income, actuarial losses (gains) and changes in the asset ceiling are recognized immediately in the Consolidated Statements of Comprehensive Income.

Accounting for defined benefit pension and other post-employment benefits requires estimates of expected increases in compensation levels, indexation of certain pension payments, trends in health-care costs, the period of time over which benefits will be paid, as well as the appropriate discount rates for past and future service liabilities. These assumptions are determined by management using actuarial methods, and are reviewed and approved annually. Emerging experience that differs from the assumptions will be revealed in future valuations and will affect the future financial position of the plans and net periodic benefit costs.

Actuarial assumptions - employee future benefits
At December 31

	Defined benefit pension plans		**Other post-employment benefits**	
	2019	2018	**2019**	2018
Actuarial assumptions used to determine benefit cost				
Discount rate - past service liabilities	**3.4 %**	3.1 %	**3.8 %**	3.5%
Discount rate - future service liabilities	**3.8 %**	3.4 %	**4.4 %**	3.8%
Rate of compensation increase	**3.0 %**	3.1 %	**—**	—
Future pension increases[(1)]	**1.4 %**	1.3 %	**—**	—
Actuarial assumptions used to determine defined benefit obligation				
Discount rate - past service liabilities	**2.6 %**	3.4 %	**3.1 %**	3.8%
Rate of compensation increase	**2.9 %**	3.0 %	**—**	—
Future pension increases[(1)]	**1.3 %**	1.4 %	**—**	—
Medical cost trend rates:				
Initial medical cost trend rate			**4.7 %**	4.8%
Ultimate medical cost trend rate			**4.1 %**	4.1%
Year ultimate trend rate is reached			**2039**	2040

(1) Represents the weighted average of plans subject to future pension increases.

Actuarial assumptions – The period of time over which benefits are assumed to be paid is based on best estimates of future mortality, including allowances for mortality improvements. This estimate is subject to considerable uncertainty, and judgment is required in establishing this assumption. As mortality assumptions are significant in measuring the defined benefit obligation, the mortality assumptions applied by the Company take into consideration such factors as age, gender and geographic location, in addition to an estimation of future improvements in longevity.

The mortality tables are reviewed at least annually, and assumptions are in accordance with accepted actuarial practices. Emerging plan experience is reviewed and considered in establishing the best estimate for future mortality.

As these assumptions relate to factors that are long-term in nature, they are subject to a degree of uncertainty. Differences between actual experience and the assumptions, as well as changes in the assumptions resulting from changes in future expectations, result in increases or decreases in the pension and post-employment benefits expense and defined benefit obligation in future years. There is no assurance that the plans will be able to earn assumed rates of return, and market driven changes to assumptions could impact future contributions and expenses.

The following table indicates the impact of changes to certain key assumptions related to pension and post-employment benefits.

Impact of a change of 1.0% in actuarial assumptions on defined benefit obligation[1]	1% increase		1% decrease	
	2019	2018	**2019**	2018
Defined benefit pension plans:				
Impact of a change to the discount rate	**$ (1,242)**	$ (1,109)	**$ 1,630**	$ 1,444
Impact of a change to the rate of compensation increase	**311**	277	**(284)**	(252)
Impact of a change to the rate of inflation	**598**	526	**(541)**	(477)
Other post-employment benefits:				
Impact of a change to assumed medical cost trend rates	**27**	26	**(23)**	(23)
Impact of a change to the discount rate	**(41)**	(38)	**50**	46

(1) To measure the impact of a change in an assumption, all other assumptions were held constant. It is expected that there would be interaction between at least some of the assumptions.

Funding – The Company's subsidiaries have both funded and unfunded pension plans as well as other post-employment benefit plans that are unfunded. The Company's subsidiaries' funded pension plans are funded to or above the amounts required by relevant legislation. During the year, the Company's subsidiaries contributed $294 million ($280 million in 2018) to the pension plans and made benefit payments of $20 million ($19 million in 2018) for post-employment benefits. The Company's subsidiaries expect to contribute $259 million to the pension plans and make benefit payments of $21 million for post-employment benefits in 2020.

INTERNATIONAL FINANCIAL REPORTING STANDARDS

Due to the evolving nature of IFRS, there are a number of IFRS changes impacting the Company in 2019, as well as standards that could impact the Company in future reporting periods. The Company actively monitors future IFRS changes proposed by the International Accounting Standards Board (IASB) to assess if the changes to the standards may have an impact on the Company's results or operations.

Effective January 1, 2019, the Company applied International Financial Reporting Interpretations Committee (IFRIC) 23, *Uncertainty over Income Tax Treatments* (IFRIC 23). The interpretation clarifies how to apply the recognition and measurement requirements in International Accounting Standards (IAS) 12, *Income Taxes*, when there is uncertainty over income tax treatments. The application of the interpretation of the standard resulted in a decrease of $109 million to opening accumulated surplus at January 1, 2019 reflecting $52 million for Canada and $57 million for Europe.

Effective January 1, 2019, the Company adopted IFRS 16, *Leases* (IFRS 16) which replaces IAS 17, *Leases* (IAS 17). The standard prescribes new guidance for identifying leases as well as the accounting, measurement and presentation of leases by the lessee. The Company has elected to adopt IFRS 16 using a modified retrospective approach and accordingly the information presented for 2018 has not been restated.

The Company adopted the narrow scope amendments to IFRS for IAS 28, *Investments in Associates and Joint Ventures*, IAS 19, *Employee Benefits,* and *Annual Improvements 2015 - 2017 Cycle* for the amendments to IFRS 3, *Business Combinations,* IFRS 11, *Joint Arrangements,* IAS 12, *Income Taxes* and IAS 23, *Borrowing Costs,* effective January 1, 2019. The adoption of these narrow scope amendments did not have a significant impact on the Company's financial statements.

For a further description of the impact of the accounting policy change, refer to note 2 of the Company's December 31, 2019 consolidated financial statements.

IFRS that have changed or may change subsequent to 2019 and could impact the Company in future reporting periods, are set out in the following table:

Standard	Summary of Future Changes
IFRS 17 - *Insurance Contracts*	In May 2017, the IASB issued IFRS 17, *Insurance Contracts*, which will replace IFRS 4, *Insurance Contracts*. On June 26, 2019 the IASB issued an exposure draft covering targeted amendments to the IFRS 17 standard, including a proposed amendment to defer the effective date of the standard by one year to January 1, 2022. In addition, the IASB extended to January 1, 2022 the exemption for insurers to apply the financial instruments standard, IFRS 9 - *Financial Instruments*, keeping the alignment of the effective dates for IFRS 9 and IFRS 17. The IASB is currently in the process of considering the feedback received on the exposure draft and is planning to issue the final amendments in mid-2020. Due to the responses received from stakeholders during the comment period on the exposure draft, the IASB is considering a deferral beyond January 1, 2022 for the effective date of IFRS 17. The IASB has confirmed certain amendments proposed in the exposure draft - namely the amendment on the expected recovery of insurance acquisition cash flows and has also agreed to extend the scope of the amendment related to the recovery of losses on reinsurance contracts to apply to all reinsurance held contracts. The adoption of IFRS 17 is a significant initiative for the Company supported by a formal governance framework and project plan, for which substantial resources are being dedicated. The Company has assembled a project team that is working on the implementation which involves preparing the financial reporting systems and processes for reporting under IFRS 17, policy development and operational change management. These groups are also monitoring developments from the IASB, and various industry groups that the Company has representation on. The Company has made progress in implementing its project plan, with key policy decisions well-advanced as well as progression on the implementation of the technology solution. The Company continues to evaluate the readiness of technology vendors and their ability to deliver for IFRS 17 implementation. IFRS 17 sets out the requirements for the recognition, measurement, presentation and disclosures of insurance contracts a company issues and reinsurance contracts it holds. IFRS 17 introduces three new measurement models depending on the nature of the insurance contracts: the General Measurement Model, the Premium Allocation Approach and the Variable Fee Approach. IFRS 17 requires entities to measure insurance contract liabilities on the balance sheet as the total of: a. the fulfilment cash flows - the current estimates of amounts that a company expects to collect from premiums and pay out for claims, benefits and expenses, including an adjustment for the timing and risk of those amounts; and b. the contractual service margin - the future profit for providing insurance coverage.

<table>
<tr><th>Standard</th><th>Summary of Future Changes</th></tr>
<tr><td>IFRS 17 - Insurance Contracts, continued</td><td>Under IFRS 17, the discount rate used to reflect the time value of money in the fulfillment cash flows must be based on the characteristics of the liability. This is a significant change from IFRS 4 and the Canadian Asset Liability Method, where the discount rate was based on the yield curves of the assets supporting those liabilities.

The future profit for providing insurance coverage is recognized in profit or loss over time as the insurance coverage is provided. In 2019, the Company recognized approximately $108 million of net new business losses (losses of approximately $195 million in 2018). IFRS 17 also requires the Company to distinguish between groups of contracts expected to be profit making and groups of contracts expected to be onerous. The Company is required to update the fulfilment cash flows at each reporting date, using current estimates of the amount, timing and uncertainty of cash flows and discount rates. As a result of the new valuation methodologies required under IFRS 17, the Company expects its insurance contract liabilities to increase upon adoption.

IFRS 17 will affect how the Company accounts for its insurance contracts and how it reports financial performance in the Consolidated Statements of Earnings in particular, the timing of earnings recognition for insurance contracts. The adoption of IFRS 17 will also have a significant impact on how insurance contract results are presented and disclosed in the consolidated financial statements and on regulatory and tax regimes that are dependent upon IFRS accounting values. The Company is also actively monitoring potential impacts on regulatory capital and the associated ratios and disclosures. The Company continues to assess all these impacts through its global implementation plan.</td></tr>
<tr><td>IFRS 9 - Financial Instruments</td><td>In July 2014, the IASB issued a final version of IFRS 9, Financial Instruments (IFRS 9) to replace IAS 39, Financial Instruments: Recognition and Measurement. The effective date for IFRS 9 has been deferred to align with the effective date for IFRS 17 of January 1, 2022. The standard provides changes to financial instruments accounting for the following:

• classification and measurement of financial instruments based on a business model approach for managing financial assets and the contractual cash flow characteristics of the financial asset;
• impairment based on an expected loss model; and
• hedge accounting that incorporates the risk management practices of an entity.

In September 2016, the IASB issued an amendment to IFRS 4, Insurance Contracts (IFRS 4). The amendment “Applying IFRS 9, Financial Instruments with IFRS 4, Insurance Contracts” provides qualifying insurance companies with two options to address the potential volatility associated with implementing the IFRS 9 standard before the new proposed insurance contract standard is effective. The two options are as follows:

• Deferral Approach - provides the option to defer implementation of IFRS 9 until the year 2022 or the effective date of the new insurance contract standard, whichever is earlier; or
• Overlay Approach - provides the option to recognize the volatility that could arise when IFRS 9 is applied within other comprehensive income, rather than profit or loss.

The Company qualifies for the amendment and is applying the deferral approach to allow adoption of both IFRS 9 and IFRS 17 simultaneously.

The disclosure for the measurement and classification of the Company's portfolio investments provides most of the information required by IFRS 9. The Company continues to evaluate the impact for the adoption of this standard with the adoption of IFRS 17.</td></tr>
</table>

Standard	Summary of Future Changes
IFRS 3 - *Business Combinations*	In October 2018, the IASB issued amendments to IFRS 3, *Business Combinations*. The amendments provide additional guidance as to whether a company acquired a business or a group of assets. The amendments will be applied prospectively to all business combinations and asset acquisitions for which the acquisition date is on or after January 1, 2020.
IAS 1 - *Presentation of Financial Statements* and IAS 8 - *Accounting Policies, Changes in Accounting Estimates and Errors*	In October 2018, the IASB issued amendments to IAS 1, *Presentation of Financial Statements* and IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*. The amendments are to clarify the definition of 'material' and to align the definition used in the Conceptual Framework and the standards themselves. The amendments will be applied prospectively for annual periods beginning on or after January 1, 2020, with earlier application permitted.
IFRS 9 - *Financial Instruments,* IAS 39 - *Financial Instruments: Recognition and Measurement* and IFRS 7 - *Financial Instruments: Disclosures*	In September 2019, the IASB issued amendments to IFRS 9, *Financial Instruments,* IAS 39, *Financial Instruments: Recognition and Measurement* and IFRS 7, *Financial Instruments: Disclosures*. The amendments modify specific hedge accounting requirements so that entities would apply those hedge accounting requirements assuming that the interest rate benchmark on which the hedged cash flows and cash flows from the hedging instrument are based will not be altered as a result of interest rate benchmark reform. The amendments are effective January 1, 2020. Although adoption of these amendments will not have a significant impact on the Company's consolidated financial statements, additional disclosures will be required.

OTHER INFORMATION

NON-IFRS FINANCIAL MEASURES

The Company uses several non-IFRS measures to measure overall performance of the Company and to assess each of its business units. A financial measure is considered a non-IFRS measure for Canadian securities law purposes if it is presented other than in accordance with generally accepted accounting principles used for the Company's consolidated financial statements. The consolidated financial statements of the Company have been prepared in compliance with IFRS as issued by the IASB. Non-IFRS measures do not have a standardized meaning under IFRS and may not be comparable to similar financial measures presented by other issuers.

Adjusted net earnings and adjusted earnings per share

Adjusted net earnings (loss) and financial measures based on adjusted net earnings (loss), including adjusted earnings per common share and adjusted return on equity, are non-IFRS financial measures. Adjusted net earnings (loss) remove the impact of certain non-routine and/or material items that create volatility in the Company's results under IFRS and assist in explaining the Company's results from period to period.

Adjusted net earnings - common shareholders	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Net earnings - common shareholders	**$ 513**	$ 730	$ 710	**$ 2,359**	$ 2,961
Adjustments					
Revaluation of a deferred tax asset(1)	**199**	—	—	**199**	—
Restructuring costs(2)	**36**	—	—	**36**	56
Net gain on Scottish Friendly transaction(3)	**(8)**	—	—	**(8)**	—
Net charge on the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business(4)	**—**	—	—	**199**	—
Adjusted net earnings - common shareholders	**$ 740**	$ 730	$ 710	**$ 2,785**	$ 3,017
Net earnings per common share - basic	**$ 0.552**	$ 0.786	$ 0.719	**$ 2.494**	$ 2.996
Adjustments					
Revaluation of a deferred tax asset(1)	**0.215**	—	—	**0.210**	—
Restructuring costs(2)	**0.039**	—	—	**0.039**	0.056
Net gain on Scottish Friendly transaction(3)	**(0.009)**	—	—	**(0.009)**	—
Net charge on the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business(4)	**—**	—	—	**0.210**	—
Adjusted net earnings per common share - basic	**$ 0.797**	$ 0.786	$ 0.719	**$ 2.944**	$ 3.052

(1) Adjustment to net earnings for the three and twelve months ended December 31, 2019 was the impact of the revaluation of a deferred tax of $199 million (US$151 million) related to the Asset Management business unit and is included in Corporate business unit of the U.S. segment.

(2) Adjustment to net earnings for the three and twelve months ended December 31, 2019 was $36 million (US$28 million) of restructuring costs relating to the Asset Management business unit and is included in Corporate business unit of the U.S. segment. Adjustment to net earnings for the twelve months ending December 31, 2018 was $56 million of restructuring costs relating to the Company's U.K. operations and is included in the Corporate business unit of the Europe segment.

(3) Adjustment to net earnings for the three and twelve months ended December 31, 2019 was a net gain of $8 million on the sale of Scottish Friendly and is included in the Corporate business unit of the Europe segment.

(4) Adjustment to net earnings for the twelve months ended December 31, 2019 was a net charge of $199 million (US$148 million) relating to the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business and is included in the Reinsured Insurance & Annuity Business unit of the U.S. segment.

Return on equity (ROE)

The Company has a capital allocation methodology, which allocates financing costs in proportion to allocated capital. For the Canadian and European segments (essentially Great-West Life), this allocation method generally tracks the regulatory capital requirements, while for U.S. Financial Services and U.S. Asset Management (Putnam), it tracks the financial statement carrying value of the business units. Total leverage capital is consistently allocated across all business units in proportion to total capital resulting in a debt-to-equity ratio in each business unit mirroring the consolidated Company.

The capital allocation methodology allows the Company to calculate comparable ROE for each business unit. These ROEs are therefore based on the capital the business unit has been allocated and the financing charges associated with that capital. IFRS does not prescribe the calculation of ROE and therefore a comparable measure under IFRS is not available. To determine ROE and adjusted ROE, respectively, net earnings (loss) and adjusted net earnings (loss) for the trailing four quarters are divided by the average common shareholders' equity over the trailing four quarters. This measure provides an indicator of business unit profitability.

Premiums and deposits

Total premiums and deposits include premiums on risk-based insurance and annuity products net of ceded reinsurance (as defined under IFRS), premium equivalents on self-funded group insurance ASO contracts, deposits on individual and group segregated fund products as well as deposits on proprietary mutual funds and institutional accounts. Total premiums and deposits exclude the initial ceded premium related to the sale, via indemnity reinsurance, of the U.S. individual life insurance and annuity business. This measure provides an indicator of top-line growth.

Premiums and deposits

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Amounts reported in the financial statements					
Net premium income (Life insurance, guaranteed annuities and insured health products)	**$ 9,478**	$ 9,324	$ 9,045	**$ 24,510**	$ 35,461
Policyholder deposits (segregated funds):					
Individual products	**5,446**	4,146	4,705	**16,947**	16,668
Group products	**1,913**	1,999	1,641	**7,738**	7,807
Premiums and deposits reported in the financial statements	**$ 16,837**	$ 15,469	$ 15,391	**$ 49,195**	$ 59,936
Self-funded premium equivalents (administrative services only contracts)	**841**	813	802	**3,295**	3,068
Proprietary mutual funds and institutional deposits	**21,418**	20,135	21,390	**84,259**	76,258
Add back: U.S. Individual Life Insurance & Annuity Business - initial reinsurance ceded premiums	**—**	—	—	**13,889**	—
Total premiums and deposits	**$ 39,096**	$ 36,417	$ 37,583	**$ 150,638**	$ 139,262

Assets under management (AUM) and assets under administration (AUA)

Assets under management and assets under administration are non-IFRS measures that provide an indicator of the size and volume of the Company's overall business.

Assets under management include internally and externally managed funds where the Company has oversight of the investment policies. Services provided in respect of assets under management include the selection of investments, the provision of investment advice and discretionary portfolio management on behalf of clients.

Other assets under administration includes assets where the Company only provides administration services for which the Company earns fees and other income. These assets are beneficially owned by the clients and the Company does not direct the investing activities. Services provided relating to assets under administration include recordkeeping, safekeeping, collecting investment income, settling of transactions or other administrative services. Administrative services are an important aspect of the overall business of the Company and should be considered when comparing volumes, size and trends.

Assets under administration

	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018
Total assets per financial statements	**$ 451,167**	$ 446,626	$ 427,689
Proprietary mutual funds and institutional net assets	**320,548**	308,425	281,664
Total assets under management	**771,715**	755,051	709,353
Other assets under administration	**857,966**	841,700	689,520
Total assets under administration	**$ 1,629,681**	$ 1,596,751	$ 1,398,873

Financial leverage ratio

The consolidated financial leverage ratio for the Company is defined as debt, hybrid securities and preferred shares divided by total consolidated capitalization.

Sales

Sales is a non-IFRS measure for which there is no comparable measure in IFRS and is an indicator of new business growth. Sales are measured according to product type:

- For risk-based insurance and annuity products, sales include 100% of single premium and annualized premiums expected in the first twelve months of the plan.
- Group insurance and ASO sales reflect annualized premiums and premium equivalents for new policies and new benefits covered or expansion of coverage on existing policies.
- For individual wealth management products, sales include deposits on segregated fund products, proprietary mutual funds and institutional accounts as well as deposits on non-proprietary mutual funds.
- For group wealth management products, sales include assets transferred from previous plan providers and the expected annual contributions from the new plan.

Impact of currency movement

Items impacting the Company's Consolidated Statements of Earnings, such as income and benefits and expenses and net earnings, are translated into Canadian dollars at an average rate for the period. For items impacting the Company's Consolidated Balance Sheets, such as assets and liabilities, period end rates are used for currency translation purposes.

Throughout this document a number of terms are used to highlight the impact of foreign exchange on results, such as: "constant currency basis", "impact of currency movement", and "effect of currency translation fluctuations". These measures highlight the impact of changes in currency translation rates on Canadian dollar equivalent IFRS results and have been calculated using the average or period end rates, as appropriate, in effect at the date of the comparative period. These measures provide useful information as it facilitates the comparability of results between periods.

Core net earnings (loss)

For its Asset Management business unit in the U.S segment, the Company discloses core net earnings (loss), which is a measure of the business unit's performance. Core net earnings (loss) includes the impact of dealer commissions and software amortization and excludes the impact of certain corporate financing charges and allocations, certain tax adjustments and other non-recurring transactions. There is no directly comparable IFRS measure.

Core net earnings

	For the three months ended			For the twelve months ended	
	Dec. 31 2019	Sept. 30 2019	Dec. 31 2018	**Dec. 31 2019**	Dec. 31 2018
Core net earnings	**$ 28**	$ 22	$ (18)	**$ 78**	$ (11)
Less: Financing and other expenses (after-tax)	**(10)**	(9)	(11)	**(45)**	(50)
Reported net earnings (loss)	**$ 18**	$ 13	$ (29)	**$ 33**	$ (61)
Core net earnings (US$)	**$ 21**	$ 17	$ (14)	**$ 59**	$ (8)
Less: Financing and other expenses (after-tax) (US$)	**(8)**	(8)	(8)	**(35)**	(39)
Reported net earnings (loss) (US$)	**$ 13**	$ 9	$ (22)	**$ 24**	$ (47)

Pre-tax operating margin

For the Company's Asset Management business unit in the U.S. segment, this ratio provides measure of the profitability of the business unit. It is based on the business unit's pre-tax core net earnings (loss) divided by the sum of fee income and net investment income. There is no directly comparable IFRS measure.

SELECTED ANNUAL INFORMATION

(in $ millions, except per share amounts)	Years ended December 31		
	2019	2018	2017[1]
Total revenue[1]	**$ 44,698**	$ 44,032	$ 47,117
Net earnings - common shareholders			
Net earnings	**2,359**	2,961	2,149
Net earnings per common share			
Basic	**2.494**	2.996	2.173
Diluted	**2.493**	2.994	2.170
Total assets			
Total assets	**$ 451,167**	$ 427,689	$ 419,838
Proprietary mutual funds and institutional assets[2]	**320,548**	281,664	278,954
Total assets under management[2]	**771,715**	709,353	698,792
Other assets under administration[2]	**857,966**	689,520	651,121
Total assets under administration[2]	**$ 1,629,681**	$ 1,398,873	$ 1,349,913
Total liabilities	**$ 425,624**	$ 400,291	$ 394,302
Dividends paid per share			
Series F First Preferred	**1.4750**	1.4750	1.4750
Series G First Preferred	**1.3000**	1.3000	1.3000
Series H First Preferred	**1.21252**	1.21252	1.21252
Series I First Preferred	**1.1250**	1.1250	1.1250
Series L First Preferred	**1.41250**	1.41250	1.41250
Series M First Preferred	**1.450**	1.450	1.450
Series N First Preferred[3]	**0.544000**	0.544000	0.544000
Series O First Preferred[4]	**0.744956**	0.628745	0.466386
Series P First Preferred	**1.350**	1.350	1.350
Series Q First Preferred	**1.2875**	1.2875	1.2875
Series R First Preferred	**1.200**	1.200	1.200
Series S First Preferred	**1.312500**	1.312500	1.312500
Series T First Preferred[5]	**1.2875**	1.2875	0.7981
Common	**1.652**	1.556	1.468

(1) Comparative figures have been reclassified to reflect presentation adjustments relating to the adoption of IFRS 15, Revenue from Contracts with Customers, as described in the "International Financial Reporting Standards" section and in note 2 to the Company's December 31, 2018 annual consolidated financial statements.

(2) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

(3) The Series N First Preferred Share dividend was reset to a five year fixed dividend rate of 2.176% per annum on December 30, 2015 which applies until December 30, 2020, at which time the dividend rate becomes equal to the five year Government of Canada Treasury Bill yield plus 1.30%.

(4) The Series O First Preferred Share dividend was reset to 3 month floating dividend rate on December 30, 2015. The floating dividend rate is reset quarterly to the three month Government of Canada Treasury Bill yield plus 1.30%.

(5) The Series T First Preferred Shares were issued on May 18, 2017. The first dividend payment was made on September 29, 2017 in the amount of $0.476200 per share. Regular quarterly dividends are $0.321875 per share.

QUARTERLY FINANCIAL INFORMATION

Quarterly financial information (in $ millions, except per share amounts)	**2019**				2018			
	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1
Total revenue[1]	**$ 10,689**	$ 14,374	$ 2,746	$ 16,889	$ 11,699	$ 12,027	$ 10,613	$ 9,693
Common shareholders								
Net earnings								
Total	**$ 513**	$ 730	$ 459	$ 657	$ 710	$ 689	$ 831	$ 731
Basic - per share	**0.552**	0.786	0.489	0.665	0.719	0.697	0.839	0.740
Diluted - per share	**0.552**	0.785	0.489	0.665	0.719	0.697	0.839	0.739
Adjusted net earnings[2]								
Total	**$ 740**	$ 730	$ 658	$ 657	$ 710	$ 745	$ 831	$ 731
Basic - per share	**0.797**	0.786	0.701	0.665	0.719	0.754	0.839	0.740
Diluted - per share	**0.796**	0.785	0.700	0.665	0.719	0.753	0.839	0.739

(1) Revenue includes the changes in fair value through profit or loss on investment assets.
(2) This metric is a non-IFRS measure. Refer to the "Non-IFRS Financial Measures" section of this document for additional details.

Lifeco's consolidated net earnings attributable to common shareholders were $513 million for the fourth quarter of 2019 compared to $710 million reported a year ago. On a per share basis, this represents $0.552 per common share ($0.552 diluted) for the fourth quarter of 2019 compared to $0.719 per common share ($0.719 diluted) a year ago.

Total revenue for the fourth quarter of 2019 was $10,689 million and comprises premium income of $9,478 million, regular net investment income of $1,462 million, a negative change in fair value through profit or loss on investment assets of $1,766 million and fee and other income of $1,515 million.

DISCLOSURE CONTROLS AND PROCEDURES

The Company’s disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed by the Company in reports filed or submitted by it under provincial and territorial securities legislation is: (a) recorded, processed, summarized and reported within the time periods specified in the provincial and territorial securities legislation, and (b) accumulated and communicated to the Company's senior management, including the President and Chief Executive Officer and the Executive Vice-President and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Management evaluated the effectiveness of the Company's disclosure controls and procedures as at December 31, 2019 and, based on such evaluation, the President and Chief Executive Officer and the Executive Vice-President and Chief Financial Officer have concluded that the Company's disclosure controls and procedures are effective.

INTERNAL CONTROL OVER FINANCIAL REPORTING

The Company’s 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. The Company’s management is responsible for establishing and maintaining effective internal control over financial reporting. All internal control systems have inherent limitations and may become ineffective because of changes in conditions. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Company's management, under the supervision of the President and Chief Executive Officer and the Executive Vice-President and Chief Financial Officer, has evaluated the effectiveness of the Company's internal control over financial reporting based on the 2013 *Internal Control - Integrated Framework* (COSO Framework) published by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management adopted the revised 2013 COSO Framework in 2015 as the basis to evaluate the effectiveness of the Lifeco's internal control over financial reporting.

During the twelve months ended December 31, 2019, there have been no changes in the Company's internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting. Management evaluated the effectiveness of the Company's internal control over financial reporting as at December 31, 2019 and, based on such evaluation, the President and Chief Executive Officer and the Executive Vice-President and Chief Financial Officer have concluded that the Company's internal control over financial reporting is effective and that there are no material weaknesses in the Company's internal control over financial reporting.

RELATIONSHIP WITH POWER CORPORATION GROUP OF COMPANIES

Lifeco's controlling shareholder is Power Financial Corporation (Power Financial), which is controlled by Power Corporation of Canada (Power Corporation) and, ultimately, by the Desmarais Family Residuary Trust. Power Corporation also controls IGM Financial Inc. and its subsidiaries (IGM), as well as Portag3 Ventures II Limited Partnership (Portag3), which invests in the FinTech sector and in which both Lifeco and IGM are investors. Some of these related entities operate in similar or related sectors to those in which Lifeco's subsidiaries operate. A number of the Company's directors are also directors or officers of Power Corporation or one of its affiliates.

Lifeco's relationship with Power Financial, Power Corporation, IGM, Portag3 and other members of the Power Corporation group of companies enables Lifeco to access expertise and industry knowledge, achieve economies of scale and access investment opportunities. As a result of these relationships, Lifeco and other members of the Power Corporation group of companies may become aware of opportunities that are also of potential interest to other members of the group and Lifeco may share information for that purpose. Power Corporation and Power Financial from time to time also assist Lifeco to identify and analyze strategic corporate opportunities that may be of potential interest to it. However, Power Corporation and Power Financial have no commitment to Lifeco that would require them or their respective subsidiaries, directors or officers to offer any particular opportunity to Lifeco.

The Company has related party procedures that require, among other things, transactions between the Company and its subsidiaries and any member of the Power Corporation group of companies to be on terms no less favourable than market terms or where there is no open market, on terms that would reasonably be expected to provide at least fair value to the Company. Under the related party procedures, any material related party transactions must be reviewed and approved by a conduct review committee composed entirely of directors who are independent of management and Power Corporation and its affiliates.

TRANSACTIONS WITH RELATED PARTIES

As part of the substantial issuer bid, Power Financial and IGM participated in the Offer. IGM tendered its Lifeco shares proportionately. Power Financial tendered a portion of its Lifeco common shares on a proportionate basis and all remaining Lifeco common shares on a non-proportionate basis and this did not impact Power Financial's voting control of the Company. Power Financial and IGM effected their tender offers through a Qualifying Holdco Alternative, which the Company also offered to other shareholders, to assist them in achieving certain Canadian tax objectives.

In the normal course of business, Great-West Life and Putnam enter into various transactions with related companies, which include providing insurance benefits and sub-advisory services to other companies within the Power Financial group of companies enabling each organization to take advantage of economies of scale and areas of expertise. In all cases, transactions were at market terms and conditions.

During the year, Great-West Life provided to and received from IGM and its subsidiaries certain administrative and information technology services. Great-West Life also provided life insurance, annuity and disability insurance products under a distribution agreement with IGM. London Life provided distribution services to IGM. All transactions were provided at market terms and conditions.

Segregated funds of the Company were invested in funds managed by IG Wealth Management and Mackenzie Investments. The Company also has interests in mutual funds, open-ended investment companies and unit trusts. Some of these funds are managed by related parties of the Company and the Company receives management fees related to these services. All transactions were provided at market terms and conditions.

At December 31, 2019, the Company held $101 million ($86 million in 2018) of debentures issued by IGM. During 2019, the Company purchased debentures from IGM with a total market value at December 31, 2019 of $10 million ($14 million in 2018).

During the normal course of business in 2019, the Company purchased residential mortgages of $11 million from IGM ($61 million in 2018).

The Company holds investments in Portag3 Ventures Limited Partnership, Portag3 Ventures II Limited Partnership, Wealthsimple Europe S.a.r.l. and other entities which invest in the FinTech sector. These investments were made in partnership with Power Financial, IGM and, in certain circumstances, outside investors.

The Company provides asset management, employee benefits and administrative services for employee benefit plans relating to pension and other post-employment benefits for employees of the Company and its subsidiaries. These transactions were provided at market terms and conditions.
As at December 31, 2019 and December 31, 2018, there were no significant outstanding loans or guarantees and no material loans or guarantees issued during 2019 or 2018 with related parties. There were no provisions for uncollectible amounts from related parties during 2019 or 2018.

TRANSLATION OF FOREIGN CURRENCY

Through its operating subsidiaries, Lifeco conducts business in multiple currencies. The four primary currencies are the Canadian dollar, the U.S. dollar, the British pound and the euro. Throughout this document, foreign currency assets and liabilities are translated into Canadian dollars at the market rate at the end of the reporting period. All income and expense items are translated at an average rate for the period. The rates employed are:

Translation of foreign currency **Period ended**	**Dec. 31 2019**	Sept. 30 2019	June 30 2019	Mar. 31 2019	Dec. 31 2018	Sept. 30 2018	June 30 2018	Mar. 31 2018
United States dollar								
Balance sheet	**$ 1.30**	$ 1.32	$ 1.31	$ 1.34	$ 1.36	$ 1.29	$ 1.31	$ 1.29
Income and expenses	**$ 1.32**	$ 1.32	$ 1.34	$ 1.33	$ 1.32	$ 1.31	$ 1.29	$ 1.26
British pound								
Balance sheet	**$ 1.72**	$ 1.63	$ 1.66	$ 1.74	$ 1.74	$ 1.69	$ 1.73	$ 1.81
Income and expenses	**$ 1.70**	$ 1.63	$ 1.72	$ 1.73	$ 1.70	$ 1.70	$ 1.76	$ 1.76
Euro								
Balance sheet	**$ 1.46**	$ 1.44	$ 1.49	$ 1.50	$ 1.56	$ 1.50	$ 1.53	$ 1.59
Income and expenses	**$ 1.46**	$ 1.47	$ 1.50	$ 1.51	$ 1.51	$ 1.52	$ 1.54	$ 1.55

Additional information relating to Lifeco, including Lifeco's most recent consolidated financial statements, CEO/CFO certification and Annual Information Form are available at www.sedar.com.