GREAT-WEST LIFECO INC.

Consolidated Financial Statements

For the year ended December 31, 2019

GREAT-WEST LIFECO INC.

CONSOLIDATED STATEMENTS OF EARNINGS

(in Canadian $ millions except per share amounts)

	For the years ended December 31 2019	2018
Income		
Premium income		
Gross premiums written	**$ 43,266**	$ 39,984
Ceded premiums	**(18,756)**	(4,523)
Total net premiums	**24,510**	35,461
Net investment income (note 7)		
Regular net investment income	**6,161**	6,358
Changes in fair value through profit or loss	**6,946**	(3,606)
Total net investment income	**13,107**	2,752
Fee and other income	**7,081**	5,819
	44,698	44,032
Benefits and expenses		
Policyholder benefits		
Gross	**37,769**	32,357
Ceded	**(2,916)**	(2,445)
Total net policyholder benefits	**34,853**	29,912
Changes in insurance and investment contract liabilities		
Gross	**10,155**	441
Ceded	**(13,479)**	61
Total net changes in insurance and investment contract liabilities	**(3,324)**	502
Policyholder dividends and experience refunds	**1,562**	1,654
Total paid or credited to policyholders	**33,091**	32,068
Commissions	**2,429**	2,474
Operating and administrative expenses (note 28)	**5,231**	5,033
Premium taxes	**506**	495
Financing charges (note 17)	**285**	221
Amortization of finite life intangible assets (note 11)	**224**	212
Restructuring expenses (note 5)	**52**	67
Earnings before income taxes	**2,880**	3,462
Income taxes (note 27)	**373**	387
Net earnings before non-controlling interests	**2,507**	3,075
Attributable to non-controlling interests (note 19)	**15**	(19)
Net earnings	**2,492**	3,094
Preferred share dividends (note 21)	**133**	133
Net earnings - common shareholders	**$ 2,359**	$ 2,961
Earnings per common share (note 21)		
Basic	**$ 2.494**	$ 2.996
Diluted	**$ 2.493**	$ 2.994

GREAT-WEST LIFECO INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in Canadian $ millions)

	For the years ended December 31	
	2019	2018
Net earnings	**$ 2,492**	$ 3,094
Other comprehensive income		
Items that may be reclassified subsequently to Consolidated Statements of Earnings		
Unrealized foreign exchange gains (losses) on translation of foreign operations	**(561)**	766
Unrealized foreign exchange gains (losses) on euro debt designated as hedges of the net investment in foreign operations	**100**	(50)
Income tax (expense) benefit	**(14)**	7
Unrealized gains (losses) on available-for-sale assets	**232**	(114)
Income tax (expense) benefit	**(37)**	22
Realized (gains) losses on available-for-sale assets	**(69)**	6
Income tax expense (benefit)	**6**	(1)
Unrealized gains (losses) on cash flow hedges	**2**	23
Income tax (expense) benefit	**—**	(4)
Realized (gains) losses on cash flow hedges	**—**	(69)
Income tax expense (benefit)	**—**	17
Non-controlling interests	**(46)**	30
Income tax (expense) benefit	**7**	(5)
Total items that may be reclassified	**(380)**	628
Items that will not be reclassified to Consolidated Statements of Earnings		
Re-measurements on defined benefit pension and other post-employment benefit plans (note 24)	**(226)**	34
Income tax (expense) benefit	**47**	(5)
Non-controlling interests	**13**	2
Income tax (expense) benefit	**(4)**	—
Total items that will not be reclassified	**(170)**	31
Total other comprehensive income (loss)	**(550)**	659
Comprehensive income	**$ 1,942**	$ 3,753

GREAT-WEST LIFECO INC.

CONSOLIDATED BALANCE SHEETS

(in Canadian $ millions)

	December 31	
	2019	2018
Assets		
Cash and cash equivalents (note 6)	**$ 4,628**	$ 4,168
Bonds (note 7)	**115,028**	124,862
Mortgage loans (note 7)	**24,268**	25,014
Stocks (note 7)	**10,375**	9,290
Investment properties (note 7)	**5,887**	5,218
Loans to policyholders	**8,601**	8,929
	168,787	177,481
Assets held for sale (note 4)	**—**	897
Funds held by ceding insurers (note 8)	**8,714**	9,251
Reinsurance assets (note 14)	**20,707**	6,126
Goodwill (note 11)	**6,505**	6,548
Intangible assets (note 11)	**3,879**	3,976
Derivative financial instruments (note 29)	**451**	417
Owner occupied properties (note 12)	**727**	731
Fixed assets (note 12)	**455**	448
Other assets (note 13)	**3,110**	2,567
Premiums in course of collection, accounts and interest receivable	**5,881**	5,202
Current income taxes	**236**	218
Deferred tax assets (note 27)	**693**	981
Investments on account of segregated fund policyholders (note 15)	**231,022**	209,527
Investments on account of segregated fund policyholders held for sale (note 4)	**—**	3,319
Total assets	**$ 451,167**	$ 427,689
Liabilities		
Insurance contract liabilities (note 14)	**$ 174,521**	$ 166,720
Investment contract liabilities (note 14)	**1,656**	1,711
Liabilities held for sale (note 4)	**—**	897
Debentures and other debt instruments (note 16)	**5,993**	6,459
Funds held under reinsurance contracts	**1,433**	1,367
Derivative financial instruments (note 29)	**1,381**	1,562
Accounts payable	**3,352**	3,262
Other liabilities (note 18)	**4,689**	3,855
Current income taxes	**461**	402
Deferred tax liabilities (note 27)	**1,116**	1,210
Investment and insurance contracts on account of segregated fund policyholders (note 15)	**231,022**	209,527
Investment and insurance contracts on account of segregated fund policyholders held for sale (note 4)	**—**	3,319
Total liabilities	**425,624**	400,291
Equity		
Non-controlling interests (note 19)		
Participating account surplus in subsidiaries	**2,759**	2,737
Non-controlling interests in subsidiaries	**107**	138
Shareholders' equity		
Share capital (note 20)		
Preferred shares	**2,714**	2,714
Common shares	**5,633**	7,283
Accumulated surplus	**13,660**	13,342
Accumulated other comprehensive income (note 25)	**495**	1,045
Contributed surplus	**175**	139
Total equity	**25,543**	27,398
Total liabilities and equity	**$ 451,167**	$ 427,689

Approved by the Board of Directors:

Jeffrey Orr
Chair of the Board

Paul Mahon
President and Chief Executive Officer

GREAT-WEST LIFECO INC.

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(in Canadian $ millions)

	December 31, 2019					
	Share capital	Contributed surplus	Accumulated surplus	Accumulated other comprehensive income (loss)	Non-controlling interests	Total equity
Balance, beginning of year	$ 9,997	$ 139	$ 13,342	$ 1,045	$ 2,875	$ 27,398
Change in accounting policy (note 2)	—	—	(109)	—	—	(109)
Revised balance, beginning of year	9,997	139	13,233	1,045	2,875	27,289
Net earnings	—	—	2,492	—	15	2,507
Other comprehensive income (loss)	—	—	—	(550)	30	(520)
	9,997	139	15,725	495	2,920	29,276
Dividends to shareholders						
Preferred shareholders (note 21)	—	—	(133)	—	—	(133)
Common shareholders	—	—	(1,559)	—	—	(1,559)
Shares exercised and issued under share-based payment plans (note 20)	39	(36)	—	—	31	34
Share-based payment plans expense	—	37	—	—	—	37
Equity settlement of Putnam share-based plans	—	—	—	—	(33)	(33)
Shares purchased and cancelled under Substantial Issuer Bid (note 20)	(2,000)	—	—	—	—	(2,000)
Excess of redemption proceeds over stated capital per Substantial Issuer Bid (note 20)	1,628	—	(1,628)	—	—	—
Common share carrying value adjustment per Substantial Issuer Bid (note 20)	(1,304)	—	1,304	—	—	—
Substantial Issuer Bid transaction costs (note 20)	—	—	(3)	—	—	(3)
Shares purchased and cancelled under Normal Course Issuer Bid (note 20)	(66)	—	—	—	—	(66)
Excess of redemption proceeds over stated capital per Normal Course Issuer Bid (note 20)	53	—	(53)	—	—	—
Shares cancelled under Putnam share-based plans	—	35	—	—	(45)	(10)
Dilution gain on non-controlling interests	—	—	7	—	(7)	—
Balance, end of year	$ 8,347	$ 175	$ 13,660	$ 495	$ 2,866	$ 25,543

GREAT-WEST LIFECO INC.

Consolidated Statements of Changes in Equity (cont'd)

	December 31, 2018					
	Share capital	Contributed surplus	Accumulated surplus	Accumulated other comprehensive income (loss)	Non-controlling interests	Total equity
Balance, beginning of year	$ 9,974	$ 143	$ 12,098	$ 386	$ 2,935	$ 25,536
Change in accounting policy	—	—	(64)	—	—	(64)
Revised balance, beginning of year	9,974	143	12,034	386	2,935	25,472
Net earnings (loss)	—	—	3,094	—	(19)	3,075
Other comprehensive income (loss)	—	—	—	659	(27)	632
	9,974	143	15,128	1,045	2,889	29,179
Dividends to shareholders						
Preferred shareholders (note 21)	—	—	(133)	—	—	(133)
Common shareholders	—	—	(1,538)	—	—	(1,538)
Shares exercised and issued under share-based payment plans (note 20)	39	(42)	—	—	37	34
Share-based payment plans expense	—	38	—	—	—	38
Equity settlement of Putnam share-based plans	—	—	—	—	(58)	(58)
Shares purchased and cancelled under Normal Course Issuer Bid (note 20)	(69)	—	—	—	—	(69)
Excess of redemption proceeds over stated capital per Normal Course Issuer Bid (note 20)	53	—	(53)	—	—	—
Acquisition of PanAgora non-controlling interest	—	—	(54)	—	(21)	(75)
Acquisition of Invesco non-controlling interest	—	—	—	—	20	20
Dilution loss on non-controlling interests	—	—	(8)	—	8	—
Balance, end of year	$ 9,997	$ 139	$ 13,342	$ 1,045	$ 2,875	$ 27,398

GREAT-WEST LIFECO INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in Canadian $ millions)

	For the years ended December 31	
	2019	2018
Operations		
Earnings before income taxes	**$ 2,880**	$ 3,462
Income taxes paid, net of refunds received	**(235)**	(428)
Adjustments:		
Change in insurance and investment contract liabilities	**10,412**	(379)
Change in funds held by ceding insurers	**570**	663
Change in funds held under reinsurance contracts	**81**	(37)
Change in reinsurance assets	**(900)**	51
Changes in fair value through profit or loss	**(6,946)**	3,606
Other	**248**	(444)
	6,110	6,494
Financing Activities		
Issue of common shares (note 20)	**39**	39
Purchased and cancelled common shares (note 20)	**(2,066)**	(69)
Substantial issuer bid transaction costs (note 20)	**(3)**	—
Issue of debentures and senior notes (note 16)	**—**	1,512
Repayment of debentures (note 16)	**(232)**	(1,096)
Increase (decrease) in line of credit of subsidiary	**(28)**	19
Increase (decrease) in debentures and other debt instruments	**1**	(1)
Dividends paid on common shares	**(1,559)**	(1,538)
Dividends paid on preferred shares	**(133)**	(133)
	(3,981)	(1,267)
Investment Activities		
Bond sales and maturities	**25,155**	25,001
Mortgage loan repayments	**2,532**	2,808
Stock sales	**2,814**	2,939
Investment property sales	**5**	63
Change in loans to policyholders	**16**	(208)
Proceeds from assets held for sale	**—**	169
Business acquisitions, net of cash and cash equivalents acquired	**—**	(279)
Cash and cash equivalents related to transfer of business (note 4)	**(4)**	—
Cash and cash equivalents classified as held for sale (note 4)	**—**	(112)
Investment in bonds	**(25,087)**	(26,453)
Investment in mortgage loans	**(3,816)**	(4,246)
Investment in stocks	**(2,510)**	(4,102)
Investment in investment properties	**(644)**	(356)
	(1,539)	(4,776)
Effect of changes in exchange rates on cash and cash equivalents	**(130)**	166
Increase in cash and cash equivalents	**460**	617
Cash and cash equivalents, beginning of year	**4,168**	3,551
Cash and cash equivalents, end of year	**$ 4,628**	$ 4,168
Supplementary cash flow information		
Interest income received	**$ 5,112**	$ 5,345
Interest paid	**301**	282
Dividend income received	**299**	266

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in Canadian $ millions except per share amounts)

1. Corporate Information

Great-West Lifeco Inc. (Lifeco or the Company) is a publicly listed company (Toronto Stock Exchange: GWO), incorporated and domiciled in Canada. The registered address of the Company is 100 Osborne Street North, Winnipeg, Manitoba, Canada, R3C 1V3. Lifeco is a member of the Power Corporation of Canada group of companies and its direct parent is Power Financial Corporation (Power Financial).

Lifeco is a financial services holding company with interests in the life insurance, health insurance, retirement savings, investment management and reinsurance businesses, primarily in Canada, the United States and Europe through its operating subsidiaries including The Great-West Life Assurance Company (Great-West Life), London Life Insurance Company (London Life), The Canada Life Assurance Company (Canada Life), Great-West Life & Annuity Insurance Company (GWL&A) and Putnam Investments, LLC (Putnam).

The consolidated financial statements (financial statements) of the Company as at and for the year ended December 31, 2019 were approved by the Board of Directors on February 12, 2020.

<u>Subsequent Event</u>
Effective January 1, 2020, Great-West Life, London Insurance Group Inc. (LIG), the direct parent of London Life, London Life, Canada Life Financial Corporation (CLFC), the direct parent of Canada Life, and Canada Life amalgamated (the Amalgamation) into one company: The Canada Life Assurance Company (the Amalgamated Company). The Amalgamated Company is a wholly-owned operating subsidiary of Lifeco (note 33).

2. Basis of Presentation and Summary of Accounting Policies

The consolidated financial statements of the Company have been prepared in compliance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB). Consistent accounting policies were applied in the preparation of the consolidated financial statements of the subsidiaries of the Company.

<u>Changes in Accounting Policies</u>
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. Under IFRIC 23, a provision for tax uncertainties which meet the probable threshold for recognition is measured based on the amount most likely to occur. The provision for tax uncertainties will be classified as current or deferred based on how a disallowance of the underlying uncertain tax treatment would impact the tax provision accrual as of the balance sheet date. The application of the interpretation of the standard resulted in a decrease of $109 to opening accumulated surplus at January 1, 2019.

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. Under IFRS 16, the Company recognizes a right-of-use asset and a lease liability at the lease commencement date on the Consolidated Balance Sheets.

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 comparative information remains as previously reported under IAS 17 and related interpretations.

On initial application, the Company has elected to measure right-of-use assets at an amount equal to the lease liability, adjusted by the amount of any lease related balances relating to that lease recognized on the Consolidated

Balance Sheets immediately before the date of initial application. At January 1, 2019, right-of-use assets of $551 were recognized ($522 within other assets and $29 within investment properties) and lease liabilities of $551 were recognized within other liabilities. Lease related balances included within accounts payable on the Consolidated Balance Sheets at December 31, 2018 of $62 were reclassified to decrease right-of-use assets recognized to $489 at January 1, 2019. When measuring lease liabilities, the Company discounted lease payments using the lessee's incremental borrowing rate at January 1, 2019. The weighted-average rate applied is 3.82%.

The following table reconciles the Company's operating lease obligations at December 31, 2018, as previously disclosed in the Company's consolidated financial statements, to the lease liabilities recognized on initial application of IFRS 16 at January 1, 2019:

Operating lease commitments at December 31, 2018	$ 900
Discounting using the incremental borrowing rate at January 1, 2019	(170)
Non-lease components included in operating lease commitments	(110)
Leases not yet commenced at January 1, 2019 included in operating lease commitments	(57)
Short-term leases included in operating lease commitments	(6)
Low-value leases included in operating lease commitments	(6)
Lease liabilities recognized at January 1, 2019	**$ 551**

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.

Basis of Consolidation

The consolidated financial statements of the Company were prepared as at and for the year ended December 31, 2019 with comparative information as at and for the year ended December 31, 2018. Subsidiaries are fully consolidated from the date of acquisition, being the date on which the Company obtains control, and continue to be consolidated until the date that such control ceases. The Company has control when it has the power to direct the relevant activities, has significant exposure to variable returns from these activities and has the ability to use its power to affect the variable returns. All intercompany balances, transactions, income and expenses and profits or losses, including dividends resulting from intercompany transactions, are eliminated on consolidation.

Use of Significant Judgments, Estimates and Assumptions

In preparation of these consolidated financial statements, management is required to make significant judgments, estimates and assumptions that affect the reported amounts of assets, liabilities, net earnings and related disclosures. Although some uncertainty is inherent in these judgments and estimates, management believes that the amounts recorded are reasonable. Key sources of estimation uncertainty and areas where significant judgments have been made are listed below and discussed throughout the notes to these consolidated financial statements including:

- Management uses judgment in determining the assets and liabilities to be included in a disposal group. The Company uses estimates in the determination of the fair value for disposal groups (note 4).
- Management uses independent qualified appraisal services to determine the fair value of investment properties, which utilize judgments and estimates. These appraisals are adjusted by applying management judgments and estimates for material changes in property cash flows, capital expenditures or general market conditions (note 7).
- Management uses internal valuation models which utilize judgments and estimates to determine the fair value of equity release mortgages. These valuations are adjusted by applying management judgments and estimates for material changes in projected asset cash flows, and discount rates (note 7).

- In the determination of the fair value of financial instruments, the Company's management exercises judgment in the determination of fair value inputs, particularly those items categorized within level 3 of the fair value hierarchy (note 10).
- Cash generating unit groupings for goodwill and indefinite life intangible assets have been determined by management as the lowest level that the assets are monitored for internal reporting purposes, which requires management judgment in the determination of the lowest level of monitoring (note 11).
- Management evaluates the future benefit for initial recognition and measurement of goodwill and intangible assets as well as testing the recoverable amounts. The determination of the carrying value and recoverable amounts of the cash generating unit groupings for goodwill and intangible assets relies upon the determination of fair value or value-in-use using valuation methodologies (note 11).
- Judgments are used by management in determining whether deferred acquisition costs and deferred income reserves can be recognized on the Consolidated Balance Sheets. Deferred acquisition costs are recognized if management determines the costs meet the definition of an asset and are incremental and related to the issuance of the investment contract. Deferred income reserves are amortized on a straight-line basis over the term of the policy (notes 13 and 18).
- Management uses judgment to evaluate the classification of insurance and reinsurance contracts to determine whether these arrangements should be accounted for as insurance, investment or service contracts.
- The actuarial assumptions, such as interest rates, inflation, policyholder behaviour, mortality and morbidity of policyholders, used in the valuation of insurance and certain investment contract liabilities under the Canadian Asset Liability Method require significant judgment and estimation (note 14).
- The actuarial assumptions used in determining the expense and benefit obligations for the Company's defined benefit pension plans and other post-employment benefits requires significant judgment and estimation. Management reviews previous experience of its plan members and market conditions including interest rates and inflation rates in evaluating the assumptions used in determining the expense for the current year (note 24).
- The Company operates within various tax jurisdictions where significant management judgments and estimates are required when interpreting the relevant tax laws, regulations and legislation in the determination of the Company's tax provisions and the carrying amounts of its tax assets and liabilities (note 27).
- Management applies judgment in assessing the recoverability of the deferred income tax asset carrying values based on future years' taxable income projections (note 27).
- Legal and other provisions are recognized resulting from a past event which, in the judgment of management, has resulted in a probable outflow of economic resources which would be passed to a third-party to settle the obligation. Management uses judgment to evaluate the possible outcomes and risks in determining the best estimate of the provision at the balance sheet date (note 30).
- The operating segments of the Company, which are the segments reviewed by the Company's Chief Executive Officer to assess performance and allocate resources within the Company, are aligned with the Company's geographic operations. Management applies judgment in the aggregation of the business units into the Company's operating segments (note 32).
- The Company consolidates all subsidiaries and entities which management determines that the Company controls. Control is evaluated on the ability of the Company to direct the activities of the subsidiary or entity to derive variable returns and management uses judgment in determining whether control exists. Judgment is exercised in the evaluation of the variable returns and in determining the extent to which the Company has the ability to exercise its power to generate variable returns.
- Management uses judgments, such as the determination of whether the Company retains the primary obligation with a client in sub-advisor arrangements. Where the Company retains the primary obligation to the client, revenue and expenses are recorded on a gross basis.
- Within the Consolidated Statements of Cash Flows, purchases and sales of portfolio investments are recorded within investment activities due to management's judgment that these investing activities are long-term in nature.

- The results of the Company reflect management’s judgments regarding the impact of prevailing global credit, equity and foreign exchange market conditions. The provision for future credit losses within the Company's insurance contract liabilities relies upon investment credit ratings. The Company’s practice is to use third-party independent credit ratings where available. Management judgment is required when setting credit ratings for instruments that do not have a third-party rating.

The significant accounting policies are as follows:

(a) Portfolio Investments

Portfolio investments include bonds, mortgage loans, stocks and investment properties. Portfolio investments are classified as fair value through profit or loss, available-for-sale, held-to-maturity, loans and receivables, equity-method investments or as non-financial instruments based on management’s intention relating to the purpose and nature of the instrument or characteristics of the investment. The Company has not classified any investments as held-to-maturity.

Investments in bonds and stocks normally actively traded on a public market or where fair value can be reliably measured are either designated or classified as fair value through profit or loss or classified as available-for-sale on a trade date basis. Equity release mortgages are designated as fair value through profit or loss. A financial asset is designated as fair value through profit or loss on initial recognition if it eliminates or significantly reduces an accounting mismatch. Changes in the fair value of financial assets designated as fair value through profit or loss are generally offset by changes in insurance contract liabilities, since the measurement of insurance contract liabilities is determined with reference to the assets supporting the liabilities. A financial asset is classified as fair value through profit or loss on initial recognition if it is part of a portfolio that is actively traded for the purpose of earning investment income. Fair value through profit or loss investments are recognized at fair value on the Consolidated Balance Sheets with realized and unrealized gains and losses reported in the Consolidated Statements of Earnings. Available-for-sale investments are recognized at fair value on the Consolidated Balance Sheets with unrealized gains and losses recorded in other comprehensive income. Realized gains and losses on available-for-sale investments are reclassified from other comprehensive income and recorded in the Consolidated Statements of Earnings when the investment is sold. Interest income earned on both fair value through profit or loss and available-for-sale bonds is calculated using the effective interest method and is recorded as net investment income in the Consolidated Statements of Earnings.

Investments in stocks where a fair value cannot be measured reliably are classified as available-for-sale and carried at cost. Investments in stocks for which the Company exerts significant influence over but does not control are accounted for using the equity method of accounting. Investments in stocks over which the Company exerts significant influence but does not control include the Company’s investment in an affiliated company, IGM Financial Inc. (IGM), a member of the Power Financial group of companies.

Investments in mortgages and bonds not normally actively traded on a public market are classified as loans and receivables and are carried at amortized cost net of any allowance for credit losses. Interest income earned and realized gains and losses on the sale of investments classified as loans and receivables are recorded in the Consolidated Statements of Earnings and included in net investment income.

Investment properties are real estate held to earn rental income or for capital appreciation. Investment properties are initially measured at cost and subsequently carried at fair value on the Consolidated Balance Sheets. All changes in fair value are recorded as net investment income in the Consolidated Statements of Earnings. Properties held to earn rental income or for capital appreciation that have an insignificant portion that is owner occupied or where there is no intent to occupy on a long-term basis are classified as investment properties. Properties that do not meet these criteria are classified as owner occupied properties. Property that is leased that would otherwise be classified as investment property if owned by the Company is also included within investment properties.

Fair Value Measurement

Financial instrument carrying values necessarily reflect the prevailing market liquidity and the liquidity premiums embedded within the market pricing methods that the Company relies upon.

Fair value movement on the assets supporting insurance contract liabilities is a major factor in the movement of insurance contract liabilities. Changes in the fair value of bonds designated or classified as fair value through profit or loss that support insurance and investment contract liabilities are largely offset by corresponding changes in the fair value of liabilities except when the bond has been deemed impaired.

The following is a description of the methodologies used to value instruments carried at fair value:

Bonds - Fair Value Through Profit or Loss and Available-for-Sale

Fair values for bonds classified and designated as fair value through profit or loss or available-for-sale are determined with reference to quoted market bid prices primarily provided by third-party independent pricing sources. Where prices are not quoted in an active market, fair values are determined by valuation models. The Company maximizes the use of observable inputs when measuring fair value. The Company obtains quoted prices in active markets, when available, for identical assets at the balance sheet date to measure bonds at fair value in its fair value through profit or loss and available-for-sale portfolios.

The Company estimates the fair value of bonds not traded in active markets by referring to actively traded securities with similar attributes, dealer quotations, matrix pricing methodology, discounted cash flow analyses and/or internal valuation models. This methodology considers such factors as the issuer's industry, the security's rating, term, coupon rate and position in the capital structure of the issuer, as well as, yield curves, credit curves, prepayment rates and other relevant factors. For bonds that are not traded in active markets, valuations are adjusted to reflect illiquidity, and such adjustments generally are based on available market evidence. In the absence of such evidence, management's best estimate is used.

Bonds and Mortgages - Loans and Receivables

For disclosure purposes only, fair values for bonds and mortgages classified as loans and receivables are determined by discounting expected future cash flows using current market rates for similar instruments. Valuation inputs typically include benchmark yields and risk-adjusted spreads based on current lending activities and market activity.

Equity Release Mortgages - Fair Value Through Profit or Loss

There are no market observable prices for equity release mortgages; therefore an internal valuation model is used discounting expected future cash flows and includes consideration of the embedded no-negative equity guarantee. Inputs to the model include market observable inputs such as benchmark yields and risk-adjusted spreads. Non market observable inputs include property growth and volatility rates, expected rates of voluntary redemptions, death, moving to long term care and interest cessation assumptions and the value of the no negative equity guarantee.

Stocks - Fair Value Through Profit or Loss and Available-for-Sale

Fair values for stocks traded on an active market 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 is typically based upon alternative valuation techniques such as discounted cash flow analysis, review of price movement relative to the market and utilization of information provided by the underlying investment manager. The Company maximizes the use of observable inputs when measuring fair value. The Company obtains quoted prices in active markets, when available, for identical assets at the balance sheet date to measure stocks at fair value in its fair value through profit or loss and available-for-sale portfolios.

Investment Properties

Fair values for investment properties are determined using independent qualified 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. The determination of the fair value of investment property requires the use of estimates including future cash flows (such as future leasing assumptions, rental rates, capital and operating expenditures) and discount, reversionary and overall capitalization rates applicable to the asset based on current market conditions. Investment property under construction is valued at fair value if such values can be reliably determined; otherwise they are recorded at cost.

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 objective evidence that timely collection of future cash flows can no longer be reliably estimated. 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 net realizable value. For impaired available-for-sale bonds recorded at fair value, the accumulated loss recorded in accumulated other comprehensive income 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 recorded in net investment income, therefore, in the event of an impairment, the reduction will be recorded in net investment income.

Securities Lending

The Company engages in securities lending through its securities custodians as lending agents. Loaned securities are not derecognized, and continue to be reported within invested assets, as the Company retains substantial risks and rewards and economic benefits related to the loaned securities.

(b) Transaction Costs

Transaction costs are expensed as incurred for financial instruments classified as fair value through profit or loss. Transaction costs for financial assets classified as available-for-sale or loans and receivables are added to the value of the instrument at acquisition and taken into net earnings using the effective interest method. Transaction costs for financial liabilities classified as other than fair value through profit or loss are included in the value of the instrument issued and taken into net earnings using the effective interest method.

(c) Cash and Cash Equivalents

Cash and cash equivalents comprise cash, current operating accounts, overnight bank and term deposits with maturities of three months or less held for the purpose of meeting short-term cash requirements. Net payments in transit and overdraft bank balances are included in other liabilities.

(d) Trading Account Assets

Trading account assets consist of investments in sponsored funds, open ended investment companies and sponsored unit-trusts, which are carried at fair value based on the net asset value of these funds. Investments in these assets are included in other assets on the Consolidated Balance Sheets with realized and unrealized gains and losses reported in the Consolidated Statements of Earnings.

(e) Debentures and Other Debt Instruments and Capital Trust Securities

Debentures and other debt instruments and capital trust securities are initially recorded on the Consolidated Balance Sheets at fair value and subsequently carried at amortized cost using the effective interest method with amortization expense recorded in financing charges in the Consolidated Statements of Earnings. These liabilities are derecognized when the obligation is cancelled or redeemed.

(f) Other Assets and Other Liabilities

Other assets, which include prepaid expenses, deferred acquisition costs, finance leases receivable, right-of-use assets and miscellaneous other assets, are measured at cost or amortized cost. Other liabilities, which include deferred income reserves, bank overdraft, lease liabilities and other miscellaneous liabilities are measured at cost or amortized cost.

Provisions are recognized within other liabilities when the Company has a present obligation, either legal or constructive, resulting from a past event, and in management's judgment, it is probable that an outflow of economic resources will be required to settle the obligation and a reliable estimate can be made of the amount. The amount recognized for provisions are management's best estimate at the balance sheet date. The Company recognizes a provision for restructuring when a detailed formal plan for the restructuring has been established and that the plan has raised a valid expectation in those affected that the restructuring will occur.

Pension and other post-employment benefits also included within other assets and other liabilities are measured in accordance with note 2(x).

(g) Disposal Group Classified As Held For Sale

Disposal groups are classified as held for sale when the carrying amount will be recovered through a sale transaction rather than continuing use. The fair value of a disposal group is measured at the lower of its carrying amount and fair value less costs to sell. Individual assets and liabilities in a disposal group not subject to these measurement requirements include financial assets, investment properties and insurance contract liabilities. These assets and liabilities are measured in accordance with the relevant accounting policies described for those assets and liabilities included in this note before the disposal group as a whole is measured to the lower of its carrying amount and fair value less cost to sell. Any impairment loss for the disposal group is recognized as a reduction to the carrying amount for the portion of the disposal group under the measurement requirements for IFRS 5, *Non-Current Assets Held for Sale and Discontinued Operations*.

Disposal group assets and liabilities classified as held for sale are presented separately on the Company's Consolidated Balance Sheets. Gains and losses from disposal groups held for sale are presented separately in the Company's Consolidated Statements of Earnings.

(h) Derivative Financial Instruments

The Company uses derivative products as risk management instruments to hedge or manage asset, liability and capital positions, including fee and investment income. The Company's policy guidelines prohibit the use of derivative instruments for speculative trading purposes.

The Company includes disclosure of the maximum credit risk, future credit exposure, credit risk equivalent and risk weighted equivalent in note 29 as prescribed by the Office of the Superintendent of Financial Institutions (OSFI) in Canada.

All derivatives including those that are embedded in financial and non-financial contracts that are not closely related to the host contracts are recorded at fair value on the Consolidated Balance Sheets. The method of recognizing unrealized and realized fair value gains and losses depends on whether the derivatives are designated as hedging instruments. For derivatives that are not designated as hedging instruments, unrealized and realized gains and losses are recorded in net investment income in the Consolidated Statements of Earnings. For derivatives designated as hedging instruments, unrealized and realized gains and losses are recognized according to the nature of the hedged item.

Derivatives are valued using market transactions and other market evidence whenever possible, including market based inputs to models, broker or dealer quotations or alternative pricing sources with reasonable levels of price transparency. When models are used, the selection of a particular model to value a derivative depends on the contractual terms of, and specific risks inherent in, the instrument, as well as the availability of pricing information in the market. The Company generally uses similar models to value similar instruments. Valuation models require a variety of inputs, including contractual terms, market prices and rates, yield curves, credit curves, measures of volatility, prepayment rates and correlations of such inputs.

To qualify for hedge accounting, the relationship between the hedged item and the hedging instrument must meet several strict conditions on documentation, probability of occurrence, hedge effectiveness and reliability of measurement. If these conditions are not met, the relationship does not qualify for hedge accounting treatment and both the hedged item and the hedging instrument are reported independently as if there was no hedging relationship.

Where a hedging relationship exists, the Company documents all relationships between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedge transactions. This process includes linking derivatives that are used in hedging transactions to specific assets and liabilities on the Consolidated Balance Sheets or to specific firm commitments or forecasted transactions. The Company also assesses, both at the hedge's inception and on an ongoing basis, whether derivatives that are used in hedging transactions are effective in offsetting changes in fair values or cash flows of hedged items. Hedge effectiveness is reviewed quarterly through correlation testing. Hedge accounting is discontinued when the hedging no longer qualifies for hedge accounting.

Derivatives not designated as hedges for accounting purposes

For derivative investments not designated as accounting hedges, changes in fair value are recorded in net investment income.

Fair value hedges

For fair value hedges, changes in fair value of both the hedging instrument and the hedged risk are recorded in net investment income and consequently any ineffective portion of the hedge is recorded immediately in net investment income.

The Company currently uses foreign exchange forward contracts designated as fair value hedges.

Cash flow hedges

For cash flow hedges, the effective portion of the changes in fair value of the hedging instrument is recorded in the same manner as the hedged item while the ineffective portion is recognized immediately in net investment income. Gains and losses that accumulate in other comprehensive income are recorded in net investment income in the same period the hedged item affects net earnings. Gains and losses on cash flow hedges are immediately reclassified from other comprehensive income to net investment income if and when it is probable that a forecasted transaction is no longer expected to occur.

The Company currently uses interest rate swaps designated as cash flow hedges.

Net investment hedges

For net investment hedges, the effective portion of changes in the fair value of the hedging instrument are recorded in other comprehensive income while the ineffective portion is recognized immediately in net investment income. The unrealized foreign exchange gains (losses) on the instruments are recorded within accumulated other comprehensive income and will be reclassified into net earnings when the Company disposes of the foreign operation.

The Company currently uses foreign exchange forward contracts and debt instruments designated as net investment hedges.

(i) Embedded Derivatives

An embedded derivative is a component of a host contract that modifies the cash flows of the host contract in a manner similar to a derivative, according to a specified interest rate, financial instrument price, foreign exchange rate, underlying index or other variable. Embedded derivatives are treated as separate contracts and are recorded at fair value if their economic characteristics and risks are not closely related to those of the host contract and the host contract is not itself recorded at fair value through the Consolidated Statements of Earnings. Embedded derivatives that meet the definition of an insurance contract are accounted for and measured as an insurance contract.

(j) Foreign Currency Translation

The Company operates with multiple functional currencies. The Company's consolidated financial statements are presented in Canadian dollars as this presentation is most meaningful to financial statement users. For those subsidiaries with different functional currencies, exchange rate differences arising from the translation of monetary items that form part of the net investment in the foreign operation are recorded in unrealized foreign exchange gains (losses) on translation of foreign operations in other comprehensive income.

For the purpose of presenting consolidated financial statements, assets and liabilities are translated into Canadian dollars at the rate of exchange prevailing at the balance sheet dates and all income and expense items are translated at an average of daily rates. Unrealized foreign currency translation gains and losses on translation of the Company's net investment in its foreign operations are presented separately as a component of other comprehensive income. Unrealized gains and losses will be recognized proportionately in net investment income in the Consolidated Statements of Earnings when there has been a disposal of the investment in the foreign operations.

Foreign currency translation gains and losses on foreign currency transactions of the Company are included in net investment income.

(k) Loans to Policyholders

Loans to policyholders are classified as loans and receivables and measured at amortized cost. Loans to policyholders are shown at their unpaid principal balance and are fully secured by the cash surrender values of the policies. Carrying value of loans to policyholders approximates their fair value.

(l) Reinsurance Contracts

The Company, in the normal course of business, is a user of reinsurance in order to limit the potential for losses arising from certain exposures and a provider of reinsurance. Assumed reinsurance refers to the acceptance of certain insurance risks by the Company underwritten by another company. Ceded reinsurance refers to the transfer of insurance risk, along with the respective premiums, to one or more reinsurers who will share the risks. To the extent that assuming reinsurers are unable to meet their obligations, the Company remains liable to its policyholders for the portion reinsured. Consequently, allowances are made for reinsurance contracts which are deemed uncollectible.

Reinsurance contracts are insurance contracts and undergo the classification as described within the Insurance and Investment Contract Liabilities section of this note. Assumed reinsurance premiums, commissions and claim settlements, as well as the reinsurance assets associated with insurance and investment contracts, are accounted for in accordance with the terms and conditions of the underlying reinsurance contract. Reinsurance assets are reviewed for impairment on a regular basis for any events that may trigger impairment. The Company considers various factors in the impairment evaluation process, including but not limited to, collectability of amounts due under the terms of the contract. The carrying amount of a reinsurance asset is adjusted through an allowance account with any impairment loss being recorded in the Consolidated Statements of Earnings.

Any gains or losses on buying reinsurance are recognized in the Consolidated Statements of Earnings immediately at the date of purchase in accordance with the Canadian Asset Liability Method.

Assets and liabilities related to reinsurance are reported on a gross basis on the Consolidated Balance Sheets. The amount of liabilities ceded to reinsurers is estimated in a manner consistent with the claim liability associated with reinsured risks.

(m) Funds Held by Ceding Insurers/Funds Held Under Reinsurance Contracts

On the asset side, funds held by ceding insurers are assets that would normally be paid to the Company but are withheld by the cedant to reduce potential credit risk. Under certain forms of reinsurance contracts it is customary for the cedant to retain amounts on a funds withheld basis supporting the insurance or investment contract liabilities ceded. For the funds withheld assets where the underlying asset portfolio is managed by the Company, the credit risk is retained by the Company. The funds withheld balance where the Company assumes the credit risk is measured at the fair value of the underlying asset portfolio with the change in fair value recorded in net investment income. See note 8 for funds held by ceding insurers that are managed by the Company. Other funds held by ceding insurers are general obligations of the cedant and serve as collateral for insurance contract liabilities assumed from cedants. Funds withheld assets on these contacts do not have fixed maturity dates, their release generally being dependent on the run-off of the corresponding insurance contract liabilities.

On the liability side, funds held under reinsurance contracts consist mainly of amounts retained by the Company from ceded business written on a funds withheld basis. The Company withholds assets related to ceded insurance contract liabilities in order to reduce credit risk.

(n) Business Combinations, Goodwill and Intangible Assets

Business combinations are accounted for using the acquisition method. The Company identifies and classifies, in accordance with the Company's accounting policies, all assets acquired and liabilities assumed as at the acquisition date. Goodwill represents the excess of purchase consideration over the fair value of net assets of the acquired subsidiaries of the Company. Following initial recognition, goodwill is measured at cost less accumulated impairment losses.

Intangible assets represent finite life and indefinite life intangible assets of acquired subsidiaries of the Company and software acquired or internally developed by the Company. Finite life intangible assets include the value of technology/software, certain customer contracts and distribution channels. These finite life intangible assets are amortized over their estimated useful lives, typically ranging between 3 and 30 years.

Indefinite life intangible assets include brands and trademarks, certain customer contracts and the shareholders' portion of acquired future participating account profits. Amounts are classified as indefinite life intangible assets when based on an analysis of all the relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows for the Company. The identification of indefinite life intangible assets is made by reference to relevant factors such as product life cycles, potential obsolescence, industry stability and competitive position. Following initial recognition, indefinite life intangible assets are measured at cost less accumulated impairment losses.

<u>Impairment Testing</u>

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 loss 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. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount.

The recoverable amount is the higher of the asset's fair value less costs of disposal and value-in-use.

Finite life intangible assets are reviewed annually to determine if there are indicators of impairment and assess whether the amortization periods and methods are appropriate. If indicators of impairment have been identified, a test for impairment is performed and then the amortization of these assets is adjusted or impairment is recognized as necessary.

(o) Revenue Recognition

Premiums for all types of insurance contracts, and contracts with limited mortality or morbidity risk, are generally recognized as revenue when due and collection is reasonably assured.

Interest income on bonds and mortgages is recognized and accrued using the effective interest method.

Dividend income is recognized when the right to receive payment is established. This is the ex-dividend date for listed stocks, and usually the notification date or date when the shareholders have approved the dividend for private equity instruments.

Investment property income includes rents earned from tenants under lease agreements and property tax and operating cost recoveries. Rental income leases with contractual rent increases and rent-free periods are recognized on a straight-line basis over the term of the lease.

Fee income includes fees earned from management of segregated fund assets, proprietary mutual fund assets, record-keeping, fees earned on administrative services only Group health contracts, commissions and fees earned from management services. Fee and other income is recognized on the transfer of services to customers for the amount that reflects the consideration expected to be received in exchange for those services promised.

The Company has sub-advisor arrangements where the Company retains the primary obligation with the client; as a result, fee income earned is reported on a gross basis with the corresponding sub-advisor expense recorded in operating and administrative expenses.

(p) Owner Occupied Properties and Fixed Assets

Property held for own use and fixed assets are carried at cost less accumulated depreciation, disposals and impairments. Depreciation is expensed to write-off the cost of assets, over their estimated useful lives, using the straight-line method, on the following bases:

Owner occupied properties	15 - 20 years
Furniture and fixtures	5 - 10 years
Other fixed assets	3 - 10 years

Depreciation methods, useful lives and residual values are reviewed at least annually and adjusted if necessary.

(q) Deferred Acquisition Costs

Included in other assets are deferred acquisition costs relating to investment contracts. These are recognized as assets if the costs are incremental and incurred due to the contract being issued and are primarily amortized on a straight-line basis over the policy term, not to exceed 20 years.

(r) Segregated Funds

Segregated funds assets and liabilities arise from contracts where all financial risks associated with the related assets are borne by policyholders and are presented separately on the Consolidated Balance Sheets. The assets and liabilities are set equal to the fair value of the underlying asset portfolio. Investment income and changes in fair value of the segregated fund assets are offset by a corresponding change in the segregated fund liabilities.

(s) Insurance and Investment Contract Liabilities

Contract Classification

When significant insurance risk exists, the Company's products are classified at contract inception as insurance contracts, in accordance with IFRS 4, *Insurance Contracts* (IFRS 4). Significant insurance risk exists when the Company agrees to compensate policyholders or beneficiaries of the contract for specified uncertain future events that adversely affect the policyholder and whose amount and timing is unknown. Refer to note 14 for discussion of insurance risk.

In the absence of significant insurance risk, the contract is classified as an investment contract or service contract. Investment contracts with discretionary participating features are accounted for in accordance with IFRS 4 and investment contracts without discretionary participating features are accounted for in accordance with IAS 39, *Financial Instruments: Recognition & Measurement*. The Company has not classified any contracts as investment contracts with discretionary participating features.

Investment contracts may be reclassified as insurance contracts after inception if insurance risk becomes significant. A contract that is classified as an insurance contract at contract inception remains as such until all rights and obligations under the contract are extinguished or expire.

Investment contracts are contracts that carry financial risk, which is the risk of a possible future change in one or more of the following: interest rate, commodity price, foreign exchange rate, or credit rating. Refer to note 9 for discussion of Financial Instruments Risk Management.

Measurement

Insurance 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 subsidiary companies 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. 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/for 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.

(t) Deferred Income Reserves

Included in other liabilities are deferred income reserves relating to investment contracts. These are amortized on a straight-line basis to recognize the initial policy fees over the policy term, not to exceed 20 years.

(u) Income Taxes

The income tax expense for the period represents the sum of current income tax and deferred income tax. Income tax is recognized as an expense or income in profit or loss except to the extent that it relates to items that are recognized outside profit or loss (whether in other comprehensive income or directly in equity), in which case the income tax is also recognized outside profit or loss.

Current Income Tax

Current income tax is based on taxable income for the year. Current income tax liabilities (assets) for the current and prior periods are measured at the amount expected to be paid to (recovered from) the taxation authorities using the tax rates that have been enacted or substantively enacted at the balance sheet date in each respective jurisdiction. Current income tax assets and current income tax liabilities are offset if a legally enforceable right exists to offset the recognized amounts and the entity intends either to settle on a net basis, or to realize the assets and settle the liabilities simultaneously.

A provision for tax treatment uncertainties which meet the probable threshold for recognition is measured using either the most likely amount or the expected value, depending upon which method provides the better prediction of the resolution of the uncertainty. The provision for tax uncertainties will be classified as current or deferred based on how a disallowance of the underlying uncertain tax treatment would impact the tax provision accrual as of the balance sheet date.

Deferred Income Tax

Deferred income tax is the tax expected to be payable or recoverable on differences arising between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable income and is accounted for using the balance sheet liability method. Deferred income tax liabilities are generally recognized for all taxable temporary differences and deferred income tax assets are recognized to the extent that it is probable that taxable profits will be available against which deductible temporary differences, unused tax losses and carryforwards can be utilized.

Recognition is based on the fact that it is probable that the entity will have taxable profits and/or tax planning opportunities available to allow the deferred income tax asset to be utilized. Changes in circumstances in future periods may adversely impact the assessment of the recoverability. The uncertainty of the recoverability is taken into account in establishing the deferred income tax assets. The Company's annual financial planning process provides a significant basis for the measurement of deferred income tax assets.

Deferred income tax assets and liabilities are measured at the tax rates expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the balance sheet date. Deferred income tax assets and deferred income tax liabilities are offset if a legally enforceable right exists to net current income tax assets against current income tax liabilities and the deferred income taxes relate to the same taxable entity and the same taxation authority.

The carrying amount of deferred income tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred income tax asset to be utilized. Unrecognized deferred income tax assets are reassessed at each balance sheet date and are recognized to the extent that it has become probable that future taxable profit will allow the deferred income tax asset to be recovered.

Deferred income tax liabilities are recognized for taxable temporary differences arising on investments in subsidiaries and associates, except where the group controls the timing of the reversal of the temporary difference and it is probable that the temporary differences will not reverse in the foreseeable future.

(v) Policyholder Benefits

Policyholder benefits include benefits and claims on life insurance contracts, maturity payments, annuity payments and surrenders. Gross benefits and claims for life insurance contracts include the cost of all claims arising during the year and settlement of claims. Death claims and surrenders are recorded on the basis of notifications received. Maturities and annuity payments are recorded when due.

(w) Repurchase Agreements

The Company accounts for certain forward settling to be announced security transactions as derivatives as the Company does not regularly accept delivery of such securities when issued.

(x) Pension Plans and Other Post-Employment Benefits

The Company's subsidiaries maintain contributory and non-contributory defined benefit pension plans for certain employees and advisors. The Company's subsidiaries also provide post-employment health, dental and life insurance benefits to eligible employees, advisors and their dependents.

The present value of the defined benefit obligations and the related current service cost is determined using the projected unit credit method (note 24). Pension plan assets are recorded at fair value.

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. To determine the net interest costs (income) recognized in the Consolidated Statements of Earnings, the Company's subsidiaries apply a discount rate to the net benefit liability (asset), where the discount rate is determined by reference to market yields at the beginning of the year on high quality corporate bonds.

For the defined benefit plans of the Company's subsidiaries, re-measurements of the net defined benefit liability (asset) due to asset returns less (greater) than interest income, actuarial losses (gains) and changes in the asset ceiling are recognized in the Consolidated Statements of Comprehensive Income.

The Company's subsidiaries also maintain defined contribution pension plans for certain employees and advisors. For the defined contribution plans of the Company's subsidiaries, the current service costs are recognized in the Consolidated Statements of Earnings.

(y) Equity

Financial instruments issued by the Company are classified as share capital if they represent a residual interest in the assets of the Company. Preferred share capital is classified as equity if it is non-redeemable, or retractable only at the Company's option and any dividends are discretionary. Incremental costs that are directly attributable to the issue of share capital are recognized as a deduction from equity, net of income tax.

Contributed surplus represents the vesting expense on unexercised equity instruments under share-based payment plans.

Accumulated other comprehensive income (loss) represents the total of the unrealized foreign exchange gains (losses) on translation of foreign operations, the unrealized foreign exchange gains (losses) on euro debt designated as a hedge of the net investment of foreign operations, the unrealized gains (losses) on available-for-sale assets, the unrealized gains (losses) on cash flow hedges, and the re-measurements on defined benefit pension and other post-employment benefit plans net of tax, where applicable.

Non-controlling interests in subsidiaries represents the proportion of equity that is attributable to minority shareholders.

Participating account surplus in subsidiaries represents the proportion of equity attributable to the participating account of the Company's subsidiaries.

(z) Share-Based Payments

The Company provides share-based compensation to certain employees and Directors of the Company and its subsidiaries.

The Company follows the fair value based method of accounting for the valuation of compensation expense for shares and share options granted to employees under its stock option plans (note 23). This share-based payment expense is recognized in operating and administrative expenses in the Consolidated Statements of Earnings and as an increase to contributed surplus over the vesting period of the granted options. When options are exercised, the proceeds received, along with the amount in contributed surplus, are transferred to share capital.

The Company and certain of its subsidiaries have established Deferred Share Unit Plans (DSU Plans) in which the Directors of the Company participate. Units issued under the DSU Plans vest when granted. The Company recognizes an increase in operating and administrative expenses for the units granted under the DSU Plans. The Company recognizes a liability for units granted under the DSU Plans which is re-measured at each reporting period based on the market value of the Company's common shares.

Certain employees of the Company are entitled to participate in the Performance Share Unit Plan (PSU Plan). Units issued under the Performance Share Unit Plan vest over a three year period. The Company uses the fair value method to recognize compensation expense for the units granted under the plan over the vesting period with a corresponding increase in the liability based on the market value of the Company's common shares.

The Company has an Employee Share Ownership Program (ESOP) where, subject to certain conditions being met, the Company will match contributions up to a maximum amount. The Company's contributions are expensed within operating and administrative expenses as incurred.

(aa) Earnings Per Common Share

Earnings per common share is calculated using net earnings after preferred share dividends and the weighted average number of common shares outstanding. Diluted earnings per share is calculated by adjusting common shareholders' net earnings and the weighted average number of common shares outstanding for the effects of all potential dilutive common shares assuming that all convertible instruments are converted and outstanding options are exercised.

(ab) Leases

Effective January 1, 2019, the Company adopted IFRS 16 which replaces IAS 17. 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 comparative information remains as previously reported under IAS 17 and related interpretations.

Where the Company is the lessee, a right-of-use asset and a lease liability are recognized on the Consolidated Balance Sheets as at the lease commencement date.

Right-of-use assets are initially measured based on the initial amount of lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentive received. Right-of-use assets are included within other assets with the exception of right-of-use assets which meet the definition of investment property which are presented within investment properties and subject to the Company's associated accounting policy. Right-of-use assets presented within other assets are depreciated to the earlier of the useful life of the right-of-use asset or the lease term using the straight-line method. Depreciation expense on right-of-use assets is included within operating and administrative expenses.

Lease liabilities are initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Company shall use the lessee's incremental borrowing rate. Generally, the Company uses the lessee's incremental borrowing rate as its discount rate. The lease liability is measured at amortized cost using the effective interest method and is included within other liabilities. Interest expense on lease liabilities is included within operating and administrative expenses.

The Company has elected to apply a practical expedient not to recognize right-of-use assets and lease liabilities for short-term leases that have a lease term of 12 months or less and leases of low-value assets.

For the information presented for 2018, leases that do not transfer substantially all the risks and rewards of ownership are classified as operating leases. Payments made under operating leases, where the Company is the lessee, are charged to net earnings over the period of use.

Where the Company is the lessor under an operating lease for its investment property, the assets subject to the lease arrangement are presented within the Consolidated Balance Sheets. Income from these leases is recognized in the Consolidated Statements of Earnings on a straight-line basis over the lease term.

Investments in a lease that transfers substantially all the risks and rewards of ownership to the lessee are classified as a finance lease. The Company is the lessor under a finance lease and the investment is recognized as a receivable at an amount equal to the net investment in the lease, which is represented as the present value of the minimum lease payments due from the lessee and is presented within the Consolidated Balance Sheets. Payments received from the lessee are apportioned between the recognition of finance lease income and the reduction of the finance lease receivable. Income from the finance leases is recognized in the Consolidated Statements of Earnings at a constant periodic rate of return on the Company's net investment in the finance lease.

(ac) Operating Segments

Operating segments have been identified based on internal reports that are regularly reviewed by the Company's Chief Executive Officer to allocate resources and assess performance of segments. The Company's reportable operating segments are categorized by geographic region and include Canada, the United States and Europe. The Canada segment comprises the Individual Customer and Group Customer business units. GWL&A and Putnam are reported in the United States segment. The Europe segment comprises Insurance & Annuities and Reinsurance. The Lifeco Corporate segment represents activities and transactions that are not directly attributable to the measurement of the operating segments of the Company.

(ad) Future Accounting Policies

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 implementation which involves preparing the financial reporting systems and processes for reporting under IFRS 17, policy development and operational and 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.

Standard	Summary of Future Changes
IFRS 17 - *Insurance Contracts,* continued	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 (refer to the Company's significant accounting policies in note 2 of these financial statements). The future profit for providing insurance coverage (including impacts of new business) is reflected in the initial recognition of insurance contract liabilities and then recognized into profit or loss over time as the insurance coverage is provided. 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.

Standard	Summary of Future Changes
IFRS 9 - *Financial Instruments*	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 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.

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.

3. Business Acquisitions and Other Transactions

(a) U.S. Individual Life Insurance and Annuity Business Reinsurance Agreement

On January 24, 2019, GWL&A announced that it had entered into an agreement with Protective Life Insurance Company (Protective Life) to sell, via indemnity reinsurance, substantially all of its individual life insurance and annuity business in its United States segment. The transaction was completed on June 1, 2019. The Consolidated Balance Sheets were impacted by the transfer of $15,511 of invested assets to Protective Life (note 7), recognition of $15,230 of reinsurance assets (note 14) and $985 of cash received as a result of the transaction. Within the Consolidated Statements of Earnings, the Company recognized increases of $13,889 to ceded premiums, $1,080 to fee and other income, $219 to total net investment income (note 7) and $120 to operating and administrative expenses (note 28), as well as a decrease of $12,463 to total paid or credited to policyholders.

In the second quarter of 2019, the Company recognized a loss related to this transaction of $247 ($199 after-tax) (note 32), which included transaction costs of $80 ($63 after-tax) and $45 ($36 after-tax) 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.

(b) Invesco Ltd. (Ireland)

On August 1, 2018, the Company, through its indirect wholly-owned subsidiary Irish Life Group Limited (Irish Life), completed its agreement to acquire a controlling interest in Invesco Ltd. (Ireland), an independent financial consultancy firm in Ireland that specializes in employee benefit consultancy and private wealth management who manages and administers assets on behalf of clients.

During the second quarter of 2019, the comprehensive valuation of the fair value of the net assets acquired, including intangible assets and completion of the final purchase price allocation, was finalized with no significant adjustment to goodwill. Revenue and net earnings of Invesco Ltd. (Ireland) were not significant to the results of the Company.

4. Assets Held For Sale

Sale of policies to Scottish Friendly

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 of $4,216, comprised of unit-linked policies of $3,319 and non unit-linked policies of $897. The initial composition of the assets and liabilities of the disposal group classified as assets held for sale as at December 31, 2018 are as follows:

Assets		
Cash and cash equivalents	$	112
Bonds		731
Stocks		22
Investment properties		29
Loans to policyholders		3
Assets held for sale		897
Investments on account of segregated fund policyholders		3,319
Total assets included in disposal group classified as held for sale	$	4,216
Liabilities		
Insurance contract liabilities	$	870
Investment contract liabilities		27
Liabilities held for sale		897
Investment and insurance contracts on account of segregated fund policyholders		3,319
Total liabilities included in disposal group classified as held for sale	$	4,216

On October 22, 2019, the required court approval for the transfer of these policies was received. The transfer of these policies occurred, effective November 1, 2019, as part of the United Kingdom Business Transformation (note 5).

Net earnings from the disposal of these policies will be finalized in the first half of 2020 and are not expected to be material to the consolidated financial statements.

5. Restructuring

Putnam Restructuring

In 2019, Putnam recorded a restructuring provision of $52 pre-tax ($36 after-tax), which is recorded in restructuring expenses in the Consolidated Statements of Earnings. This restructuring is in respect of expense reductions and a realignment of its resources to best position itself for current and future opportunities. The expense reductions will be achieved through a reduction in staff, consolidation of certain mutual funds, digital technology modernization and facilities downsizing. The Company expects to pay out a significant portion of these remaining amounts during 2020.

At December 31, 2019, the Company has a restructuring provision of $37 remaining in other liabilities. The change in the restructuring provision for the Putnam restructuring is set out below:

	2019
Balance, beginning of year	**$ —**
Restructuring expenses	**52**
Amounts used	**(15)**
Balance, end of year	**$ 37**

United Kingdom Business Transformation

In 2018, the Company recorded a restructuring provision in the European segment of $67 pre-tax ($56 after-tax) in the common shareholder's account. This restructuring is in respect of activities aimed at achieving planned expense reductions and an organizational realignment. The expense reductions will be achieved through decommissioning of systems, reduction in staff and other costs as a result of integrating Retirement Advantage into Canada Life along with the sale of a heritage block of individual policies to Scottish Friendly.

At December 31, 2019, the Company has a restructuring provision of $39 remaining in other liabilities. The change in the restructuring provision for the United Kingdom Business Transformation is set out below:

	2019	2018
Balance, beginning of year	**$ 61**	$ —
Restructuring expenses	**—**	67
Amounts used	**(21)**	(8)
Changes in foreign exchange rates	**(1)**	2
Balance, end of year	**$ 39**	$ 61

6. Cash and Cash Equivalents

Cash and cash equivalents include amounts held at the Lifeco holding company level and amounts held in Lifeco's consolidated subsidiary companies.

		2019		2018
Cash	**$**	**2,860**	$	2,527
Short-term deposits		**1,768**		1,641
Total	**$**	**4,628**	$	4,168

At December 31, 2019, cash of $574 was restricted for use by the Company ($339 at December 31, 2018) in respect of cash held in trust for reinsurance agreements or with regulatory authorities, cash held under certain indemnity arrangements, client monies held by brokers and cash held in escrow.

7. Portfolio Investments

(a) Carrying values and estimated fair values of portfolio investments are as follows:

	2019		2018	
	Carrying value	**Fair value**	Carrying value	Fair value
Bonds				
Designated fair value through profit or loss [1]	**$ 84,229**	**$ 84,229**	$ 90,015	$ 90,015
Classified fair value through profit or loss [1]	**1,717**	**1,717**	1,886	1,886
Available-for-sale	**11,710**	**11,710**	13,239	13,239
Loans and receivables	**17,372**	**19,344**	19,722	20,619
	115,028	**117,000**	124,862	125,759
Mortgage loans				
Residential				
Designated fair value through profit or loss [1]	**1,314**	**1,314**	813	813
Loans and receivables	**9,073**	**9,347**	9,721	9,808
	10,387	**10,661**	10,534	10,621
Commercial	**13,881**	**14,485**	14,480	14,790
	24,268	**25,146**	25,014	25,411
Stocks				
Designated fair value through profit or loss [1]	**9,752**	**9,752**	8,658	8,658
Available-for-sale	**16**	**16**	11	11
Available-for-sale, at cost [2]	**189**	**189**	267	267
Equity method	**418**	**410**	354	293
	10,375	**10,367**	9,290	9,229
Investment properties	**5,887**	**5,887**	5,218	5,218
Total [3]	**$ 155,558**	**$ 158,400**	$ 164,384	$ 165,617

(1) A financial asset is designated as fair value through profit or loss on initial recognition if it eliminates or significantly reduces an accounting mismatch. Changes in the fair value of financial assets designated as fair value through profit or loss are generally offset by changes in insurance contract liabilities, since the measurement of insurance contract liabilities is determined with reference to the assets supporting the liabilities.

A financial asset is classified as fair value through profit or loss on initial recognition if it is part of a portfolio that is actively traded for the purpose of earning investment income.

(2) Fair value cannot be reliably measured, therefore the investments are held at cost.

(3) As a result of the reinsurance transaction with Protective Life (note 3), invested assets were transferred.

(b) Carrying value of bonds and mortgages by term to maturity are as follows:

	2019			
	Term to maturity			
	1 year or less	**Over 1 year to 5 years**	**Over 5 years**	**Total**
Bonds	**$ 12,142**	**$ 25,989**	**$ 76,860**	**$ 114,991**
Mortgage loans [(1)]	**941**	**8,180**	**15,118**	**24,239**
Total	**$ 13,083**	**$ 34,169**	**$ 91,978**	**$ 139,230**

	2018			
	Term to maturity			
	1 year or less	Over 1 year to 5 years	Over 5 years	Total
Bonds	$ 11,642	$ 28,196	$ 84,822	$ 124,660
Mortgage loans [(1)]	969	7,928	16,093	24,990
Total	$ 12,611	$ 36,124	$ 100,915	$ 149,650

[(1)] Mortgage loans include equity release mortgages which do not have a fixed redemption date. The maturity profile of the portfolio has therefore been estimated based on previous redemption experience.

The above excludes the carrying value of impaired bonds and mortgage loans, as the ultimate timing of collectability is uncertain.

(c) Certain stocks where equity method earnings are computed are discussed below:

The majority of the Company's equity method investments relate to the Company's investment, held through Great-West Life, in an affiliated company, IGM, a member of the Power Financial group of companies, over which it exerts significant influence but does not control. The Company's proportionate share of IGM's earnings is recorded in net investment income in the Consolidated Statements of Earnings. The Company owns 9,200,505 shares of IGM at December 31, 2019 (9,200,548 at December 31, 2018) representing a 3.86% ownership interest (3.82% at December 31, 2018). The Company uses the equity method to account for its investment in IGM as it exercises significant influence. Significant influence arises from several factors, including, but not limited to the following: common control of the Company and IGM by Power Financial, shared representation on the Boards of Directors of the Company and IGM, interchange of managerial personnel, and certain shared strategic alliances, significant intercompany transactions and service agreements that influence the financial and operating policies of both companies.

	2019	2018
Carrying value, beginning of year	**$ 346**	$ 362
Equity method share of IGM net earnings	**25**	26
De-recognition of certain deferred sales commissions	**—**	(21)
Dividends received	**(21)**	(21)
Carrying value, end of year	**$ 350**	$ 346
Share of equity, end of year	**$ 171**	$ 174
Fair value, end of year	**$ 342**	$ 285

The Company and IGM both have a year-end date of December 31. The Company's year-end results are approved and reported before IGM publicly reports its financial result; therefore, the Company reports IGM's financial information by estimating the amount of earnings attributable to the Company, based on prior quarter information as well as other market expectations, to complete equity method accounting. The difference between actual and estimated results is reflected in the subsequent quarter and is not material to the Company's consolidated financial statements.

IGM's financial information as at December 31, 2019 can be obtained in its publicly available information.

At December 31, 2019, IGM owned 37,337,133 (39,737,388 at December 31, 2018) common shares of the Company.

(d) Included in portfolio investments are the following:

(i) Carrying amount of impaired investments

	2019	2018
Impaired amounts by classification		
Fair value through profit or loss	**$ 21**	$ 178
Available-for-sale	**16**	30
Loans and receivables	**29**	28
Total	**$ 66**	$ 236

The carrying amount of impaired investments includes $37 bonds and $29 mortgage loans at December 31, 2019 ($202 bonds, $24 mortgage loans and $10 stocks at December 31, 2018). The above carrying values for loans and receivables are net of allowances of $51 at December 31, 2019 and $20 at December 31, 2018.

(ii) The allowance for credit losses and changes in the allowance for credit losses related to investments classified as loans and receivables are as follows:

	2019			2018		
	Bonds	**Mortgage loans**	**Total**	Bonds	Mortgage loans	Total
Balance, beginning of year	**$ —**	**$ 20**	**$ 20**	$ —	$ 40	$ 40
Net provision for credit losses - in year	**—**	**50**	**50**	—	4	4
Write-offs, net of recoveries	**—**	**(19)**	**(19)**	—	(24)	(24)
Balance, end of year	**$ —**	**$ 51**	**$ 51**	$ —	$ 20	$ 20

The allowance for credit losses is supplemented by the provision for future credit losses included in insurance contract liabilities.

(e) Net investment income comprises the following:

	2019					
	Bonds	**Mortgage loans**	**Stocks**	**Investment properties**	**Other**	**Total**
Regular net investment income:						
Investment income earned	**$ 3,948**	**$ 906**	**$ 301**	**$ 374**	**$ 553**	**$ 6,082**
Net realized gains						
Available-for-sale	**57**	**—**	**19**	**—**	**—**	**76**
Other classifications [1]	**164**	**172**	**—**	**—**	**—**	**336**
Net allowances for credit losses on loans and receivables	**—**	**(50)**	**—**	**—**	**—**	**(50)**
Other income (expenses)	**—**	**—**	**—**	**(117)**	**(166)**	**(283)**
	4,169	**1,028**	**320**	**257**	**387**	**6,161**
Changes in fair value on fair value through profit or loss assets:						
Classified fair value through profit or loss	**45**	**—**	**—**	**—**	**—**	**45**
Designated fair value through profit or loss	**5,740**	**107**	**1,405**	**—**	**(388)**	**6,864**
Recorded at fair value through profit or loss	**—**	**—**	**—**	**37**	**—**	**37**
	5,785	**107**	**1,405**	**37**	**(388)**	**6,946**
Total	**$ 9,954**	**$ 1,135**	**$ 1,725**	**$ 294**	**$ (1)**	**$ 13,107**

[1] Includes realized gains from invested assets transferred as a result of the reinsurance transaction with Protective Life (note 3).

	2018					
	Bonds	Mortgage loans	Stocks	Investment properties	Other	Total
Regular net investment income:						
Investment income earned	$ 4,416	$ 916	$ 271	$ 340	$ 529	$ 6,472
Net realized gains (losses)						
Available-for-sale	(7)	—	3	—	—	(4)
Other classifications	15	81	—	—	21	117
Net allowances for credit losses on loans and receivables	—	(4)	—	—	—	(4)
Other income (expenses)	—	—	—	(95)	(128)	(223)
	4,424	993	274	245	422	6,358
Changes in fair value on fair value through profit or loss assets:						
Classified fair value through profit or loss	(13)	—	(1)	—	—	(14)
Designated fair value through profit or loss	(3,027)	(24)	(775)	—	201	(3,625)
Recorded at fair value through profit or loss	—	—	—	33	—	33
	(3,040)	(24)	(776)	33	201	(3,606)
Total	$ 1,384	$ 969	$ (502)	$ 278	$ 623	$ 2,752

Investment income earned comprises income from investments that are classified as available-for-sale, loans and receivables and investments classified or designated as fair value through profit or loss. Investment income from bonds and mortgages includes interest income and premium and discount amortization. Income from stocks includes dividends, distributions from private equity and equity income from the investment in IGM. Investment properties income includes rental income earned on investment properties, ground rent income earned on leased and sub-leased land, fee recoveries, lease cancellation income, and interest and other investment income earned on investment properties. Other income includes policyholder loan income, foreign exchange gains and losses, income earned from derivative financial instruments and other miscellaneous income.

(f) Transferred Financial Assets

The Company engages in securities lending to generate additional income. The Company's securities custodians are used as lending agents. Collateral, which exceeds the fair value of the loaned securities, is deposited by the borrower with the Company's lending agent and maintained by the lending agent until the underlying security has been returned. The fair value of the loaned securities is monitored on a daily basis by the lending agent who obtains or refunds additional collateral as the fair value of the loaned securities fluctuates. Included in the collateral deposited with the Company's lending agent is cash collateral of $398 as of December 31, 2019 ($84 at December 31, 2018). In addition, the securities lending agent indemnifies the Company against borrower risk, meaning that the lending agent agrees contractually to replace securities not returned due to a borrower default. As at December 31, 2019, the Company had loaned securities (which are included in invested assets) with a fair value of $7,023 ($8,847 at December 31, 2018).

8. Funds Held by Ceding Insurers

At December 31, 2019, the Company had amounts on deposit of $8,714 ($9,251 at December 31, 2018) for funds held by ceding insurers on the Consolidated Balance Sheets. Income and expenses arising from the agreements are included in net investment income in the Consolidated Statements of Earnings.

The details of the funds on deposit for certain agreements where the Company has credit risk are as follows:

(a) Carrying values and estimated fair values:

	2019		2018	
	Carrying value	**Fair value**	Carrying value	Fair value
Cash and cash equivalents	**$ 216**	**$ 216**	$ 230	$ 230
Bonds	**6,445**	**6,445**	6,925	6,925
Other assets	**80**	**80**	91	91
Total	**$ 6,741**	**$ 6,741**	$ 7,246	$ 7,246
Supporting:				
Reinsurance liabilities	**$ 6,537**	**$ 6,537**	$ 6,992	$ 6,992
Surplus	**204**	**204**	254	254
Total	**$ 6,741**	**$ 6,741**	$ 7,246	$ 7,246

(b) The following provides details of the carrying value of bonds included in the funds on deposit by issuer and industry sector:

	2019	2018
Bonds issued or guaranteed by:		
Treasuries	**$ 624**	$ 821
Government related	**1,275**	1,349
Non-agency securitized	**763**	745
Financials	**1,412**	1,607
Communications	**154**	154
Consumer products	**438**	448
Energy	**176**	206
Industrials	**234**	217
Technology	**72**	74
Transportation	**170**	168
Utilities	**1,127**	1,136
Total	**$ 6,445**	$ 6,925

(c) Asset quality

Bond Portfolio By Credit Rating

	2019	2018
AAA	**$ 601**	$ 609
AA	**2,670**	2,858
A	**2,264**	2,698
BBB	**822**	667
BB and lower	**88**	93
Total	**$ 6,445**	$ 6,925

9. Financial Instruments Risk Management

The Company has policies relating to the identification, measurement, management, monitoring and reporting of risks associated with financial instruments. The key risks related to financial instruments are credit risk, liquidity risk and market risk (currency, interest rate and equity). The Risk Committee of the Board of Directors is responsible for the oversight of the Company's key risks.

The following sections describe how the Company manages each of these risks.

(a) Credit Risk

Credit risk is the risk of loss resulting from an obligor's potential inability or unwillingness to fully meet its contractual obligations.

The following policies and procedures are in place to manage this risk:

- Investment policies aim to minimize undue concentration within issuers, connected companies, industries or individual geographies.
- Investment limits specify minimum and maximum limits for each asset class.
- Identification of credit risk through an internal credit risk rating system which includes a detailed assessment of an obligor's creditworthiness. Internal credit risk ratings cannot be higher than the highest rating provided by certain independent ratings companies.

- Portfolios are monitored continuously, and reviewed regularly with the Risk Committee and the Investment Committee of the Board of Directors.
- Credit risk associated with derivative instruments is evaluated quarterly based on conditions that existed at the balance sheet date, using practices that are at least as conservative as those recommended by regulators. The Company manages derivative credit risk by including derivative exposure to aggregate credit exposures measured against rating based obligor limits and through collateral arrangements where possible.
- 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.
- Investment guidelines also specify collateral requirements.

(i) Maximum Exposure to Credit Risk

The following summarizes the Company's maximum exposure to credit risk related to financial instruments. The maximum credit exposure is the carrying value of the asset net of any allowances for losses.

	2019	2018
Cash and cash equivalents	**$ 4,628**	$ 4,168
Bonds		
Fair value through profit or loss	**85,946**	91,901
Available-for-sale	**11,710**	13,239
Loans and receivables	**17,372**	19,722
Mortgage loans	**24,268**	25,014
Loans to policyholders	**8,601**	8,929
Funds held by ceding insurers (1)	**8,714**	9,251
Reinsurance assets	**20,707**	6,126
Interest due and accrued	**1,196**	1,388
Accounts receivable	**3,256**	2,502
Premiums in course of collection	**1,429**	1,312
Trading account assets	**1,092**	843
Finance leases receivable	**405**	410
Other assets (2)	**444**	672
Derivative assets	**451**	417
Total	**$ 190,219**	$ 185,894

(1) Includes $6,741 ($7,246 at December 31, 2018) of funds held by ceding insurers where the Company retains the credit risk of the assets supporting the liabilities ceded (note 8).

(2) Includes items such as current income taxes receivable and miscellaneous other assets of the Company (note 13).

Credit risk is also mitigated by entering into collateral agreements. The amount and type of collateral required depends on an assessment of the credit risk of the counterparty. Guidelines are implemented regarding the acceptability of types of collateral and the valuation parameters. Management monitors the value of the collateral, requests additional collateral when needed and performs an impairment valuation when applicable. The Company has $156 of collateral received from counterparties as at December 31, 2019 ($109 at December 31, 2018) relating to derivative assets.

9. Financial Instruments Risk Management (cont'd)

(ii) Concentration of Credit Risk

Concentrations of credit risk arise from exposures to a single obligor, a group of related obligors or groups of obligors that have similar credit risk characteristics and operate in the same geographic region or in similar industries. The characteristics are similar in that changes in economic or political environments may impact their ability to meet obligations as they come due.

The following provides details of the carrying value of bonds by issuer, industry sector and operating segment:

	2019			
	Canada	**United States**	**Europe**	**Total**
Bonds issued or guaranteed by:				
Treasuries	**$ 479**	**$ 72**	**$ 11,186**	**$ 11,737**
Government related	**19,307**	**1,795**	**8,814**	**29,916**
Agency securitized	**110**	**1,111**	**10**	**1,231**
Non-agency securitized	**2,159**	**4,664**	**1,738**	**8,561**
Financials	**4,119**	**3,011**	**6,346**	**13,476**
Communications	**888**	**617**	**1,120**	**2,625**
Consumer products	**3,761**	**2,738**	**3,504**	**10,003**
Energy	**2,173**	**1,071**	**906**	**4,150**
Industrials	**1,764**	**2,057**	**1,735**	**5,556**
Technology	**552**	**727**	**567**	**1,846**
Transportation	**2,897**	**546**	**1,197**	**4,640**
Utilities	**9,145**	**2,377**	**4,953**	**16,475**
Total long-term bonds	**47,354**	**20,786**	**42,076**	**110,216**
Short-term bonds	**2,680**	**720**	**1,412**	**4,812**
Total	**$ 50,034**	**$ 21,506**	**$ 43,488**	**$ 115,028**

	2018			
	Canada	United States	Europe	Total
Bonds issued or guaranteed by:				
Treasuries	$ 654	$ 103	$ 12,492	$ 13,249
Government related	17,947	3,605	8,499	30,051
Agency securitized	80	1,531	14	1,625
Non-agency securitized	2,191	5,701	1,830	9,722
Financials	3,986	4,666	6,068	14,720
Communications	788	1,357	1,211	3,356
Consumer products	3,660	4,073	3,412	11,145
Energy	1,805	2,241	868	4,914
Industrials	1,606	3,932	1,757	7,295
Technology	611	1,105	470	2,186
Transportation	2,622	968	1,131	4,721
Utilities	8,525	4,201	4,686	17,412
Total long-term bonds	44,475	33,483	42,438	120,396
Short-term bonds	2,790	74	1,602	4,466
Total	$ 47,265	$ 33,557	$ 44,040	$ 124,862

The following provides details of the carrying value of mortgage loans by operating segment:

	2019			
	Canada	**United States**	**Europe**	**Total**
Single family residential	**$ 2,069**	**$ —**	**$ —**	**$ 2,069**
Multi-family residential	**4,496**	**1,798**	**710**	**7,004**
Equity release	**374**	**—**	**940**	**1,314**
Commercial	**7,871**	**2,198**	**3,812**	**13,881**
Total	**$ 14,810**	**$ 3,996**	**$ 5,462**	**$ 24,268**

	2018			
	Canada	United States	Europe	Total
Single family residential	$ 2,104	$ —	$ —	$ 2,104
Multi-family residential	4,686	2,434	497	7,617
Equity release	26	—	787	813
Commercial	7,223	4,006	3,251	14,480
Total	$ 14,039	$ 6,440	$ 4,535	$ 25,014

(iii) Asset Quality

Bond Portfolio By Credit Rating

	2019	2018
AAA	**$ 22,083**	$ 23,558
AA	**33,272**	33,793
A	**37,233**	41,008
BBB	**21,922**	25,553
BB and lower	**518**	950
Total	**$ 115,028**	$ 124,862

Derivative Portfolio By Credit Rating

	2019	2018
Over-the-counter contracts (counterparty ratings):		
AA	**$ 271**	$ 252
A	**146**	110
BBB	**34**	47
Exchange-traded	**—**	8
Total	**$ 451**	$ 417

(iv) Loans Past Due, But Not Impaired

Loans that are past due but not considered impaired are loans for which scheduled payments have not been received, but management has reasonable assurance of collection of the full amount of principal and interest due. The following provides carrying values of the loans past due, but not impaired:

	2019	2018
Less than 30 days	**$ 28**	$ 1
30 - 90 days	**1**	2
Greater than 90 days	**4**	—
Total	**$ 33**	$ 3

(v) The following outlines the future asset credit losses provided for in insurance contract liabilities. These amounts are in addition to the allowance for asset losses included with assets:

	2019	2018
Participating	**$ 1,175**	$ 885
Non-participating	**1,400**	1,710
Total	**$ 2,575**	$ 2,595

(b) Liquidity Risk

Liquidity risk is the risk that the Company will not be able to meet all cash outflow obligations as they come due. The following policies and procedures are in place to manage this risk:

- The Company closely manages operating liquidity through cash flow matching of assets and liabilities and forecasting earned and required yields, to ensure consistency between policyholder requirements and the yield of assets. 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.
- Management closely monitors the solvency and capital positions of its principal subsidiaries opposite liquidity requirements at the holding company. Additional liquidity is available through established lines of credit or via capital market transactions. The Company maintains $350 of liquidity at the Lifeco level through committed lines of credit with Canadian chartered banks. As well, the Company maintains a $150 liquidity facility at Great-West Life, a U.S. $500 revolving credit agreement with a syndicate of banks for use by Putnam, and a U.S. $50 line of credit at GWL&A.

In the normal course of business the Company enters into contracts that give rise to commitments of future minimum payments that impact short-term and long-term liquidity. The following summarizes the principal repayment schedule for certain of the Company's financial liabilities.

	Payments due by period						
	Total	1 year	2 years	3 years	4 years	5 years	over 5 years
Debentures and other debt instruments	$ 5,454	$ 500	$ —	$ —	$ 730	$ —	$ 4,224
Capital trust securities [1]	150	—	—	—	—	—	150
Purchase obligations	316	125	57	29	13	8	84
Pension contributions	280	280	—	—	—	—	—
Total	**$ 6,200**	**$ 905**	**$ 57**	**$ 29**	**$ 743**	**$ 8**	**$ 4,458**

[1] Payments due have not been reduced to reflect that the Company held capital trust securities of $37 principal amount ($53 carrying value).

(c) Market Risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate as a result of changes in market factors which include three types: currency risk, interest rate (including related inflation) risk and equity risk.

Caution Related to Risk Sensitivities

These consolidated financial statements include estimates of sensitivities and risk exposure measures for certain risks, such as the sensitivity due to specific changes in interest rate levels projected and market prices as at the valuation date. Actual results can differ significantly from these estimates for a variety of reasons including:

- Assessment of the circumstances that led to the scenario may lead to changes in (re)investment approaches and interest rate scenarios considered,
- Changes in actuarial, investment return and future investment activity assumptions,
- Actual experience differing from the assumptions,
- Changes in business mix, effective income tax rates and other market factors,
- Interactions among these factors and assumptions when more than one changes, and
- The general limitations of the Company's internal models.

For these reasons, the sensitivities should only be viewed as directional estimates of the underlying sensitivities for the respective factors based on the assumptions outlined above. Given the nature of these calculations, the Company cannot provide assurance that the actual impact on net earnings attributed to shareholders will be as indicated.

(i) Currency Risk

Currency risk relates to the Company operating and holding financial instruments in different currencies. For the assets backing insurance and investment contract liabilities that are not matched by currency, changes in foreign exchange rates can expose the Company to the risk of foreign exchange losses not offset by liability decreases. The Company has net investments in foreign operations. The Company's debt obligations are denominated in Canadian dollars, euros, and U.S. dollars. 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. Strengthening or weakening of the Canadian dollar spot rate compared to the U.S. dollar, British pound and euro spot rates impacts the Company's total equity. Correspondingly, the Company's book value per share and capital ratios monitored by rating agencies are also impacted.

The following policies and procedures are in place to mitigate the Company's exposure to currency risk:

- The Company uses financial measures such as constant currency calculations to monitor the effect of currency translation fluctuations.
- Investments are normally made in the same currency as the liabilities supported by those investments. Segmented Investment Guidelines include maximum tolerances for unhedged currency mismatch exposures.
- For assets backing liabilities not matched by currency, the Company would normally convert the assets back to the currency of the liability using foreign exchange contracts.
- A 10% weakening of the Canadian dollar against foreign currencies would be expected to increase non-participating insurance and investment contract liabilities and their supporting assets by approximately the same amount resulting in an immaterial change to net earnings. A 10% strengthening of the Canadian dollar against foreign currencies would be expected to decrease non-participating insurance and investment contract liabilities and their supporting assets by approximately the same amount resulting in an immaterial change in net earnings.

(ii) Interest Rate Risk

Interest rate risk exists if asset and liability cash flows are not closely matched and interest rates change causing a difference in value between the asset and liability. The following policies and procedures are in place to mitigate the Company's exposure to interest rate risk:

- The Company utilizes a formal process for managing the matching of assets and liabilities. This involves grouping general fund assets and liabilities into segments. Assets in each segment are managed in relation to the liabilities in the segment.
- Interest rate risk is managed by investing in assets that are suitable for the products sold.
- Where these products have benefit or expense payments that are dependent on inflation (inflation-indexed annuities, pensions and disability claims) the Company generally invests in real return instruments to hedge its real dollar liability cash flows. Some protection against changes in the inflation index is 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.
- For products with fixed and highly predictable benefit payments, investments are made in fixed income assets or real estate whose cash flows closely match the liability product cash flows. Where assets are not available to match certain period cash flows, such as long-tail cash flows, a portion of these are invested in equities and the rest are duration matched. Hedging instruments are employed where necessary when there is a lack of suitable permanent investments to minimize loss exposure to interest rate changes. To the extent these cash flows are matched, protection against interest rate change is achieved and any change in the fair value of the assets will be offset by a similar change in the fair value of the liabilities.
- For products with less predictable timing of benefit payments, investments are made in fixed income assets with cash flows of a shorter duration than the anticipated timing of benefit payments, or equities as described below.
- The risk associated with the mismatch in portfolio duration and cash flow, asset prepayment exposure and the pace of asset acquisition are quantified and reviewed regularly.

Projected cash flows from the current assets and liabilities are used in the Canadian Asset Liability Method to determine insurance contract liabilities. Valuation assumptions have been made regarding rates of returns on supporting assets, fixed income, equity and inflation. The valuation assumptions use best estimates of future reinvestment rates and inflation assumptions with an assumed correlation together with margins for adverse deviation set in accordance with professional standards. These margins are necessary to provide for possibilities of misestimation 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.

Projected cash flows from fixed income assets used in actuarial calculations are reduced to provide for potential asset default losses. The net effective yield rate reduction averaged 0.10% in 2019 (0.10% in 2018). The calculation for future credit losses on assets is based on the credit quality of the underlying asset portfolio.

Testing under a number of interest rate scenarios (including increasing, decreasing and fluctuating rates) is done to assess 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:

- At December 31, 2019 and December 31, 2018, the effect of an immediate 1% parallel increase in the yield curve on the prescribed scenarios results in interest rate changes to assets and liabilities that will offset each other with no impact to net earnings.
- At December 31, 2019 and December 31, 2018, the effect of an immediate 1% parallel decrease in the yield curve on the prescribed scenarios results 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 following provides information on the effect of an immediate 1% increase or 1% decrease in the interest rates at both the low and high end of the range of interest rates recognized in the provisions:

	2019		2018	
	1% increase	**1% decrease**	1% increase	1% decrease
Change in interest rates				
Increase (decrease) in non-participating insurance and investment contract liabilities	**$ (230)**	**$ 811**	$ (165)	$ 639
Increase (decrease) in net earnings	**$ 175**	**$ (619)**	$ 115	$ (465)

(iii) Equity Risk

Equity risk is the uncertainty associated with the valuation of assets and liabilities arising from changes in equity markets and other pricing risk. To mitigate pricing risk, the Company has investment policy guidelines in place that provide for prudent investment in equity markets within clearly defined limits. The risks associated with segregated fund guarantees have been mitigated through a hedging program for lifetime Guaranteed Minimum Withdrawal Benefit guarantees using equity futures, currency forwards, and interest rate derivatives. For policies with segregated fund guarantees, the Company generally determines insurance contract liabilities at a conditional tail expectation of 75 (CTE75) level.

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. The following provides information on the expected impacts of a 10% increase or 10% decrease in equity values:

	2019		2018	
	10% increase	**10% decrease**	10% increase	10% decrease
Change in equity values				
Increase (decrease) in non-participating insurance and investment contract liabilities	**$ (107)**	**$ 162**	$ (87)	$ 338
Increase (decrease) in net earnings	**$ 87**	**$ (129)**	$ 73	$ (266)

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. The following provides information on the expected impacts of a 1% increase or 1% decrease in the best estimate assumptions:

	2019		2018	
	1% increase	**1% decrease**	1% increase	1% decrease
Change in best estimate return assumptions for equities				
Increase (decrease) in non-participating insurance contract liabilities	**$ (645)**	**$ 752**	$ (591)	$ 680
Increase (decrease) in net earnings	**$ 509**	**$ (585)**	$ 476	$ (539)

(d) Enforceable Master Netting Arrangements or Similar Agreements

The Company enters into International Swaps and Derivative Association's (ISDA's) master agreements for transacting over-the-counter derivatives. The Company receives and pledges collateral according to the related ISDA's Credit Support Annexes. The ISDA's master agreements do not meet the criteria for offsetting on the Consolidated Balance Sheets because they create a right of set-off that is enforceable only in the event of default, insolvency, or bankruptcy.

For exchange-traded derivatives subject to derivative clearing agreements with the exchanges and clearinghouses, there is no provision for set-off at default. Initial margin is excluded from the table within this disclosure as it would become part of a pooled settlement process.

The Company's reverse repurchase agreements are also subject to right of set-off in the event of default. These transactions and agreements include master netting arrangements which provide for the netting of payment obligations between the Company and its counterparties in the event of default.

The table sets out the potential effect on the Company's Consolidated Balance Sheets on financial instruments that have been shown in a gross position where right of set-off exists under certain circumstances that do not qualify for netting on the Consolidated Balance Sheets.

	2019			
		Related amounts not set-off in the Balance Sheet		
	Gross amount of financial instruments presented in the Balance Sheet	**Offsetting counterparty position [1]**	**Financial collateral received/ pledged [2]**	**Net exposure**
Financial instruments - assets				
Derivative financial instruments	**$ 451**	**$ (309)**	**$ (107)**	**$ 35**
Reverse repurchase agreements [3]	**4**	**—**	**(4)**	**—**
Total financial instruments - assets	**$ 455**	**$ (309)**	**$ (111)**	**$ 35**
Financial instruments - liabilities				
Derivative financial instruments	**$ 1,381**	**$ (309)**	**$ (556)**	**$ 516**
Total financial instruments - liabilities	**$ 1,381**	**$ (309)**	**$ (556)**	**$ 516**

	2018			
		Related amounts not set-off in the Balance Sheet		
	Gross amount of financial instruments presented in the Balance Sheet	Offsetting counterparty position [1]	Financial collateral received/ pledged [2]	Net exposure
Financial instruments - assets				
Derivative financial instruments	$ 417	$ (276)	$ (101)	$ 40
Reverse repurchase agreements [3]	15	—	(15)	—
Total financial instruments - assets	$ 432	$ (276)	$ (116)	$ 40
Financial instruments - liabilities				
Derivative financial instruments	$ 1,562	$ (276)	$ (599)	$ 687
Total financial instruments - liabilities	$ 1,562	$ (276)	$ (599)	$ 687

(1) Includes counterparty amounts recognized on the Consolidated Balance Sheets where the Company has a potential offsetting position (as described above) but does not meet the criteria for offsetting on the balance sheet, excluding collateral.

(2) Financial collateral presented above excludes overcollateralization and, for exchange-traded derivatives, initial margin. Financial collateral received on reverse repurchase agreements is held by a third party. Total financial collateral, including initial margin and overcollateralization, received on derivative assets was $156 ($113 at December 31, 2018), received on reverse repurchase agreements was $4 ($15 at December 31, 2018), and pledged on derivative liabilities was $634 ($691 at December 31, 2018).

(3) Assets related to reverse repurchase agreements are included in bonds, on the Consolidated Balance Sheets.

10. Fair Value Measurement

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

Level 1: Fair value measurements utilize observable, quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access. Assets and liabilities utilizing Level 1 inputs include actively exchange-traded equity securities, exchange-traded futures, and mutual and segregated funds which have available prices in an active market with no redemption restrictions.

Level 2: Fair value measurements utilize inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. Level 2 inputs include quoted prices for similar assets and liabilities in active markets, and inputs other than quoted prices that are observable for the asset or liability, such as interest rates and yield curves that are observable at commonly quoted intervals. The fair values for some Level 2 securities were obtained from a pricing service. The pricing service inputs include, but are not limited to, benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, offers and reference data. Level 2 assets and liabilities include those priced using a matrix which is based on credit quality and average life, government and agency securities, restricted stock, some private bonds and investment funds, most investment-grade and high-yield corporate bonds, most asset-backed securities, most over-the-counter derivatives, and mortgage loans. Investment contracts that are measured at fair value through profit or loss are mostly included in the Level 2 category.

Level 3: Fair value measurements 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. The values of the majority of Level 3 securities were obtained from single broker quotes, internal pricing models, or external appraisers. Assets and liabilities utilizing Level 3 inputs generally include certain bonds, certain asset-backed securities, some private equities, investments in mutual and segregated funds where there are redemption restrictions, certain over-the-counter derivatives, investment properties and equity release mortgages.

10. Fair Value Measurement (cont'd)

The following presents the Company's assets and liabilities measured at fair value on a recurring basis by hierarchy level:

	2019			
Assets measured at fair value	**Level 1**	**Level 2**	**Level 3**	**Total**
Cash and cash equivalents	$ 4,628	$ —	$ —	$ 4,628
Financial assets at fair value through profit or loss				
Bonds	—	85,879	67	85,946
Mortgage loans	—	—	1,314	1,314
Stocks	8,956	118	678	9,752
Total financial assets at fair value through profit or loss	8,956	85,997	2,059	97,012
Available-for-sale financial assets				
Bonds	—	11,710	—	11,710
Stocks	12	—	4	16
Total available-for-sale financial assets	12	11,710	4	11,726
Investment properties	—	—	5,887	5,887
Funds held by ceding insurers	216	6,445	—	6,661
Derivatives (1)	—	451	—	451
Reinsurance assets	—	127	—	127
Other assets:				
Trading account assets	332	760	—	1,092
Other (2)	43	355	—	398
Total assets measured at fair value	$ 14,187	$ 105,845	$ 7,950	$ 127,982
Liabilities measured at fair value				
Derivatives (3)	$ 3	$ 1,378	$ —	$ 1,381
Investment contract liabilities	—	1,656	—	1,656
Other liabilities	43	355	—	398
Total liabilities measured at fair value	$ 46	$ 3,389	$ —	$ 3,435

(1) Excludes collateral received from counterparties of $155.
(2) Includes collateral received under securities lending arrangements.
(3) Excludes collateral pledged to counterparties of $580.

There were no transfers of the Company's assets and liabilities between Level 1 and Level 2 in the year.

10. Fair Value Measurement (cont'd)

	2018			
Assets measured at fair value	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	$ 4,168	$ —	$ —	$ 4,168
Financial assets at fair value through profit or loss				
Bonds	—	91,834	67	91,901
Mortgage loans	—	—	813	813
Stocks	8,254	—	404	8,658
Total financial assets at fair value through profit or loss	8,254	91,834	1,284	101,372
Available-for-sale financial assets				
Bonds	—	13,239	—	13,239
Stocks	9	—	2	11
Total available-for-sale financial assets	9	13,239	2	13,250
Investment properties	—	—	5,218	5,218
Funds held by ceding insurers	230	6,925	—	7,155
Derivatives [(1)]	8	409	—	417
Assets held for sale	134	731	29	894
Other assets:				
Trading account assets	597	246	—	843
Other [(2)]	—	84	—	84
Total assets measured at fair value	$ 13,400	$ 113,468	$ 6,533	$ 133,401
Liabilities measured at fair value				
Derivatives [(3)]	$ 2	$ 1,560	$ —	$ 1,562
Investment contract liabilities	—	1,711	—	1,711
Investment contract liabilities held for sale	—	1	26	27
Other liabilities	—	84	—	84
Total liabilities measured at fair value	$ 2	$ 3,356	$ 26	$ 3,384

(1) Excludes collateral received from counterparties of $109.
(2) Includes collateral received under securities lending arrangements.
(3) Excludes collateral pledged to counterparties of $612.

There were no transfers of the Company's assets and liabilities between Level 1 and Level 2 in the year.

10. Fair Value Measurement (cont'd)

The following presents additional information about assets and liabilities measured at fair value on a recurring basis which the Company classifies as Level 3 in the fair value hierarchy:

	2019									
	Fair value through profit or loss bonds	Fair value through profit or loss mortgage loans	Fair value through profit or loss stocks [3]	Available for-sale stocks	Investment properties	Assets held for sale	Total Level 3 assets	Investment contract liabilities	Liabilities held for sale	Total Level 3 liabilities
Balance, beginning of year	$ 67	$ 813	$ 404	$ 2	$ 5,218	$ 29	$ 6,533	$ —	$ 26	$ 26
Change in accounting policy (note 2)	—	—	—	—	29	—	29	—	—	—
Revised balance, beginning of year	67	813	404	2	5,247	29	6,562	—	26	26
Total gains (losses)										
Included in net earnings	4	109	40	—	37	(2)	188	—	—	—
Included in other comprehensive income [1]	(4)	(5)	—	—	(36)	(1)	(46)	—	—	—
Purchases	—	—	299	2	644	—	945	—	—	—
Issues	—	469	—	—	—	—	469	—	—	—
Sales	—	—	(65)	—	(5)	(26)	(96)	—	—	—
Settlements	—	(72)	—	—	—	—	(72)	—	—	—
Other	—	—	—	—	—	—	—	—	(26)	(26)
Transfers into Level 3 [2]	—	—	—	—	—	—	—	—	—	—
Transfers out of Level 3 [2]	—	—	—	—	—	—	—	—	—	—
Transferred to held for sale	—	—	—	—	—	—	—	—	—	—
Balance, end of year	$ 67	$ 1,314	$ 678	$ 4	$ 5,887	$ —	$ 7,950	$ —	$ —	$ —
Total gains (losses) for the year included in net investment income	$ 4	$ 109	$ 40	$ —	$ 37	$ (2)	$ 188	$ —	$ —	$ —
Change in unrealized gains (losses) for the year included in earnings for assets held at December 31, 2019	$ 4	$ 105	$ 38	$ —	$ 37	$ —	$ 184	$ —	$ —	$ —

(1) Amount of other comprehensive income for fair value through profit or loss bonds, mortgage loans and investment properties represents the unrealized gains (losses) on foreign exchange.

(2) Transfers into Level 3 are due primarily to decreased observability of inputs in valuation methodologies. Transfers out of Level 3 are due primarily to increased observability of inputs in valuation methodologies as evidenced by corroboration of market prices with multiple pricing vendors or the lifting of redemption restrictions on investments in mutual and segregated funds.

(3) Includes investments in mutual and segregated funds where there are redemption restrictions. The fair value is based on observable, quoted prices.

10. Fair Value Measurement (cont'd)

	2018									
	Fair value through profit or loss bonds	Fair value through profit or loss mortgage loans	Fair value through profit or loss stocks [3]	Available-for-sale stocks	Investment properties	Assets held for sale	Total Level 3 assets	Investment contract liabilities	Liabilities held for sale	Total Level 3 liabilities
Balance, beginning of year	$ 65	$ —	$ 243	$ 1	$ 4,851	$ —	$ 5,160	$ 22	$ —	$ 22
Total gains (losses)										
Included in net earnings	—	(24)	20	—	33	—	29	—	—	—
Included in other comprehensive income [1]	2	20	—	—	70	—	92	—	—	—
Business acquisitions	—	799	—	—	—	—	799	—	—	—
Purchases	—	—	203	1	356	—	560	—	—	—
Issues	—	76	—	—	—	—	76	—	—	—
Sales	—	—	(62)	—	(63)	—	(125)	—	—	—
Settlements	—	(58)	—	—	—	—	(58)	—	—	—
Other	—	—	—	—	—	—	—	4	—	4
Transfers into Level 3 [2]	—	—	—	—	—	—	—	—	—	—
Transfers out of Level 3 [2]	—	—	—	—	—	—	—	—	—	—
Transferred to held for sale	—	—	—	—	(29)	29	—	(26)	26	—
Balance, end of year	$ 67	$ 813	$ 404	$ 2	$ 5,218	$ 29	$ 6,533	$ —	$ 26	$ 26
Total gains (losses) for the year included in net investment income	$ —	$ (24)	$ 20	$ —	$ 33	$ —	$ 29	$ —	$ —	$ —
Change in unrealized gains (losses) for the year included in earnings for assets held at December 31, 2018	$ —	$ (24)	$ 19	$ —	$ 26	$ —	$ 21	$ —	$ —	$ —

(1) Amount of other comprehensive income for fair value through profit or loss bonds, mortgage loans and investment properties represents the unrealized gains (losses) on foreign exchange.

(2) Transfers into Level 3 are due primarily to decreased observability of inputs in valuation methodologies. Transfers out of Level 3 are due primarily to increased observability of inputs in valuation methodologies as evidenced by corroboration of market prices with multiple pricing vendors or the lifting of redemption restrictions on investments in mutual and segregated funds.

(3) Includes investments in mutual and segregated funds where there are redemption restrictions. The fair value is based on observable, quoted prices.

10. Fair Value Measurement (cont'd)

The following sets out information about significant unobservable inputs used at year-end in measuring assets and liabilities categorized as Level 3 in the fair value hierarchy:

Type of asset	Valuation approach	Significant unobservable input	Input value	Inter-relationship between key unobservable inputs and fair value measurement
Investment properties	Investment property valuations are generally determined using property valuation models based on expected capitalization rates and models that discount expected future net cash flows. The determination of the fair value of investment property requires the use of estimates such as future cash flows (such as future leasing assumptions, rental rates, capital and operating expenditures) and discount, reversionary and overall capitalization rates applicable to the asset based on current market rates.	Discount rate Reversionary rate Vacancy rate	Range of 2.6% - 10.3% Range of 4.3% - 6.8% Weighted average of 2.4%	A decrease in the discount rate would result in an increase in fair value. An increase in the discount rate would result in a decrease in fair value. A decrease in the reversionary rate would result in an increase in fair value. An increase in the reversionary rate would result in a decrease in fair value. A decrease in the expected vacancy rate would generally result in an increase in fair value. An increase in the expected vacancy rate would generally result in a decrease in fair value.
Mortgage loans - equity release mortgages (fair value through profit or loss)	The valuation approach for equity release mortgages is to use an internal valuation model to determine the projected asset cash flows, including the stochastically calculated cost of the no negative-equity guarantee for each individual loan, to aggregate these across all loans and to discount those cash flows back to the valuation date. The projection is done monthly until expected redemption of the loan either voluntarily or on the death/ entering into long term care of the loanholders.	Discount rate	Range of 3.6% - 4.8%	A decrease in the discount rate would result in an increase in fair value. An increase in the discount rate would result in a decrease in fair value.

The following presents the Company's assets and liabilities disclosed at fair value on a recurring basis by hierarchy level:

	2019				
	Level 1	**Level 2**	**Level 3**	**Other assets/ liabilities not held at fair value**	**Total**
Assets disclosed at fair value					
Loans and receivables financial assets					
Bonds	$ —	$ 19,281	$ 63	$ —	$ 19,344
Mortgage loans	—	23,832	—	—	23,832
Loans to policyholders	—	8,601	—	—	8,601
Total loans and receivables financial assets	—	51,714	63	—	51,777
Available-for-sale financial assets					
Stocks [(1)]	—	—	—	189	189
Other stocks [(2)]	342	—	—	68	410
Funds held by ceding insurers	—	—	—	80	80
Total assets disclosed at fair value	$ 342	$ 51,714	$ 63	$ 337	$ 52,456
Liabilities disclosed at fair value					
Debentures and other debt instruments	$ 429	$ 6,450	$ —	$ —	$ 6,879
Total liabilities disclosed at fair value	$ 429	$ 6,450	$ —	$ —	$ 6,879

(1) Fair value of certain stocks available for sale cannot be reliably measured, therefore, these investments are recorded at cost.

(2) Other stocks include the Company's investments in an affiliated company, IGM, a member of the Power Financial group of companies.

	2018				
	Level 1	Level 2	Level 3	Other assets/ liabilities not held at fair value	Total
Assets disclosed at fair value					
Loans and receivables financial assets					
Bonds	$ —	$ 20,524	$ 95	$ —	$ 20,619
Mortgage loans	—	24,598	—	—	24,598
Loans to policyholders	—	8,929	—	—	8,929
Total loans and receivables financial assets	—	54,051	95	—	54,146
Available-for-sale financial assets					
Stocks [1]	—	—	—	267	267
Other stocks [2]	285	—	—	8	293
Assets held for sale	—	3	—	—	3
Funds held by ceding insurers	—	—	—	91	91
Total assets disclosed at fair value	$ 285	$ 54,054	$ 95	$ 366	$ 54,800
Liabilities disclosed at fair value					
Debentures and other debt instruments	$ 475	$ 6,450	$ —	$ —	$ 6,925
Total liabilities disclosed at fair value	$ 475	$ 6,450	$ —	$ —	$ 6,925

(1) Fair value of certain stocks available for sale cannot be reliably measured, therefore, these investments are recorded at cost.

(2) Other stocks include the Company's investments in an affiliated company, IGM, a member of the Power Financial group of companies.

11. Goodwill and Intangible Assets

(a) Goodwill

(i) The carrying value and changes in the carrying value of goodwill are as follows:

	2019	2018
Cost		
Balance, beginning of year	**$ 7,771**	$ 7,312
Business acquisitions	**33**	331
Invesco purchase price allocation to finite life intangible assets	**(6)**	—
Changes in foreign exchange rates	**(105)**	128
Balance, end of year	**$ 7,693**	$ 7,771
Accumulated impairment		
Balance, beginning of year	**$ (1,223)**	$ (1,133)
Impairment [1]	**(19)**	—
Changes in foreign exchange rates	**54**	(90)
Balance, end of year	**$ (1,188)**	$ (1,223)
Net carrying amount	**$ 6,505**	$ 6,548

[1] During 2019, $19 of the goodwill in the Financial Services cash generating unit grouping was impaired as a result of the reinsurance transaction with Protective Life (note 3).

(ii) Within each of the three operating segments, goodwill has been assigned to cash generating unit groupings, representing the lowest level in which goodwill is monitored for internal reporting purposes. Lifeco does not allocate insignificant amounts of goodwill and indefinite life intangible assets across multiple cash generating unit groupings. Goodwill is tested for impairment by comparing the carrying value of each cash generating unit grouping to which goodwill has been assigned to its recoverable amount as follows:

	2019	2018
Canada		
Group Customer	**$ 1,481**	$ 1,470
Individual Customer	**2,562**	2,545
Europe		
Insurance and Annuities	**2,282**	2,325
United States		
Financial Services [1]	**180**	208
Total	**$ 6,505**	$ 6,548

[1] During 2019, $19 of the goodwill in the Financial Services cash generating unit grouping was impaired as a result of the reinsurance transaction with Protective Life (note 3).

(b) Intangible Assets

Intangible assets of $3,879 ($3,976 as at December 31, 2018) include indefinite life and finite life intangible assets. The carrying value and changes in the carrying value of these intangible assets are as follows:

(i) Indefinite life intangible assets:

	2019			
	Brands and trademarks	**Customer contract related**	**Shareholders' portion of acquired future participating account profit**	**Total**
Cost				
Balance, beginning of year	**$ 1,006**	**$ 2,665**	**$ 354**	**$ 4,025**
Changes in foreign exchange rates	**(34)**	**(103)**	**—**	**(137)**
Balance, end of year	**$ 972**	**$ 2,562**	**$ 354**	**$ 3,888**
Accumulated impairment				
Balance, beginning of year	**$ (140)**	**$ (1,101)**	**$ —**	**$ (1,241)**
Changes in foreign exchange rates	**7**	**50**	**—**	**57**
Balance, end of year	**$ (133)**	**$ (1,051)**	**$ —**	**$ (1,184)**
Net carrying amount	**$ 839**	**$ 1,511**	**$ 354**	**$ 2,704**

	2018			
	Brands and trademarks	Customer contract related	Shareholders' portion of acquired future participating account profit	Total
Cost				
Balance, beginning of year	$ 964	$ 2,495	$ 354	$ 3,813
Changes in foreign exchange rates	42	170	—	212
Balance, end of year	$ 1,006	$ 2,665	$ 354	$ 4,025
Accumulated impairment				
Balance, beginning of year	$ (132)	$ (1,019)	$ —	$ (1,151)
Changes in foreign exchange rates	(8)	(82)	—	(90)
Balance, end of year	$ (140)	$ (1,101)	$ —	$ (1,241)
Net carrying amount	$ 866	$ 1,564	$ 354	$ 2,784

(ii) Indefinite life intangible assets have been assigned to the cash generating unit groupings as follows:

	2019	2018
Canada		
Group Customer	**$ 354**	$ 354
Individual Customer	**619**	619
Europe		
Insurance and Annuities	**223**	233
United States		
Asset Management	**1,508**	1,578
Total	**$ 2,704**	$ 2,784

(iii) Finite life intangible assets:

	2019			
	Customer contract related	**Distribution channels**	**Technology/ Software**	**Total**
Amortization period range	**7 - 30 years**	**30 years**	**3 - 10 years**	
Amortization method	**Straight-line**	**Straight-line**	**Straight-line**	
Cost				
Balance, beginning of year	**$ 1,047**	**$ 111**	**$ 1,717**	**$ 2,875**
Additions	**11**	**—**	**247**	**258**
Changes in foreign exchange rates	**(27)**	**(3)**	**(54)**	**(84)**
Disposals	**—**	**—**	**(25)**	**(25)**
Balance, end of year	**$ 1,031**	**$ 108**	**$ 1,885**	**$ 3,024**
Accumulated amortization and impairment				
Balance, beginning of year	**$ (586)**	**$ (57)**	**$ (1,040)**	**$ (1,683)**
Changes in foreign exchange rates	**11**	**1**	**41**	**53**
Disposals	**—**	**—**	**5**	**5**
Amortization	**(55)**	**(4)**	**(165)**	**(224)**
Balance, end of year	**$ (630)**	**$ (60)**	**$ (1,159)**	**$ (1,849)**
Net carrying amount	**$ 401**	**$ 48**	**$ 726**	**$ 1,175**

	2018			
	Customer contract related	Distribution channels	Technology/ Software	Total
Amortization period range	7 - 30 years	30 years	3 - 10 years	
Amortization method	Straight-line	Straight-line	Straight-line	
Cost				
Balance, beginning of year	$ 975	$ 108	$ 1,390	$ 2,473
Additions	34	—	270	304
Changes in foreign exchange rates	38	3	70	111
Disposals	—	—	(13)	(13)
Balance, end of year	$ 1,047	$ 111	$ 1,717	$ 2,875
Accumulated amortization and impairment				
Balance, beginning of year	$ (505)	$ (52)	$ (846)	$ (1,403)
Changes in foreign exchange rates	(24)	(1)	(49)	(74)
Disposals	—	—	6	6
Amortization	(57)	(4)	(151)	(212)
Balance, end of year	$ (586)	$ (57)	$ (1,040)	$ (1,683)
Net carrying amount	$ 461	$ 54	$ 677	$ 1,192

The weighted average remaining amortization period of the customer contract related and distribution channels are 13 and 14 years respectively (13 and 15 years respectively at December 31, 2018).

(c) Recoverable Amount

For the purposes of annual impairment testing, the Company allocates goodwill and indefinite life intangible assets to cash generating unit groupings. Any potential impairment of goodwill or indefinite life intangible assets is identified by comparing the recoverable amount of a cash generating unit grouping to its carrying value. Recoverable amount is based on fair value less cost of disposal.

Fair value is initially assessed with reference to valuation multiples of comparable publicly-traded financial institutions and precedent business acquisitions transactions. These valuation multiples may include price-to-earnings or price-to-book measures for life insurers and asset managers. This assessment may give regard to a variety of relevant considerations, including expected growth, risk and capital market conditions, among other factors. The valuation multiples used in assessing fair value represent Level 2 inputs.

In the fourth quarter of 2019, the Company conducted its annual impairment testing of goodwill and indefinite life 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 significant impairment.

Any reasonable changes in assumptions and estimates used in determining recoverable amounts of cash generating unit groupings is unlikely to cause carrying values to exceed recoverable amounts.

12. Owner Occupied Properties and Fixed Assets

The carrying value of owner occupied properties and the changes in the carrying value of owner occupied properties are as follows:

	2019	2018
Carrying value, beginning of year	**$ 835**	$ 789
Less: accumulated depreciation/impairments	**(104)**	(83)
Net carrying value, beginning of year	**731**	706
Additions	**34**	28
Disposals	**(10)**	—
Impairment recovery (charge)	**2**	(9)
Depreciation	**(13)**	(12)
Foreign exchange	**(17)**	18
Net carrying value, end of year	**$ 727**	$ 731

The net carrying value of fixed assets is $455 at December 31, 2019 ($448 at December 31, 2018).

The following provides details of the net carrying value of owner occupied properties and fixed assets by operating segment:

	2019	2018
Canada	**$ 650**	$ 612
United States	**334**	357
Europe	**198**	210
Total	**$ 1,182**	$ 1,179

There are no restrictions on the title of the owner occupied properties and fixed assets, nor are they pledged as security for debt.

13. Other Assets

	2019	2018
Deferred acquisition costs	$ **595**	$ 597
Right-of-use assets	**466**	—
Trading account assets [(1)]	**1,092**	843
Finance leases receivable	**405**	410
Defined benefit pension plan assets (note 24)	**231**	148
Prepaid expenses	**113**	115
Miscellaneous other assets	**208**	454
Total	$ **3,110**	$ 2,567

(1) Includes bonds of $726 and stocks of $366 at December 31, 2019 (bonds of $215 and stocks of $628 at December 31, 2018).

Total other assets of $1,443 ($1,441 at December 31, 2018) are expected to be realized within 12 months from the reporting date. This amount excludes deferred acquisition costs, the changes in which are noted below.

Deferred acquisition costs

	2019	2018
Balance, beginning of year	$ **597**	$ 633
Change in accounting policy	**—**	(59)
Revised balance, beginning of year	**597**	574
Additions	**118**	86
Amortization	**(51)**	(46)
Changes in foreign exchange rates	**(32)**	18
Disposals	**(36)**	(35)
Write-off	**(1)**	—
Balance, end of year	$ **595**	$ 597

Right-of-use assets

	2019		
	Property	**Equipment**	**Total**
Opening balance, January 1, 2019 (note 2)	$ **454**	$ **6**	$ **460**
Additions	**113**	**1**	**114**
Modifications	**(21)**	**—**	**(21)**
Changes in foreign exchange rates	**(16)**	**—**	**(16)**
Cost, end of year	$ **530**	$ **7**	$ **537**
Accumulated amortization, January 1, 2019	$ **—**	$ **—**	$ **—**
Amortization	**(67)**	**(2)**	**(69)**
Impairment	**(3)**	**—**	**(3)**
Changes in foreign exchange rates	**1**	**—**	**1**
Accumulated amortization, end of year	$ **(69)**	$ **(2)**	$ **(71)**
Carrying amount, end of year	$ **461**	$ **5**	$ **466**

Finance leases receivable

The Company has a finance lease on one property in Canada which has been leased for a 25-year term. The Company has five finance leases on properties in Europe. These properties have been leased for terms ranging between 27 and 40 years.

The terms to maturity of the lease payments receivable are as follows:

	2019	2018
One year or less	**$ 30**	$ 29
Over one year to two years	**30**	30
Over two years to three years	**30**	30
Over three years to four years	**30**	30
Over four years to five years	**30**	30
Over five years	**686**	733
Total undiscounted lease payments	**836**	882
Less: unearned finance lease income	**431**	472
Total finance leases receivable	**$ 405**	$ 410
Finance income on the net investment in the leases	**$ 26**	$ 26

14. Insurance and Investment Contract Liabilities

(a) Insurance and investment contract liabilities

	2019		
	Gross liability	**Reinsurance assets** [1]	**Net**
Insurance contract liabilities	**$ 174,521**	**$ 20,580**	**$ 153,941**
Investment contract liabilities	**1,656**	**127**	**1,529**
Total	**$ 176,177**	**$ 20,707**	**$ 155,470**

	2018		
	Gross liability	Reinsurance assets	Net
Insurance contract liabilities	$ 166,720	$ 6,126	$ 160,594
Investment contract liabilities	1,711	—	1,711
Total	$ 168,431	$ 6,126	$ 162,305

(1) Includes reinsurance assets recognized upon the completion of the reinsurance transaction with Protective Life (note 3).

(b) Composition of insurance and investment contract liabilities and related supporting assets

(i) The composition of insurance and investment contract liabilities is as follows:

	2019		
	Gross liability	**Reinsurance assets**	**Net**
Participating			
Canada	**$ 42,271**	**$ (247)**	**$ 42,518**
United States	**11,329**	**12**	**11,317**
Europe	**1,019**	**—**	**1,019**
Non-Participating			
Canada	**32,668**	**498**	**32,170**
United States	**32,360**	**15,091**	**17,269**
Europe	**56,530**	**5,353**	**51,177**
Total	**$ 176,177**	**$ 20,707**	**$ 155,470**

	2018		
	Gross liability	Reinsurance assets	Net
Participating			
Canada	$ 38,078	$ (351)	$ 38,429
United States	11,871	14	11,857
Europe	978	—	978
Non-Participating			
Canada	30,174	500	29,674
United States	31,042	271	30,771
Europe	56,288	5,692	50,596
Total	$ 168,431	$ 6,126	$ 162,305

(ii) The composition of the assets supporting liabilities and equity is as follows:

2019	**Bonds**	**Mortgage loans**	**Stocks**	**Investment properties**	**Other**	**Total**
Carrying value						
Participating liabilities						
Canada	**$ 19,484**	**$ 9,655**	**$ 6,142**	**$ 2,472**	**$ 4,518**	**$ 42,271**
United States	**5,128**	**626**	**—**	**—**	**5,575**	**11,329**
Europe	**716**	**20**	**63**	**12**	**208**	**1,019**
Non-participating liabilities						
Canada	**20,270**	**4,111**	**2,237**	**407**	**5,643**	**32,668**
United States	**14,311**	**2,678**	**—**	**—**	**15,371**	**32,360**
Europe	**35,546**	**5,442**	**299**	**2,672**	**12,571**	**56,530**
Other	**15,630**	**902**	**902**	**119**	**231,894**	**249,447**
Total equity	**3,943**	**834**	**732**	**205**	**19,829**	**25,543**
Total carrying value	**$ 115,028**	**$ 24,268**	**$ 10,375**	**$ 5,887**	**$ 295,609**	**$ 451,167**
Fair value	**$ 117,000**	**$ 25,146**	**$ 10,367**	**$ 5,887**	**$ 295,609**	**$ 454,009**

2018	Bonds	Mortgage loans	Stocks	Investment properties	Other	Total
Carrying value						
Participating liabilities						
Canada	$ 18,044	$ 9,145	$ 5,397	$ 1,908	$ 3,584	$ 38,078
United States	5,140	749	—	—	5,982	11,871
Europe	708	24	68	18	160	978
Non-participating liabilities						
Canada	19,204	3,845	1,916	196	5,013	30,174
United States	25,324	4,993	—	—	725	31,042
Europe	35,174	4,511	191	2,795	13,617	56,288
Other	15,504	1,038	940	99	214,279	231,860
Total equity	5,764	709	778	202	19,945	27,398
Total carrying value	$ 124,862	$ 25,014	$ 9,290	$ 5,218	$ 263,305	$ 427,689
Fair value	$ 125,759	$ 25,411	$ 9,229	$ 5,218	$ 263,305	$ 428,922

Cash flows of assets supporting insurance and investment contract liabilities are matched within reasonable limits. Changes in the fair values of these assets are essentially offset by changes in the fair value of insurance and investment contract liabilities.

Changes in the fair values of assets backing capital and surplus, less related income taxes, would result in a corresponding change in surplus over time in accordance with investment accounting policies.

(c) Change in insurance contract liabilities

The change in insurance contract liabilities during the year was the result of the following business activities and changes in actuarial estimates:

	2019		
	Participating		
	Gross liability	Reinsurance assets	Net
Balance, beginning of year	$ 50,927	$ (337)	$ 51,264
Impact of new business	59	—	59
Normal change in force	4,138	25	4,113
Management action and changes in assumptions	67	77	(10)
Impact of foreign exchange rate changes	(572)	—	(572)
Balance, end of year	$ 54,619	$ (235)	$ 54,854

	Non-participating			
	Gross liability	Reinsurance assets	Net	Total Net
Balance, beginning of year	$ 115,793	$ 6,463	$ 109,330	$ 160,594
Impact of new business	5,339	(266)	5,605	5,664
Normal change in force	1,784	645	1,139	5,252
Management action and changes in assumptions	(117)	(73)	(44)	(54)
Business movement from/to external parties	(176)	14,802	(14,978)	(14,978)
Impact of foreign exchange rate changes	(2,721)	(756)	(1,965)	(2,537)
Balance, end of year	$ 119,902	$ 20,815	$ 99,087	$ 153,941

	2018		
	Participating		
	Gross liability	Reinsurance assets	Net
Balance, beginning of year	$ 48,856	$ (341)	$ 49,197
Impact of new business	24	—	24
Normal change in force	1,413	7	1,406
Management action and changes in assumptions	(29)	(5)	(24)
Transfer of liabilities to held for sale (note 4)	(281)	—	(281)
Impact of foreign exchange rate changes	944	2	942
Balance, end of year	$ 50,927	$ (337)	$ 51,264

	Non-participating			
	Gross liability	Reinsurance assets	Net	Total Net
Balance, beginning of year	$ 110,668	$ 5,386	$ 105,282	$ 154,479
Impact of new business	6,680	169	6,511	6,535
Normal change in force	(6,553)	(243)	(6,310)	(4,904)
Management action and changes in assumptions	(700)	25	(725)	(749)
Business movement from/to external parties	(134)	(2)	(132)	(132)
Retirement Advantage acquisition	2,572	931	1,641	1,641
Transfer of liabilities to held for sale (note 4)	(589)	—	(589)	(870)
Impact of foreign exchange rate changes	3,849	197	3,652	4,594
Balance, end of year	$ 115,793	$ 6,463	$ 109,330	$ 160,594

Under IFRS, movement in the fair value of the supporting assets is a major factor in the movement of insurance contract liabilities. Changes in the fair value of assets are largely offset by corresponding changes in the fair value of liabilities. The change in the value of the insurance contract liabilities associated with the change in the value of the supporting assets is included in the normal change in force above.

In July 2019, the Canadian Actuarial Standards Board published revised standards for the valuation of insurance contract liabilities, with an effective date of October 15, 2019. The revised standards include decreases to ultimate reinvestment rates and revised calibration criteria for stochastic risk-free interest rates.

In 2019, the major contributor to the decrease in net insurance contract liabilities was the business movement to external parties of $14,978, which includes the transfer to Protective Life, and the net impact of foreign exchange rate changes of $2,537. This was partially offset by increases due to the impact of new business of $5,664, and normal change in force of $5,252.

Net non-participating insurance contract liabilities decreased by $44 in 2019 due to management actions and assumption changes including a $241 decrease in Europe and Reinsurance, partially offset by a $145 increase in Canada and a $52 increase in the United States.

The increase in Canada was primarily due to updated policyholder behaviour assumptions of $254, and updated longevity assumptions of $54, partially offset by decreases due to updated morbidity assumptions of $169 and updated economic assumptions of $6, which includes the net impact of the new standards.

The decrease in Europe was primarily due to updated longevity assumptions of $299, and updated economic assumptions of $101, which includes the net impact of new standards, partially offset by increases due to updated life mortality assumptions of $80, and updated expenses and tax assumptions of $59.

The increase in the United States was primarily due to updated expenses and tax assumptions of $45, and updated mortality assumptions of $43 partially offset by decreases due to updated economic assumptions of $34, which includes the net impact of new standards.

Net participating insurance contract liabilities decreased by $10 in 2019 due to management actions and assumption changes. The decrease was primarily due to updated provisions for future policyholder dividends of $2,232, updated expenses and tax assumptions of $535, and modeling refinements of $198. This was partially offset by increases due to updated economic assumptions of $1,884, updated policyholder behaviour assumptions of $935 and updated mortality assumptions of $153.

In 2018, the major contributors to the increase in net insurance contract liabilities were the impact of new business of $6,535, the acquisition of Retirement Advantage of $1,641 and the net impact of foreign exchange rate changes of $4,594. This was partially offset by decrease due to normal change in force of $4,904, the expected transfer of UK heritage business to Scottish Friendly of $870 and management action and changes in assumptions of $749.

Net non-participating insurance contract liabilities decreased by $725 in 2018 due to management actions and assumption changes including a $562 decrease in Europe and Reinsurance, a $107 decrease in Canada and a $56 decrease in the United States.

The decrease in Canada was primarily due to updated economic assumptions of $197, updated provision for claims of $19 and updated provision for experience rating refunds of $10, partially offset by increases due to updated morbidity assumptions of $62, updated policyholder behaviour assumptions of $46 and updated life mortality assumptions of $10.

The decrease in Europe was primarily due to updated longevity assumptions of $372, updated life mortality assumptions of $129, modeling refinements of $41, updated economic assumptions of $39, updated morbidity assumptions of $25, and updated expense and tax assumptions of $21, partially offset by increases due to updated policyholder behaviour assumptions of $65.

The decrease in the United States was primarily due to updated policyholder behaviour assumptions of $63, updated life mortality assumptions of $16 and updated longevity assumptions of $15, partially offset by increases due to modeling refinements of $21 and updated economic assumptions of $13.

Net participating insurance contract liabilities decreased by $24 in 2018 due to management actions and assumption changes. The decrease was primarily due to modeling refinements of $229, expense and tax assumptions of $133 and updated mortality assumptions of $5, partially offset by increases due to updated provisions for future policyholder dividends of $232, lower investment returns of $101 and updated policyholder behaviour assumptions of $8.

(d) Change in investment contract liabilities measured at fair value

	2019			2018
	Gross liability	Reinsurance assets	Net	Net
Balance, beginning of year	**$ 1,711**	**$ —**	**$ 1,711**	$ 1,841
Normal change in force business	**(87)**	**38**	**(125)**	(190)
Investment experience	**103**	**(23)**	**126**	(26)
Management action and changes in assumptions	**(4)**	**—**	**(4)**	15
Business movement from/to external parties	**—**	**116**	**(116)**	—
Transfer of liabilities to held for sale (note 4)	**—**	**—**	**—**	(27)
Impact of foreign exchange rate changes	**(67)**	**(4)**	**(63)**	98
Balance, end of year	**$ 1,656**	**$ 127**	**$ 1,529**	$ 1,711

The carrying value of investment contract liabilities approximates their fair value. No investment contract liabilities were reinsured in 2018.

(e) Gross premiums written and gross policyholder benefits

(i) Premium Income

	2019	2018
Direct premiums	**$ 25,419**	$ 26,083
Assumed reinsurance premiums	**17,847**	13,901
Total	**$ 43,266**	$ 39,984

(ii) Policyholder Benefits

	2019	2018
Direct	**$ 19,643**	$ 17,830
Assumed reinsurance	**18,126**	14,527
Total	**$ 37,769**	$ 32,357

(f) Actuarial Assumptions

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 misestimation 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.

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. 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 have been made for future mortality deterioration on term insurance.

Annuitant mortality is also studied regularly and the results used to modify established industry experience annuitant mortality tables.

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.

Property and casualty reinsurance
Insurance contract liabilities for property and casualty reinsurance written by London Reinsurance Group (LRG), a subsidiary of London Life, 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 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 the Canadian Asset Liability Method to determine insurance contract liabilities. Cash flows from assets are reduced to provide for asset default losses. Testing under several interest rate and equity scenarios (including increasing and decreasing rates) is done to provide for reinvestment risk (note 9(c)).

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 the Canadian Asset Liability Method as inflation is assumed to be correlated with new money interest rates.

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 term for renewable term policies in Canada and Reinsurance. Industry experience has guided the Company's assumptions for these products as the Company's own experience is very limited.

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 when not on judgment 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 on shareholders' earnings is reflected in the changes in best estimate assumptions above.

(g) Risk Management

(i) Insurance risk

Insurance risk is the risk that the insured event occurs and that there are large deviations between expected and actual actuarial assumptions including mortality, persistency, longevity, morbidity, expense variations and investment returns.

The Company is in the business of accepting risk associated with insurance contract liabilities. The objective of the Company is to mitigate its exposure to risk arising from these contracts through product design, product and geographical diversification, the implementation of the Company's underwriting strategy guidelines, and through the use of reinsurance arrangements.

The following provides information about the Company's insurance contract liabilities sensitivities to management's best estimate of the approximate impact as a result of changes in assumptions used to determine the Company's liability associated with these contracts.

	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)

Concentration risk may arise from geographic regions, accumulation of risks and market risk. The concentration of insurance risk before and after reinsurance by geographic region is described below.

	2019			2018		
	Gross liability	**Reinsurance assets**	**Net**	Gross liability	Reinsurance assets	Net
Canada	**$ 74,939**	**$ 251**	**$ 74,688**	$ 68,252	$ 149	$ 68,103
United States	**43,689**	**15,103**	**28,586**	42,913	285	42,628
Europe	**57,549**	**5,353**	**52,196**	57,266	5,692	51,574
Total	**$ 176,177**	**$ 20,707**	**$ 155,470**	$ 168,431	$ 6,126	$ 162,305

(ii) Reinsurance risk

Maximum limits per insured life benefit amount (which vary by line of business) are established for life and health insurance, and reinsurance is purchased for amounts in excess of those limits.

Reinsurance costs and recoveries as defined by the reinsurance agreement are reflected in the valuation with these costs and recoveries being appropriately calibrated to the direct assumptions.

Reinsurance contracts do not relieve the Company from its obligations to policyholders. Failure of reinsurers to honour their obligations could result in losses to the Company. The Company evaluates the financial condition of its reinsurers to minimize its exposure to significant losses from reinsurer insolvencies.

Certain of the reinsurance contracts are on a funds withheld basis where the Company retains the assets supporting the reinsured insurance contract liabilities, thus minimizing the exposure to significant losses from reinsurer insolvency on those contracts.

15. Segregated Funds and Other Structured Entities

The Company offers segregated fund products in Canada, the U.S. and Europe that are referred to as segregated funds, separate accounts and unit-linked funds in the respective region. These funds are contracts issued by insurers to segregated fund policyholders where the benefit is directly linked to the performance of the investments, the risks or rewards of the fair value movements and net investment income is realized by the segregated fund policyholders. The segregated fund policyholders are required to select the segregated funds that hold a range of underlying investments. While the Company has legal title to the investments, there is a contractual obligation to pass along the investment results to the segregated fund policyholder and the Company segregates these investments from those of the Company.

In Canada and the U.S., the segregated fund and separate account assets are legally separated from the general assets of the Company under the terms of the policyholder agreement and cannot be used to settle obligations of the Company. In Europe, the assets of the funds are functionally and constructively segregated from those of the Company. As a result of the legal and constructive arrangements of these funds, the assets and liabilities of these funds are presented as line items within the Consolidated Balance Sheets titled investments on account of segregated fund policyholders and with an equal liability titled investment and insurance contracts on account of segregated fund policyholders.

In circumstances where the segregated funds are invested in structured entities and are deemed to control the entity, the Company has presented the non-controlling ownership interest within the segregated funds for the risk of policyholders as equal and offsetting amounts in the assets and liabilities. The amounts presented within are $1,147 at December 31, 2019 ($864 at December 31, 2018).

Within the Consolidated Statements of Earnings, all segregated fund policyholders’ income, including fair value changes and net investment income, is credited to the segregated fund policyholders and reflected in the assets and liabilities on account of segregated fund policyholders within the Consolidated Balance Sheets. As these amounts do not directly impact the revenues and expenses of the Company, these amounts are not included separately in the Consolidated Statements of Earnings.

Segregated Funds Guarantee Exposure

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. While these products are similar to mutual funds, there is a key difference from mutual funds as the segregated funds have certain guarantee features that protect the segregated fund policyholder from market declines in the underlying investments. These guarantees are the Company's primary exposure on these funds. The Company accounts for these guarantees within insurance and investment contract liabilities within the consolidated financial statements. In addition to the Company's exposure on the guarantees, the fees earned by the Company on these products are impacted by the market value of these funds.

In Canada, the Company offers retail 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.

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

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 Canada, the U.S., and Germany, and previously offered GMWB product in Ireland. 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 ($4,169 at December 31, 2018). The decrease was primarily due to U.S. business transferred to Protective Life under an indemnity reinsurance agreement effective June 1, 2019.

The following presents further details of the investments, determined in accordance with the relevant statutory reporting requirements of each region of the Company's operations, on account of segregated fund policyholders:

(a) Investments on account of segregated fund policyholders

	2019	2018
Cash and cash equivalents	**$ 12,501**	$ 13,458
Bonds	**44,973**	42,142
Mortgage loans	**2,670**	2,746
Stocks and units in unit trusts	**104,330**	89,853
Mutual funds	**55,779**	50,956
Investment properties	**12,986**	12,319
	233,239	211,474
Accrued income	**373**	380
Other liabilities	**(3,737)**	(3,191)
Non-controlling mutual funds interest	**1,147**	864
Total	**$ 231,022**	$ 209,527

(b) Investment and insurance contracts on account of segregated fund policyholders

	2019	2018
Balance, beginning of year	**$ 209,527**	$ 217,357
Additions (deductions):		
Policyholder deposits	**24,685**	24,475
Net investment income	**3,331**	3,611
Net realized capital gains on investments	**4,265**	4,876
Net unrealized capital gains (losses) on investments	**19,658**	(16,757)
Unrealized gains (losses) due to changes in foreign exchange rates	**(6,539)**	5,472
Policyholder withdrawals	**(24,721)**	(26,271)
Business acquisition	**—**	950
Change in Segregated Fund investment in General Fund	**(4)**	69
Change in General Fund investment in Segregated Fund	**105**	(219)
Net transfer from General Fund	**23**	21
Non-controlling mutual funds interest	**283**	(738)
Transfer from assets held for sale	**409**	—
Assets held for sale (note 4)	**—**	(3,319)
Total	**21,495**	(7,830)
Balance, end of year	**$ 231,022**	$ 209,527

(c) Investment income on account of segregated fund policyholders

	2019	2018
Net investment income	**$ 3,331**	$ 3,611
Net realized capital gains on investments	**4,265**	4,876
Net unrealized capital gains (losses) on investments	**19,658**	(16,757)
Unrealized gains (losses) due to changes in foreign exchange rates	**(6,539)**	5,472
Total	**20,715**	(2,798)
Change in investment and insurance contracts liability on account of segregated fund policyholders	**20,715**	(2,798)
Net	**$ —**	$ —

(d) Investments on account of segregated fund policyholders by fair value hierarchy level (note 10)

	2019			
	Level 1	**Level 2**	**Level 3**	**Total**
Investments on account of segregated fund policyholders [1]	**$ 146,861**	**$ 73,173**	**$ 13,988**	**$ 234,022**

(1) Excludes other liabilities, net of other assets, of $3,000.

	2018			
	Level 1	Level 2	Level 3	Total
Investments on account of segregated fund policyholders [1]	$ 131,603	$ 67,199	$ 13,235	$ 212,037
Investments on account of segregated fund policyholders held for sale [2]	3,297	5	9	3,311
Total investments on account of segregated fund policyholders measured at fair value	$ 134,900	$ 67,204	$ 13,244	$ 215,348

(1) Excludes other liabilities, net of other assets, of $2,510.
(2) Excludes other assets, net of other liabilities, of $8.

During 2019, certain foreign stock holdings valued at $153 have been transferred from Level 1 to Level 2 ($1,842 were transferred from Level 2 to Level 1 at December 31, 2018) primarily based on the Company's change in use of inputs in addition to quoted prices in active markets for certain foreign stock holdings at year end. Level 2 assets include those assets where fair value is not available from normal market pricing sources, where inputs are utilized in addition to quoted prices in active markets and where the Company does not have access to the underlying asset details within an investment fund.

As at December 31, 2019, $8,471 ($7,770 at December 31, 2018) of the segregated funds were invested in funds managed by related parties IG Wealth Management and Mackenzie Investments, members of the Power Financial group of companies (note 26).

The following presents additional information about the Company's investments on account of segregated fund policyholders for which the Company has utilized Level 3 inputs to determine fair value:

	2019			2018		
	Investments on account of segregated fund policyholders	**Investments on account of segregated fund policyholders held for sale**	**Total**	Investments on account of segregated fund policyholders	Investments on account of segregated fund policyholders held for sale	Total
Balance, beginning of year	**$ 13,235**	**$ 9**	**$ 13,244**	$ 12,572	$ —	$ 12,572
Change in accounting policy [(1)]	**136**	**—**	**136**	—	—	—
Revised balance, beginning of year	**13,371**	**9**	**13,380**	12,572	—	12,572
Total gains (losses) included in segregated fund investment income	**141**	**(1)**	**140**	404	—	404
Purchases	**760**	**—**	**760**	651	—	651
Sales	**(284)**	**(8)**	**(292)**	(425)	—	(425)
Transfers into Level 3	**—**	**—**	**—**	51	—	51
Transfers out of Level 3	**—**	**—**	**—**	(9)	—	(9)
Transferred to assets held for sale	**—**	**—**	**—**	(9)	9	—
Balance, end of year	**$ 13,988**	**$ —**	**$ 13,988**	$ 13,235	$ 9	$ 13,244

(1) The segregated funds adopted IFRS 16 which resulted in equal and offsetting right-of-use assets and lease liabilities of $136 being recorded in investment properties and other liabilities within investments on account of segregated fund policyholders as of January 1, 2019. The adoption of IFRS 16 had no net impact on investments on account of segregated fund policyholders as of January 1, 2019.

Transfers into Level 3 are due primarily to decreased observability of inputs in valuation methodologies. Transfers out of Level 3 are due primarily to increased observability of inputs in valuation methodologies as evidenced by corroboration of market prices with multiple pricing vendors.

In addition to the segregated funds, the Company has interests in a number of structured unconsolidated entities including mutual funds, open-ended investment companies, and unit trusts. These entities are created as investment strategies for its unit-holders based on the directive of each individual fund.

Some of these funds are managed by related parties of the Company and the Company receives management fees related to these services. Management fees can be variable due to performance of factors – such as markets or industries – in which the fund invests. Fee income derived in connection with the management of investment funds generally increases or decreases in direct relationship with changes of assets under management which is affected by prevailing market conditions, and the inflow and outflow of client assets.

Factors that could cause assets under management and fees to decrease include declines in equity markets, changes in fixed income markets, changes in interest rates and defaults, redemptions and other withdrawals, political and other economic risks, changing investment trends and relative investment performance. The risk is that fees may vary but expenses and recovery of initial expenses are relatively fixed, and market conditions may cause a shift in asset mix potentially resulting in a change in revenue.

During 2019, fee and other income earned by the Company resulting from the Company's interests in segregated funds and other structured entities was $4,919 ($4,786 during 2018).

Included within other assets (note 13) at December 31, 2019 is $957 ($733 at December 31, 2018) of investments by the Company in bonds and stocks of Putnam sponsored funds and $135 ($110 at December 31, 2018) of investments in stocks of sponsored unit trusts in Europe.

16. Debentures and Other Debt Instruments

	2019		2018	
	Carrying value	**Fair value**	Carrying value	Fair value
Short-term				
Commercial paper and other short-term debt instruments with interest rates from 1.828% to 2.089% (2.511% to 2.693% at December 31, 2018), unsecured	**$ 130**	**$ 130**	$ 135	$ 135
Revolving credit facility with interest equal to LIBOR plus 0.70% (U.S. $230; U.S. $250 at December 31, 2018), unsecured	**299**	**299**	340	340
Total short-term	**429**	**429**	475	475
Capital:				
Current				
Lifeco				
4.65% Debentures due August 13, 2020, unsecured	**500**	**508**	500	516
Long-term				
Lifeco				
6.74% Debentures due November 24, 2031, unsecured	**194**	**278**	194	261
6.67% Debentures due March 21, 2033, unsecured	**393**	**557**	393	522
5.998% Debentures due November 16, 2039, unsecured	**342**	**487**	342	442
3.337% Debentures due February 28, 2028, unsecured	**498**	**526**	497	502
2.50% Debentures due April 18, 2023, unsecured, (500 euro)	**728**	**788**	778	837
1.75% Debentures due December 7, 2026, unsecured, (500 euro)	**725**	**785**	774	781
	2,880	**3,421**	2,978	3,345
Canada Life				
6.40% subordinated debentures due December 11, 2028, unsecured	**100**	**128**	100	126
Canada Life Capital Trust (CLCT)				
7.529% due June 30, 2052, unsecured, face value $150	**159**	**221**	159	209
Great-West Life & Annuity Insurance Capital, LP				
6.625% Deferrable debentures due November 15, 2034, unsecured (U.S. $175), redeemed during the year	**—**	**—**	235	266
Great-West Lifeco Finance 2018 LP				
Senior notes due May 17, 2028, unsecured (U.S. $300), bearing an interest rate of 4.047%	**388**	**430**	405	415
Senior notes due May 17, 2048, unsecured (U.S. $500), bearing an interest rate of 4.581%	**643**	**749**	673	685
	1,031	**1,179**	1,078	1,100
Great-West Lifeco Finance (Delaware) LP				
Senior notes due June 3, 2047, unsecured (U.S. $700), bearing an interest rate of 4.15%	**894**	**993**	934	888
Total long-term	**5,564**	**6,450**	5,984	6,450
Total	**$ 5,993**	**$ 6,879**	$ 6,459	$ 6,925

On December 10, 2019, Great-West Life & Annuity Insurance Capital, LP redeemed all $232 (U.S. $175) 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.

On February 28, 2018, the Company issued $500 principal amount 3.337% debentures at par, maturing on February 28, 2028. Interest on the debentures is payable semi-annually in arrears on February 28 and August 28, commencing August 28, 2018 until the date on which the debentures are repaid. The debentures are redeemable at any time prior to November 28, 2027 in whole or in part at the greater of the Canada Yield Price and par, and on or after November 28, 2027 in whole or in part at par, together in each case with accrued and unpaid interest.

On May 17, 2018, Great-West Lifeco Finance 2018, LP issued $384 (U.S. $300) aggregate principal amount 4.047% senior notes due May 17, 2028 and $640 (U.S. $500) aggregate principal amount 4.581% senior notes due May 17, 2048. The tranches of senior notes are fully and unconditionally guaranteed by Lifeco.

Capital Trust Securities

CLCT, a trust established by Canada Life, had issued $150 of Canada Life Capital Securities - Series B (CLiCS - Series B), the proceeds of which were used by CLCT to purchase Canada Life senior debentures in the amount of $150.

Distributions and interest on the capital trust securities are classified as financing charges in the Consolidated Statements of Earnings (note 17). The fair value for capital trust securities is determined by the bid-ask price. Refer to note 9 for financial instrument risk management disclosures.

Subject to regulatory approval, CLCT may redeem the CLiCS - Series B, in whole or in part, at any time.

17. Financing Charges

Financing charges consist of the following:

	2019	2018
Operating charges:		
Interest on operating lines and short-term debt instruments	**$ 12**	$ 10
Financial charges:		
Interest on long-term debentures and other debt instruments	**243**	182
Interest on capital trust securities	**11**	11
Other	**19**	18
	273	211
Total	**$ 285**	$ 221

18. Other Liabilities

	2019	2018
Pension and other post-employment benefits (note 24)	**1,520**	1,331
Lease liabilities	**585**	—
Bank overdraft	**379**	457
Deferred income reserves	**380**	441
Other	**1,825**	1,626
Total	**$ 4,689**	$ 3,855

Total other liabilities of $2,204 ($2,083 at December 31, 2018) are expected to be realized within 12 months from the reporting date. This amount excludes deferred income reserves, the changes in which are noted below.

Deferred income reserves

	2019	2018
Balance, beginning of year	**$ 441**	$ 303
Additions [(1)]	**70**	200
Amortization	**(81)**	(61)
Changes in foreign exchange	**(15)**	11
Disposals	**(35)**	(12)
Balance, end of year	**$ 380**	$ 441

(1) During 2018, a change in estimate of $154 was recognized related to certain single premium contracts.

Lease liabilities

	2019		
	Property	**Equipment**	**Total**
Opening balance, January 1, 2019 (note 2)	**$ 545**	**$ 6**	**$ 551**
Additions	**124**	**1**	**125**
Modifications	**(22)**	**—**	**(22)**
Lease payments	**(72)**	**(2)**	**(74)**
Changes in foreign exchange rates	**(17)**	**—**	**(17)**
Interest	**22**	**—**	**22**
Balance, end of year	**$ 580**	**$ 5**	**$ 585**

The following table presents the contractual undiscounted cash flows for lease obligations:

	2019
One year or less	**$ 83**
Over one year to two years	**78**
Over two years to three years	**66**
Over three years to four years	**56**
Over four years to five years	**53**
Over five years	**417**
Total undiscounted lease obligations	**$ 753**

19. Non-Controlling Interests

The Company has a controlling equity interest in Great-West Life, London Life, Canada Life, GWL&A, and Putnam at December 31, 2019 and December 31, 2018.

Non-controlling interests attributable to participating account surplus is the proportion of the equity attributable to the participating account of the Company's subsidiaries.

Non-controlling interests in subsidiaries also include Nippon Life Insurance Company's (Nippon Life) interest in PanAgora, a subsidiary of Putnam, and non-controlling interests for the issued and outstanding shares of Putnam and PanAgora held by employees of the respective companies. During 2018, the Company acquired Nippon Life's interest in PanAgora.

(a) The non-controlling interests of Great-West Life, London Life, Canada Life, GWL&A and Putnam and their subsidiaries recorded in the Consolidated Statements of Earnings and other comprehensive income are as follows:

	2019	2018
Net earnings attributable to participating account before policyholder dividends		
Great-West Life	**$ 150**	$ 155
London Life	**919**	902
Canada Life	**302**	273
GWL&A	**3**	2
	1,374	1,332
Policyholder dividends		
Great-West Life	**(166)**	(167)
London Life	**(880)**	(862)
Canada Life	**(315)**	(320)
GWL&A	**(3)**	(3)
	(1,364)	(1,352)
Net earnings (loss) - participating account	**10**	(20)
Non-controlling interests in subsidiaries	**5**	1
Total	**$ 15**	$ (19)

The non-controlling interests of Great-West Life, London Life, Canada Life, GWL&A and Putnam and their subsidiaries recorded in other comprehensive income (loss) for the year ended December 31, 2019 was $30 ($(27) for the year ended December 31, 2018).

(b) The carrying value of non-controlling interests consists of the following:

	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
Total	**$ 2,759**	$ 2,737
Non-controlling interests in subsidiaries	**$ 107**	$ 138

20. Share Capital

Authorized

Unlimited First Preferred Shares, Class A Preferred Shares and Second Preferred Shares
Unlimited Common Shares

Issued and outstanding and fully paid

	2019		2018	
	Number	**Carrying value**	Number	Carrying value
First Preferred Shares				
Series F, 5.90% Non-Cumulative	**7,740,032**	**$ 194**	7,740,032	$ 194
Series G, 5.20% Non-Cumulative	**12,000,000**	**300**	12,000,000	300
Series H, 4.85% Non-Cumulative	**12,000,000**	**300**	12,000,000	300
Series I, 4.50% Non-Cumulative	**12,000,000**	**300**	12,000,000	300
Series L, 5.65% Non-Cumulative	**6,800,000**	**170**	6,800,000	170
Series M, 5.80% Non-Cumulative	**6,000,000**	**150**	6,000,000	150
Series N, Non-Cumulative 5-Year Rate Reset	**8,524,422**	**213**	8,524,422	213
Series O, Non-Cumulative Floating Rate	**1,475,578**	**37**	1,475,578	37
Series P, 5.40% Non-Cumulative	**10,000,000**	**250**	10,000,000	250
Series Q, 5.15% Non-Cumulative	**8,000,000**	**200**	8,000,000	200
Series R, 4.80% Non-Cumulative	**8,000,000**	**200**	8,000,000	200
Series S, 5.25% Non-Cumulative	**8,000,000**	**200**	8,000,000	200
Series T, 5.15% Non-Cumulative	**8,000,000**	**200**	8,000,000	200
Total	**108,540,032**	**$ 2,714**	108,540,032	$ 2,714
Common shares				
Balance, beginning of year	**987,739,408**	**$ 7,283**	988,722,659	$ 7,260
Purchased and cancelled under Substantial Issuer Bid	**(59,700,974)**	**(2,000)**	—	—
Excess of redemption proceeds over stated capital per Substantial Issuer Bid	**—**	**1,628**	—	—
Share issuance - Qualifying Holdco Alternative per Substantial Issuer Bid	**595,747,641**	**2,306**	—	—
Cancellation of Shares - Qualifying Holdco Alternative per Substantial Issuer Bid	**(595,747,641)**	**(3,610)**	—	—
Purchased and cancelled under Normal Course Issuer Bid	**(2,000,000)**	**(66)**	(2,127,300)	(69)
Excess of redemption proceeds over stated capital per Normal Course Issuer Bid	**—**	**53**	—	53
Exercised and issued under stock option plan	**1,242,752**	**39**	1,144,049	39
Balance, end of year	**927,281,186**	**$ 5,633**	987,739,408	$ 7,283

Preferred Shares

The Series F, 5.90% Non-Cumulative First Preferred Shares are currently redeemable at the option of the Company for $25.00 per share, together with all declared and unpaid dividends up to but excluding the date of redemption.

The Series G, 5.20% Non-Cumulative First Preferred Shares are currently redeemable at the option of the Company for $25.00 per share, together with all declared and unpaid dividends up to but excluding the date of redemption.

The Series H, 4.85% Non-Cumulative First Preferred Shares are currently redeemable at the option of the Company for $25.00 per share, together with all declared and unpaid dividends up to but excluding the date of redemption.

The Series I, 4.50% Non-Cumulative First Preferred Shares are currently redeemable at the option of the Company for $25.00 per share, together with all declared and unpaid dividends up to but excluding the date of redemption.

The Series L, 5.65% Non-Cumulative First Preferred Shares are currently redeemable at the option of the Company for $25.00 per share, together with all declared and unpaid dividends up to but excluding the date of redemption.

The Series M, 5.80% Non-Cumulative First Preferred Shares are currently redeemable at the option of the Company for $25.00 per share, together with all declared and unpaid dividends up to but excluding the date of redemption.

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.

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 Series P, 5.40% Non-Cumulative First Preferred Shares are currently redeemable at the option of the Company for $25.00 per share plus a premium if redeemed prior to March 31, 2021, together with all declared and unpaid dividends up to but excluding the date of redemption.

The Series Q, 5.15% Non-Cumulative First Preferred Shares are currently redeemable at the option of the Company for $25.00 per share plus a premium if redeemed prior to September 30, 2021, together with all declared and unpaid dividends up to but excluding the date of redemption.

The Series R, 4.80% Non-Cumulative First Preferred Shares are currently redeemable at the option of the Company for $25.00 per share plus a premium if redeemed prior to December 31, 2021, together with all declared and unpaid dividends up to but excluding the date of redemption.

The Series S, 5.25% Non-Cumulative First Preferred Shares are redeemable at the option of the Company for $25.00 per share plus a premium if redeemed prior to June 30, 2023, together with all declared and unpaid dividends up to but excluding the date of redemption.

The Series T, 5.15% Non-Cumulative First Preferred Shares are redeemable at the option of the Company on or after June 30, 2022 for $25.00 per share plus a premium if redeemed prior to June 30, 2026, together with all declared and unpaid dividends up to but excluding the date of redemption.

Common Shares

Normal Course Issuer Bid

On January 28, 2019, the Company announced a normal course issuer bid commencing February 1, 2019 and terminating January 31, 2020 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 $2,000 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 $2,000. The excess paid over the average carrying value under the Offer was $1,628 and was recognized as a reduction to accumulated surplus. Transaction costs of $3 were incurred in connection with the Offer and charged to accumulated surplus.

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. Under the Qualifying Holdco Alternative, the Corporation issued and subsequently cancelled 595,747,641 shares which resulted in a net decrease in share capital of $1,304 with a corresponding increase in accumulated surplus.

In December 2019, the Company repurchased and subsequently cancelled 2,000,000 common shares pursuant to its normal course issuer bid at a cost of $66 (2,127,300 during 2018 under the previous normal course issuer bid at a cost of $69). The Company's share capital was reduced by the average carrying value of the shares repurchased for cancellation. The excess paid over the average carrying value of stated capital was $53 and was recognized as a reduction to equity ($53 during 2018 under the previous normal course issuer bid).

Subsequent Event

On January 17, 2020, the Company terminated its previous normal course issuer bid and announced a new normal course issuer bid 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.

21. Earnings Per Common Share

The following provides the reconciliation between basic and diluted earnings per common share:

	2019	2018
Earnings		
Net earnings	**$ 2,492**	$ 3,094
Preferred share dividends	**(133)**	(133)
Net earnings - common shareholders	**$ 2,359**	$ 2,961
Number of common shares		
Average number of common shares outstanding	**946,003,629**	988,588,610
Add: Potential exercise of outstanding stock options	**522,755**	510,961
Average number of common shares outstanding - diluted basis	**946,526,384**	989,099,571
Basic earnings per common share	**$ 2.494**	$ 2.996
Diluted earnings per common share	**$ 2.493**	$ 2.994
Dividends per common share	**$ 1.652**	$ 1.556

22. Capital Management

(a) Policies and Objectives

Managing capital is the continual process of establishing and maintaining the quantity and quality of capital appropriate for the Company and ensuring capital is deployed in a manner consistent with the expectations of the Company's stakeholders. For these purposes, the Board considers the key stakeholders to be the Company's shareholders, policyholders and holders of subordinated liabilities in addition to the relevant regulators in the various jurisdictions where the Company and its subsidiaries operate.

The Company manages its capital on both a consolidated basis as well as at the individual operating subsidiary level. The primary objectives of the Company's capital management strategy are:

- 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;
- to maintain strong credit and financial strength ratings of the Company ensuring stable access to capital markets; and
- to provide an efficient capital structure to maximize shareholders' value in the context of the Company's operational risks and strategic 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.

The capital planning process is the responsibility of the Company's Chief Financial Officer. The capital plan is approved by the Company's Board of Directors on an annual basis. The Board of Directors reviews and approves all capital transactions undertaken by management.

The target level of capitalization for the Company and its subsidiaries is assessed by considering various factors such as the probability of falling below the minimum regulatory capital requirements in the relevant operating jurisdiction, the views expressed by various credit rating agencies that provide financial strength and other ratings to the Company, and the desire to hold sufficient capital to be able to honour all policyholder and other obligations of the Company with a high degree of confidence.

(b) Regulatory Capital

In Canada, OSFI has established a regulatory capital adequacy measurement for life insurance companies incorporated under the Insurance Companies Act (Canada) and their subsidiaries.

The Life Insurance Capital Adequacy Test (LICAT) Ratio compares the regulatory capital resources of a company to its Base Solvency Buffer or required capital. The Base Solvency Buffer, defined by OSFI, is the aggregate of all defined capital requirements multiplied by a scalar of 1.05. The total capital resources are provided by the sum of Available Capital, Surplus Allowance and Eligible Deposits.

The following provides a summary of the LICAT information and ratios for Great-West Life:

	2019	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 1.05 scalar)	**$ 20,911**	$ 19,165
Total LICAT Ratio (OSFI Supervisory Target = 100%) [(1)]	**135%**	140%

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

For entities based in Europe, the local solvency capital regime is the Solvency II basis. At December 31, 2019 and December 31, 2018, all European regulated entities met the capital and solvency requirements as prescribed under Solvency II.

GWL&A is subject to the risk-based capital regulatory regime in the U.S. Other foreign operations and foreign subsidiaries of the Company are required to comply with local capital or solvency requirements in their respective jurisdictions. At December 31, 2019 and December 31, 2018, the Company maintained capital levels above the minimum local regulatory requirements in each of its foreign operations.

23. Share-Based Payments

(a) The Company has a stock option plan (the Plan) pursuant to which options to subscribe for common shares of Lifeco may be granted to certain officers and employees of Lifeco and its affiliates. The Company's Human Resources Committee (the Committee) administers the Plan and, subject to the specific provisions of the Plan, fixes the terms and conditions upon which options are granted. The exercise price of each option granted under the Plan is fixed by the Committee, but cannot under any circumstances be less than the weighted average trading price per Lifeco common share on the Toronto Stock Exchange for the five trading days preceding the date of the grant. Beginning in 2019, new option grants will vest over a period of four years, and have a maximum exercise period of ten years. Prior to 2019, options generally vested over a period of five years, and had a maximum exercise period of ten years. Termination of employment may, in certain circumstances, result in forfeiture of the options, unless otherwise determined by the Committee. The maximum number of Lifeco common shares that may be issued under the Plan is currently 65,000,000.

During 2019, 2,699,500 common share options were granted (2,127,300 during 2018). The weighted average fair value of common share options granted during 2019 was $2.86 per option ($1.18 in 2018). The fair value of each common share option was estimated using the Black-Scholes option-pricing model with the following weighted average assumptions used for those options granted in 2019: dividend yield 5.45% (4.55% in 2018), expected volatility 18.63% (8.75% in 2018), risk-free interest rate 1.86% (2.09% in 2018), and expected life of eight years (eight in 2018).

The following summarizes the changes in options outstanding and the weighted average exercise price:

	2019		2018	
	Options	**Weighted average exercise price**	Options	Weighted average exercise price
Outstanding, beginning of year	**14,057,195**	**$ 32.49**	13,400,064	$ 32.10
Granted	**2,699,500**	**30.33**	2,127,300	34.21
Exercised	**(1,242,752)**	**26.71**	(1,144,049)	30.62
Forfeited/expired	**(135,604)**	**34.12**	(326,120)	34.02
Outstanding, end of year	**15,378,339**	**$ 32.57**	14,057,195	$ 32.49
Options exercisable at end of year	**9,653,016**	**$ 32.32**	8,680,938	$ 30.95

The weighted average share price at the date of exercise of stock options for the year ended December 31, 2019 was $32.29 ($33.46 in 2018).

Compensation expense due to the Plan transactions accounted for as equity-settled share-based payments of $5 after-tax in 2019 ($5 after-tax in 2018) has been recognized in the Consolidated Statements of Earnings.

The following summarizes information on the ranges of exercise prices including weighted average remaining contractual life at December 31, 2019:

	Outstanding			Exercisable		
Exercise price ranges	**Options**	**Weighted average remaining contractual life**	**Weighted average exercise price**	**Options**	**Weighted average exercise price**	**Expiry**
$23.16 - $36.87	449,120	0.51	31.63	448,140	31.63	2020
$27.16 - $36.87	770,220	1.25	29.67	770,220	29.67	2021
$23.16 - $36.87	1,258,938	2.24	26.86	1,258,938	26.86	2022
$27.13 - $36.87	1,677,020	3.31	30.87	1,677,020	30.87	2023
$30.28 - $36.87	1,862,700	4.31	32.69	1,862,700	32.69	2024
$35.62 - $36.63	1,729,479	5.18	35.67	1,420,015	35.67	2025
$34.68 - $35.52	2,107,562	6.16	34.68	1,322,603	34.68	2026
$36.87 - $36.87	1,285,600	7.16	36.87	530,980	36.87	2027
$32.99 - $34.21	1,700,400	8.17	34.20	354,000	34.20	2028
$30.28 - $32.50	2,537,300	9.16	30.32	8,400	30.28	2029

(b) To promote greater alignment of interests between the Directors and Lifeco's shareholders, the Company and certain of its subsidiaries have established mandatory Deferred Share Unit Plans and/or voluntary Deferred Share Unit Plans (the “Mandatory DSU Plans” and the “Voluntary DSU Plans” respectively) in which the Directors of the Company participate. Under the Mandatory DSU Plans, each Director who is a resident of Canada or the United States must receive 50% of his or her annual Board retainer in the form of Deferred Share Units (DSUs). Under the Voluntary DSU Plans, each Director may elect to receive the balance of his or her annual Board retainer and Board Committee fees entirely in the form of DSUs, entirely in cash, or equally in cash and DSUs. In both cases, the number of DSUs granted is determined by dividing the amount of remuneration payable to the Director by the weighted average trading price per Lifeco common share on the Toronto Stock Exchange (TSX) for the last five trading days of the preceding fiscal quarter. Directors receive additional DSUs for dividends payable on the Company's common shares based on the value of a DSU at the dividend payment date. DSUs are redeemable when an individual ceases to be a Director, or as applicable, an officer or employee of the Company or any of its affiliates by a lump sum cash payment, based on the weighted average trading price per Lifeco common share on the TSX for the last five trading days preceding the date of redemption. In 2019, $6 in Directors' fees were used to acquire DSUs ($5 in 2018). At December 31, 2019, the carrying value of the DSU liability is $43 ($34 in 2018) recorded within other liabilities.

(c) Certain employees of the Company are entitled to receive Performance Share Units (PSUs). Under these PSU plans, these employees are granted PSUs equivalent to the Company’s common shares vesting over a three-year period. Employees receive additional PSUs in respect of dividends payable on the common shares based on the value of a PSU at that time. At the maturity date, employees receive cash representing the value of the PSU at this date. The Company uses the fair-value based method to account for the PSUs granted to employees under the plan. For the year ended December 31, 2019, the Company recognized compensation expense of $59 ($29 in 2018) for the PSU plans recorded in operating and administrative expenses in the Consolidated Statements of Earnings. At December 31, 2019, the carrying value of the PSU liability is $86 ($60 in 2018) recorded within other liabilities.

(d) The Company's Employee Share Ownership Plan (ESOP) is a voluntary plan where eligible employees can contribute up to 5% of their previous year's eligible earnings to purchase common shares of Great-West Lifeco Inc. The Company matches 50% of the total employee contributions. The contributions from the Company vest immediately and are expensed. For the year ended December 31, 2019, the Company recognized compensation expense of $12 ($11 in 2018) for the ESOP recorded in operating and administrative expenses in the Consolidated Statements of Earnings.

(e) Putnam sponsors the Putnam Investments, LLC Equity Incentive Plan. Under the terms of the Equity Incentive Plan, Putnam is authorized to grant or sell Class B Shares of Putnam (the Putnam Class B Shares), subject to certain restrictions, and to grant options to purchase Putnam Class B Shares (collectively, the Awards) to certain senior management and key employees of Putnam at fair value at the time of the award. Fair value is determined under the valuation methodology outlined in the Equity Incentive Plan. Awards vest over a period of up to five years and are specified in the individual's award letter. Holders of Putnam Class B Shares are not entitled to vote other than in respect of certain matters in regards to the Equity Incentive Plan and have no rights to convert their shares into any other securities. The number of Putnam Class B Shares that may be subject to Awards under the Equity Incentive Plan is limited to 10,555,555.

During 2019, Putnam granted 2,544,222 (1,159,000 in 2018) restricted Class B common shares to certain members of senior management and key employees.

Compensation expense recorded for the year ended December 31, 2019 related to restricted Class B common shares and Class B stock options earned was $20 ($20 in 2018) and is recorded in operating and administrative expenses in the Consolidated Statements of Earnings.

(f) Certain employees of PanAgora, a subsidiary of Putnam, are eligible to participate in the PanAgora Management Equity Plan under which Class C Shares of PanAgora and options and stock appreciation rights on Class C Shares of PanAgora may be issued. Holders of PanAgora Class C Shares are not entitled to vote and have no rights to convert their shares into any other securities. The number of PanAgora Class C Shares may not exceed 20% of the equity of PanAgora on a fully exercised and converted basis.

Compensation expense recorded for the year ended December 31, 2019 related to restricted Class C Shares and stock appreciation rights was $14 in 2019 ($13 in 2018) and is included as a component of operating and administrative expenses in the Consolidated Statements of Earnings.

24. Pension Plans and Other Post-Employment Benefits

Characteristics, Funding and Risk

The Company’s subsidiaries maintain contributory and non-contributory defined benefit pension plans for certain employees and advisors. The Company’s subsidiaries also maintain 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 by making contributions in respect of current service. Certain pension payments are indexed either on 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. Subsidiary company contributions to these plans are a set percentage of employees’ annual income and may be subject to certain vesting requirements.

The Company’s subsidiaries also provide post-employment health, dental and life insurance benefits to eligible employees, advisors and their dependents. Retirees share in the cost of benefits through deductibles, co-insurance and caps on benefits. These plans are closed to new hires and were previously amended to limit which employees could become eligible to receive benefits. The amount of some of the post-employment benefits other than pensions depends on future cost escalation. These post-employment benefits are not pre-funded and the amount of the obligation for these benefits is included in other liabilities and is supported by general assets.

The Company's subsidiaries have pension and benefit committees or a trusteed arrangement that provides oversight for the benefit plans of the Company's subsidiaries. The benefit plans are monitored on an ongoing basis to assess the benefit, funding and investment policies, financial status, and funding requirements of the Company's subsidiaries. Significant changes to the subsidiary company's benefit plans require approval from that Company's Board of Directors.

The Company's subsidiaries' funding policy for the funded pension plans is to make contributions equal to or greater than those required by the applicable regulations and plan provisions that govern the funding of the plans. Where funded plans have a net defined benefit pension plan asset, the Company determines if an economic benefit exists in the form of potential reductions in future contributions by the Company, from the payment of expenses from the plan and in the form of surplus refunds, where permitted by applicable regulation and plan provisions.

By their design, the defined benefit plans expose the Company to the typical risks faced by defined benefit plans such as investment performance, changes to the discount rates used to value the obligations, longevity of plan members, and future inflation. Pension and benefit risk is managed by regular monitoring of the plans, applicable regulations and other factors that could impact the expenses and cash flows of the Company.

The following reflects the financial position of the Company's subsidiaries contributory and non-contributory defined benefit plans:

(a) Plan Assets, Benefit Obligation and Funded Status

	Defined benefit pension plans		Other post-employment benefits	
	2019	2018	**2019**	2018
Change in fair value of plan assets				
Fair value of plan assets, beginning of year	**$ 6,484**	$ 6,670	**$ —**	$ —
Interest income	**210**	206	**—**	—
Actual return over (less than) interest income	**663**	(338)	**—**	—
Employer contributions	**176**	176	**20**	19
Employee contributions	**20**	13	**—**	—
Benefits paid	**(266)**	(350)	**(20)**	(19)
Settlements	**(113)**	(7)	**—**	—
Administrative expenses	**(10)**	(8)	**—**	—
Net transfer out	**(13)**	(8)	**—**	—
Foreign exchange rate changes	**(179)**	130	**—**	—
Fair value of plan assets, end of year	**$ 6,972**	$ 6,484	**$ —**	$ —
Change in defined benefit obligation				
Defined benefit obligation, beginning of year	**$ 7,189**	$ 7,401	**$ 370**	$ 400
Current service cost	**76**	110	**2**	2
Interest cost	**234**	228	**14**	14
Employee contributions	**20**	13	**—**	—
Benefits paid	**(266)**	(350)	**(20)**	(19)
Plan amendments	**(1)**	6	**—**	—
Curtailments and termination benefits	**(3)**	(3)	**—**	—
Settlements	**(150)**	(8)	**—**	—
Actuarial loss (gain) on financial assumption changes	**942**	(292)	**29**	(19)
Actuarial gain on demographic assumption changes	**(20)**	(85)	**(5)**	(9)
Actuarial loss (gain) arising from member experience	**14**	26	**(1)**	(1)
Net transfer out	**(13)**	(8)	**—**	—
Foreign exchange rate changes	**(186)**	151	**(1)**	2
Defined benefit obligation, end of year	**$ 7,836**	$ 7,189	**$ 388**	$ 370
Asset (liability) recognized on the Consolidated Balance Sheets				
Funded status of plans - surplus (deficit)	**$ (864)**	$ (710)	**$ (388)**	$ (370)
Unrecognized amount due to asset ceiling	**(37)**	(103)	**—**	—
Asset (liability) recognized on the Consolidated Balance Sheets	**$ (901)**	$ (813)	**$ (388)**	$ (370)
Recorded in:				
Other assets (note 13)	**$ 231**	$ 148	**$ —**	$ —
Other liabilities (note 18)	**(1,132)**	(961)	**(388)**	(370)
Asset (liability) recognized on the Consolidated Balance Sheets	**$ (901)**	$ (813)	**$ (388)**	$ (370)
Analysis of defined benefit obligation				
Wholly or partly funded plans	**$ 7,513**	$ 6,886	**$ —**	$ —
Wholly unfunded plans	**$ 323**	$ 303	**$ 388**	$ 370

Under IFRIC 14, *The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction*, the Company must assess whether each pension plan's asset has economic benefit to the Company through future contribution reductions, from the payment of expenses from the plan, or surplus refunds; in the event the Company is not entitled to a benefit, a limit or 'asset ceiling' is required on the balance. The following provides a breakdown of the changes in the asset ceiling:

	Defined benefit pension plans	
	2019	2018
Change in asset ceiling		
Asset ceiling, beginning of year	**$ 103**	$ 92
Interest on asset ceiling	**4**	3
Change in asset ceiling	**(70)**	8
Asset ceiling, end of year	**$ 37**	$ 103

(b) Pension and Other Post-Employment Benefits Expense

The total pension and other post-employment benefit expense included in operating expenses and other comprehensive income are as follows:

	All pension plans		Other post-employment benefits	
	2019	2018	**2019**	2018
Defined benefit current service cost	**$ 96**	$ 123	**$ 2**	$ 2
Defined contribution current service cost	**118**	104	**—**	—
Employee contributions	**(20)**	(13)	**—**	—
Employer current service cost	**194**	214	**2**	2
Administrative expense	**10**	8	**—**	—
Plan amendments	**(1)**	6	**—**	—
Curtailments	**(3)**	(2)	**—**	—
Settlements	**(37)**	(1)	**—**	—
Net interest cost	**28**	25	**14**	14
Expense - profit or loss	**191**	250	**16**	16
Actuarial (gain) loss recognized	**936**	(351)	**23**	(29)
Return on assets (greater) less than assumed	**(663)**	338	**—**	—
Change in the asset ceiling	**(70)**	8	**—**	—
Re-measurements - other comprehensive (income) loss	**203**	(5)	**23**	(29)
Total expense (income) including re-measurements	**$ 394**	$ 245	**$ 39**	$ (13)

(c) Asset Allocation by Major Category Weighted by Plan Assets

	Defined benefit pension plans	
	2019	2018
Equity securities	**43%**	41%
Debt securities	**47%**	49%
Real estate	**8%**	8%
Cash and cash equivalents	**2%**	2%
Total	**100%**	100%

No plan assets are directly invested in the Company's or related parties' securities. Plan assets include investments in segregated funds and other funds managed by subsidiaries of the Company of $6,031 at December 31, 2019 and $5,501 at December 31, 2018, of which $5,961 ($5,431 at December 31, 2018) are included on the Consolidated Balance Sheets. Plan assets do not include any property occupied or other assets used by the Company.

(d) Details of Defined Benefit Obligation

(i) Portion of Defined Benefit Obligation Subject to Future Salary Increases

	Defined benefit pension plans		Other post-employment benefits	
	2019	2018	**2019**	2018
Benefit obligation without future salary increases	**$ 7,179**	$ 6,581	**$ 388**	$ 370
Effect of assumed future salary increases	**657**	608	**—**	—
Defined benefit obligation	**$ 7,836**	$ 7,189	**$ 388**	$ 370

The other post-employment benefits are not subject to future salary increases.

(ii) Portion of Defined Benefit Obligation Without Future Pension Increases

	Defined benefit pension plans		Other post-employment benefits	
	2019	2018	**2019**	2018
Benefit obligation without future pension increases	**$ 7,221**	$ 6,567	**$ 388**	$ 370
Effect of assumed future pension increases	**615**	622	**—**	—
Defined benefit obligation	**$ 7,836**	$ 7,189	**$ 388**	$ 370

The other post-employment benefits are not subject to future pension increases.

(iii) Maturity Profile of Plan Membership

	Defined benefit pension plans		Other post-employment benefits	
	2019	2018	**2019**	2018
Actives	**40%**	38%	**15%**	19%
Deferred vesteds	**19%**	23%	**n/a**	n/a
Retirees	**41%**	39%	**85%**	81%
Total	**100%**	100%	**100%**	100%
Weighted average duration of defined benefit obligation	**18.5 years**	17.9 years	**11.7 years**	11.4 years

(e) Cash Flow Information

	Pension plans	Other post-employment benefits	Total
Expected employer contributions for 2020:			
Funded (wholly or partly) defined benefit plans	$ 123	$ —	$ 123
Unfunded plans	16	21	37
Defined contribution plans	120	—	120
Total	**$ 259**	**$ 21**	**$ 280**

(f) Actuarial Assumptions and Sensitivities

(i) Actuarial Assumptions

	Defined benefit pension plans		Other post-employment benefits	
	2019	2018	**2019**	2018
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%	**—**	—
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.

(ii) Sample Life Expectancies Based on Mortality Assumptions

	Defined benefit pension plans		Other post-employment benefits	
	2019	2018	**2019**	2018
Sample life expectancies based on mortality assumption:				
Male				
Age 65 in fiscal year	**22.6**	22.6	**22.4**	22.3
Age 65 for those age 35 in the fiscal year	**24.6**	24.7	**23.9**	24.0
Female				
Age 65 in fiscal year	**24.7**	24.7	**24.7**	24.7
Age 65 for those age 35 in the fiscal year	**26.7**	26.7	**26.2**	26.2

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 practice. Emerging plan experience is reviewed and considered in establishing the best estimate for future mortality.

The calculation of the defined benefit obligation is sensitive to the mortality assumptions. The effect of a one-year increase in life expectancy would be an increase in the defined benefit obligation of $264 for the defined benefit pension plans and $15 for other post-employment benefits.

(iii) Impact of Changes to Assumptions on Defined Benefit Obligation

	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

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.

25. Accumulated Other Comprehensive Income

	2019							
	Unrealized foreign exchange gains (losses) on translation of foreign operations	**Unrealized foreign exchange gains (losses) on euro debt designated as hedge of the net investment in foreign operations**	**Unrealized gains (losses) on available-for-sale assets**	**Unrealized gains (losses) on cash flow hedges**	**Re-measurements on defined benefit pension and other post-employment benefit plans**	**Total**	**Non-controlling interest**	**Shareholders**
Balance, beginning of year	**$ 1,797**	**$ (143)**	**$ 22**	**$ 11**	**$ (670)**	**$ 1,017**	**$ 28**	**$ 1,045**
Other comprehensive income (loss)	**(561)**	**100**	**163**	**2**	**(226)**	**(522)**	**(33)**	**(555)**
Income tax	**—**	**(14)**	**(31)**	**—**	**47**	**2**	**3**	**5**
	(561)	**86**	**132**	**2**	**(179)**	**(520)**	**(30)**	**(550)**
Balance, end of year	**$ 1,236**	**$ (57)**	**$ 154**	**$ 13**	**$ (849)**	**$ 497**	**$ (2)**	**$ 495**

	2018							
	Unrealized foreign exchange gains on translation of foreign operations	Unrealized foreign exchange gains (losses) on euro debt designated as hedge of the net investment in of foreign operations	Unrealized gains (losses) on available-for-sale assets	Unrealized gains (losses) on cash flow hedges	Re-measurements on defined benefit pension and other post-employment benefit plans	Total	Non-controlling interest	Shareholders
Balance, beginning of year	$ 1,031	$ (100)	$ 109	$ 44	$ (699)	$ 385	$ 1	$ 386
Other comprehensive income (loss)	766	(50)	(108)	(46)	34	596	32	628
Income tax	—	7	21	13	(5)	36	(5)	31
	766	(43)	(87)	(33)	29	632	27	659
Balance, end of year	$ 1,797	$ (143)	$ 22	$ 11	$ (670)	$ 1,017	$ 28	$ 1,045

26. Related Party Transactions

Power Financial, which is incorporated and domiciled in Canada, is the Company's parent and has voting control of the Company. The Company is related to other members of the Power Financial group including IGM Financial Inc., a company in the financial services sector along with its subsidiaries IG Wealth Management, Mackenzie Financial and Investment Planning Council and Pargesa, a holding company with substantial holdings in a diversified industrial group based in Europe.

(a) Principal subsidiaries

The consolidated financial statements of the Company include the operations of the following subsidiaries and their subsidiaries:

Company	Incorporated in	Primary business operation	% Held
The Great-West Life Assurance Company	Canada	Insurance and wealth management	100.00%
London Life Insurance Company	Canada	Insurance and wealth management	100.00%
The Canada Life Assurance Company	Canada	Insurance and wealth management	100.00%
Great-West Life & Annuity Insurance Company	United States	Insurance and wealth management	100.00%
Putnam Investments, LLC	United States	Financial services	100.00% (1)

(1) Lifeco holds 100% of the voting shares and 96.47% of the total outstanding shares.

(b) Transactions with related parties included in the consolidated financial statements

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. 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, a member of the Power Financial group of companies, 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 (note 15).

The Company held debentures issued by IGM; the interest rates and maturity dates are as follows:

	2019	2018
3.44%, matures January 26, 2027	**$ 21**	$ 10
6.65%, matures December 13, 2027	**16**	16
7.45%, matures May 9, 2031	**14**	13
7.00%, matures December 31, 2032	**13**	13
4.56%, matures January 25, 2047	**22**	20
4.115%, matures December 9, 2047	**10**	9
4.174%, matures July 13, 2048	**5**	5
Total	**$ 101**	$ 86

During 2019, the Company purchased debentures from IGM with a total market value at December 31, 2019 of $10 ($14 at December 31, 2018).

During 2019, the Company purchased residential mortgages of $11 from IGM ($61 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.

There were no significant outstanding loans or guarantees and no material loans or guarantees issued during 2019 or 2018. There were no provisions for uncollectible amounts from related parties during 2019 and 2018.

(c) Key management compensation

Key management personnel constitute those individuals that have the authority and responsibility for planning, directing and controlling the activities of Lifeco, directly or indirectly, including any Director. The individuals that comprise the key management personnel are the Board of Directors as well as certain key management and officers.

The following describes all compensation paid to, awarded to, or earned by each of the key management personnel for services rendered in all capacities to the Company and its subsidiaries:

	2019	2018
Salary	**$ 20**	$ 17
Share-based awards	**14**	12
Option-based awards	**6**	5
Annual non-equity incentive plan compensation	**24**	23
Pension value	**1**	5
Total	**$ 65**	$ 62

27. Income Taxes

(a) Components of the income tax expense

(i) Income tax recognized in Consolidated Statements of Earnings

Current income tax

	2019	2018
Total current income tax	**$ 196**	$ 321

Deferred income tax

	2019	2018
Origination and reversal of temporary differences	**$ (29)**	$ 52
Effect of changes in tax rates or imposition of new income taxes	**(11)**	(2)
Tax expense arising from unrecognized tax losses and tax credits	**217**	16
Total deferred income tax	**$ 177**	$ 66
Total income tax expense	**$ 373**	$ 387

(ii) Income tax recognized in other comprehensive income (note 25)

	2019	2018
Current income tax expense (recovery)	**$ 7**	$ (2)
Deferred income tax recovery	**(9)**	(34)
Total	**$ (2)**	$ (36)

(iii) Income tax recognized in Consolidated Statements of Changes in Equity

	2019	2018
Current income tax expense	**$ 78**	$ —
Deferred income tax expense (recovery)	**23**	(16)
Total	**$ 101**	$ (16)

27. Income Taxes (cont'd)

(b) The effective income tax rate reported in the Consolidated Statements of Earnings varies from the combined Canadian federal and provincial income tax rate of 27% for the following items:

	2019		2018	
Earnings before income taxes	**$ 2,880**		$ 3,462	
Combined basic Canadian federal and provincial tax rate	**778**	**27.00%**	935	27.00%
Increase (decrease) in the income tax rate resulting from:				
Non-taxable investment income	**(166)**	**(5.76)**	(216)	(6.24)
Lower effective income tax rates on income not subject to tax in Canada	**(315)**	**(10.93)**	(313)	(9.03)
Impact of rate changes on deferred income taxes	**(11)**	**(0.38)**	(2)	(0.06)
Other [1]	**87**	**3.02**	(17)	(0.49)
Total income tax expense and effective income tax rate	**$ 373**	**12.95%**	$ 387	11.18%

[1] Includes the impact of a decrease in the recognized deferred income tax asset of one of the Company's subsidiaries due to timing uncertainty in projected taxable income available to utilize certain restricted net operating losses which resulted in a $199 charge and increased the effective income tax rate by 6.91 points. This was partially offset by a $101 benefit due to the resolution of an outstanding issue with a foreign tax authority which reduced the effective income tax rate by 3.51 points.

(c) Composition and changes in net deferred income tax assets are as follows:

	2019						
	Insurance and investment contract liabilities	**Portfolio investments**	**Losses carried forward**	**Intangible assets**	**Tax credits**	**Other**	**Total**
Balance, beginning of year	**$ (1,387)**	**$ (359)**	**$ 1,357**	**$ (479)**	**$ 363**	**$ 276**	**$ (229)**
Recognized in Statements of Earnings	**362**	**(171)**	**(244)**	**(58)**	**(44)**	**(22)**	**(177)**
Recognized in Statements of Comprehensive Income	**—**	**(25)**	**—**	**—**	**—**	**34**	**9**
Recognized in Statements of Changes in Equity	**(20)**	**—**	**—**	**—**	**—**	**(3)**	**(23)**
Acquired in business acquisitions	**—**	**—**	**(1)**	**(1)**	**—**	**—**	**(2)**
Foreign exchange rate changes and other	**62**	**21**	**(47)**	**16**	**(23)**	**(30)**	**(1)**
Balance, end of year	**$ (983)**	**$ (534)**	**$ 1,065**	**$ (522)**	**$ 296**	**$ 255**	**$ (423)**

	2018						
	Insurance and investment contract liabilities	Portfolio investments	Losses carried forward	Intangible assets	Tax credits	Other	Total
Balance, beginning of year	$ (976)	$ (602)	$ 1,132	$ (401)	$ 391	$ 192	$ (264)
Recognized in Statements of Earnings	(395)	227	129	(63)	(44)	80	(66)
Recognized in Statements of Comprehensive Income	—	40	—	—	—	(6)	34
Recognized in Statements of Changes in Equity	9	—	—	—	—	7	16
Acquired in business acquisitions	41	—	—	—	—	(8)	33
Foreign exchange rate changes and other	(66)	(24)	96	(15)	16	11	18
Balance, end of year	$ (1,387)	$ (359)	$ 1,357	$ (479)	$ 363	$ 276	$ (229)

Recorded on Consolidated Balance Sheets:	**2019**	2018
Deferred tax assets	**$ 693**	$ 981
Deferred tax liabilities	**(1,116)**	(1,210)
Total	**$ (423)**	$ (229)

A deferred income tax asset is recognized for deductible temporary differences and unused losses and carryforwards only to the extent that realization of the related income tax benefit through future taxable profits is probable.

Recognition is based on the fact that it is probable that the entity will have taxable profits and/or tax planning opportunities available to allow the deferred income tax asset to be utilized. Changes in circumstances in future periods may adversely impact the assessment of the recoverability. The uncertainty of the recoverability is taken into account in establishing the deferred income tax assets. The Company's annual financial planning process provides a significant basis for the measurement of deferred income tax assets.

Management assesses the recoverability of the deferred income tax assets carrying values based on future years' taxable income projections and believes the carrying values of the deferred income tax assets as of December 31, 2019 are recoverable.

At December 31, 2019, the Company has recognized a deferred tax asset of $1,065 ($1,357 at December 31, 2018) on tax loss carryforwards totaling $6,832 ($8,568 in 2018). Of this amount, $5,814 expire between 2020 and 2039 while $1,018 have no expiry date. The Company will realize this benefit in future years through a reduction in current income taxes payable.

One of the Company's subsidiaries has had a history of losses. The subsidiary has a net deferred income tax asset balance of $478 (U.S. $367) as at December 31, 2019, comprised principally of net operating losses and future deductions related to goodwill. During the year ended December 31, 2019, management determined that a $199 (U.S. $151) decrease in the recognized deferred income tax asset is appropriate due to timing uncertainty in projected taxable income available to utilize certain restricted net operating losses generated in the earliest loss years. The deferred income tax asset decrease resulted in a charge to income tax expense of $199 (U.S. $151) in the Consolidated Statements of Earnings. Management has concluded that it is probable that the subsidiary and other historically profitable subsidiaries with which it files or intends to file a consolidated U.S. income tax return will generate sufficient taxable income to utilize the unused U.S. losses and deductions for which a deferred tax asset has been recognized.

The Company has not recognized a deferred tax asset of $231 ($37 in 2018) on tax loss carryforwards totaling $1,252 ($179 in 2018). Of this amount, $1,173 expire between 2020 and 2039 while $79 have no expiry date. In addition, the Company has not recognized a deferred tax asset of $16 (nil in 2018) on other temporary differences of $78 (nil in 2018) associated with investments in subsidiaries, branches, and associates.

A deferred income tax liability has not been recognized in respect of the temporary differences associated with investments in subsidiaries, branches and associates as the Company is able to control the timing of the reversal of the temporary differences, and it is probable that the temporary differences will not reverse in the foreseeable future.

28. Operating and Administrative Expenses

	2019	2018
Salaries and other employee benefits	**$ 3,474**	$ 3,296
General and administrative [1]	**1,541**	1,641
Interest expense on leases	**22**	—
Amortization of fixed assets	**125**	96
Depreciation of right-of-use assets	**69**	—
Total [2]	**$ 5,231**	$ 5,033

(1) Expenses related to short-term leases of $10 and low-value leases of $3 are included within general and administrative expenses.

(2) Includes operating and administrative expenses recognized upon the completion of the reinsurance transaction with Protective Life (note 3).

29. Derivative Financial Instruments

In the normal course of managing exposure to fluctuations in interest and foreign exchange rates, and to market risks, the Company is an end-user of various derivative financial instruments. It is the Company's policy to transact in derivatives only with the most creditworthy financial intermediaries. Note 9 discloses the credit quality of the Company's exposure to counterparties. Credit risk equivalent amounts are presented net of collateral received, including initial margin on exchange-traded derivatives, of $156 as at December 31, 2019 ($113 at December 31, 2018).

(a) The following summarizes the Company's derivative portfolio and related credit exposure using the following definitions of risk as prescribed by OSFI:

Maximum Credit Risk	The total replacement cost of all derivative contracts with positive values.
Future Credit Exposure	The potential future credit exposure is calculated based on a formula prescribed by OSFI. The factors prescribed by OSFI for this calculation are based on derivative type and duration.
Credit Risk Equivalent	The sum of maximum credit risk and the potential future credit exposure less any collateral held.
Risk Weighted Equivalent	Represents the credit risk equivalent, weighted according to the creditworthiness of the counterparty, as prescribed by OSFI.

	2019				
	Notional amount	**Maximum credit risk**	**Future credit exposure**	**Credit risk equivalent**	**Risk weighted equivalent**
Interest rate contracts					
Futures - long	**$ 12**	**$ —**	**$ —**	**$ —**	**$ —**
Futures - short	**17**	**—**	**—**	**—**	**—**
Swaps	**3,179**	**197**	**38**	**206**	**60**
Options purchased	**244**	**—**	**1**	**1**	**—**
	3,452	**197**	**39**	**207**	**60**
Foreign exchange contracts					
Forward contracts	**2,573**	**43**	**47**	**76**	**7**
Cross-currency swaps	**13,039**	**209**	**899**	**997**	**266**
	15,612	**252**	**946**	**1,073**	**273**
Other derivative contracts					
Equity contracts	**74**	**—**	**4**	**4**	**—**
Futures - long	**13**	**—**	**—**	**—**	**—**
Futures - short	**774**	**—**	**—**	**—**	**—**
Other forward contracts	**1,709**	**2**	**94**	**94**	**9**
	2,570	**2**	**98**	**98**	**9**
Total	**$ 21,634**	**$ 451**	**$ 1,083**	**$ 1,378**	**$ 342**

	2018				
	Notional amount	Maximum credit risk	Future credit exposure	Credit risk equivalent	Risk weighted equivalent
Interest rate contracts					
Futures - long	$ 72	$ —	$ —	$ —	$ —
Swaps	2,716	118	34	143	42
Options purchased	351	43	1	43	8
	3,139	161	35	186	50
Foreign exchange contracts					
Forward contracts	2,098	8	42	49	5
Cross-currency swaps	11,737	219	794	910	241
	13,835	227	836	959	246
Other derivative contracts					
Equity contracts	618	8	6	6	—
Futures - long	12	—	—	—	—
Futures - short	1,059	8	14	22	2
Other forward contracts	951	13	91	98	10
	2,640	29	111	126	12
Total	$ 19,614	$ 417	$ 982	$ 1,271	$ 308

(b) The following provides the notional amount, term to maturity and estimated fair value of the Company's derivative portfolio by category:

	2019				
	Notional Amount				Total estimated fair value
	1 year or less	Over 1 year to 5 years	Over 5 years	Total	
Derivatives not designated as accounting hedges					
Interest rate contracts					
Futures - long	$ 9	$ 3	$ —	$ 12	$ —
Futures - short	10	7	—	17	—
Swaps	185	653	2,312	3,150	161
Options purchased	35	184	25	244	—
	239	847	2,337	3,423	161
Foreign exchange contracts					
Forward contracts	1,334	—	—	1,334	15
Cross-currency swaps	299	2,395	10,345	13,039	(1,135)
	1,633	2,395	10,345	14,373	(1,120)
Other derivative contracts					
Equity contracts	74	—	—	74	—
Futures - long	13	—	—	13	—
Futures - short	774	—	—	774	(2)
Other forward contracts	1,709	—	—	1,709	2
	2,570	—	—	2,570	—
Fair value hedges					
Foreign exchange forward contracts	74	—	—	74	2
Cash flow hedges					
Interest rate contracts					
Swaps	—	—	29	29	10
Net investment hedges					
Foreign exchange forward contracts	641	524	—	1,165	17
Total	$ 5,157	$ 3,766	$ 12,711	$ 21,634	$ (930)

	2018				
	Notional Amount				Total estimated fair value
	1 year or less	Over 1 year to 5 years	Over 5 years	Total	
Derivatives not designated as accounting hedges					
Interest rate contracts					
Futures - long	$ 46	$ 26	$ —	$ 72	$ —
Swaps	118	456	2,112	2,686	78
Options purchased	47	225	79	351	43
	211	707	2,191	3,109	121
Foreign exchange contracts					
Forward contracts	1,058	—	—	1,058	(16)
Cross-currency swaps	560	1,968	9,209	11,737	(1,224)
	1,618	1,968	9,209	12,795	(1,240)
Other derivative contracts					
Equity contracts	618	—	—	618	(8)
Futures - long	12	—	—	12	—
Futures - short	1,059	—	—	1,059	6
Other forward contracts	951	—	—	951	13
	2,640	—	—	2,640	11
Cash flow hedges					
Interest rate contracts					
Swaps	—	—	30	30	8
Net investment hedges					
Foreign exchange forward contracts	524	516	—	1,040	(45)
Total	$ 4,993	$ 3,191	$ 11,430	$ 19,614	$ (1,145)

Futures contracts included in the above are exchange traded contracts; all other contracts are over-the-counter.

(c) Interest Rate Contracts

Interest rate swaps, futures and options are used as part of a portfolio of assets to manage interest rate risk associated with investment activities and insurance and investment contract liabilities. Interest-rate swap agreements require the periodic exchange of payments without the exchange of the notional principal amount on which payments are based. Call options grant the Company the right to enter into a swap with predetermined fixed-rate payments over a predetermined time period on the exercise date. Call options are used to manage the variability in future interest payments due to a change in credited interest rates and the related potential change in cash flows due to surrenders. Call options are also used to hedge minimum rate guarantees.

Foreign Exchange Contracts

Cross-currency swaps are used in combination with other investments to manage foreign currency risk associated with investment activities, and insurance and investment contract liabilities. Under these swaps principal amounts and fixed or floating interest payments may be exchanged in different currencies. The Company also enters into certain foreign exchange forward contracts to hedge certain product liabilities.

The ineffective portion of the cash flow hedges during 2019, which includes interest rate contracts and foreign exchange contracts, and the anticipated net gains (losses) reclassified out of accumulated other comprehensive income within the next twelve months is nil. The maximum time frame for which variable cash flows are hedged is 50 years.

Other Derivative Contracts

Equity index swaps, futures and options are used to hedge certain product liabilities. Equity index swaps are also used as substitutes for cash instruments and are used to periodically hedge the market risk associated with certain fee income. Equity put options are used to manage potential credit risk impact of significant declines in certain equity markets.

30. Legal Provisions and Contingent Liabilities

The Company and its subsidiaries are from time-to-time subject to legal actions, including arbitrations and class actions, arising in the normal course of business. Provisions are established if, in management's judgment, it is probable a payment will be required and the amount of the payment can be reliably estimated. It is inherently difficult to predict the outcome of any of these proceedings with certainty, and it is possible that an adverse resolution could have a material adverse effect on the consolidated financial position of the Company. However, based on information presently known, it is not expected that any of the existing legal actions, either individually or in the aggregate, will have a material adverse effect on the consolidated financial position of the Company. Actual results could differ from management’s best estimates.

A subsidiary of the Company in the United States is a defendant in an action in relation to its role as collateral manager of a collateralized debt obligation brought by an institution involved in the collateralized debt obligation. The resolution of this matter will not have a material adverse effect on the consolidated financial position of the Company.

Subsidiaries of the Company in the United States are defendants in legal actions, including class actions, relating to the administration of their staff retirement plans, or to the costs and features of certain of their retirement or fund products. Management believes the claims are without merit and will be aggressively defending these actions. Based on the information presently known these actions will not have a material adverse effect on the consolidated financial position of the Company.

A subsidiary of the Company, as reinsurer, is involved in an arbitration relating to the interpretation of certain provisions of a reinsurance treaty and the alleged underreporting of claims and overpayment of premium. Based on information presently known, it is difficult to predict the outcome of this matter with certainty, but this matter is not expected to have a material adverse effect on the consolidated financial position of the Company.

31. Commitments

(a) Letters of Credit

Letters of credit are written commitments provided by a bank. The total amount of letter of credit facilities is U.S. $2,257 of which U.S. $1,772 were issued as of December 31, 2019.

The Reinsurance operation periodically uses letters of credit as collateral under certain reinsurance contracts for on balance sheet policy liabilities.

(b) Investment Commitments

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 were $1,042 as at December 31, 2019, with $1,006 maturing within one year, $19 maturing within two years and $17 maturing within three years.

(c) Pledged Assets

In addition to the assets pledged by the Company disclosed elsewhere in the consolidated financial statements:

(i) The amount of assets included in the Company's balance sheet which have a security interest by way of pledging is $1,456 ($1,464 at December 31, 2018) in respect of reinsurance agreements.

In addition, under certain reinsurance contracts, bonds presented in portfolio investments are held in trust and escrow accounts. Assets are placed in these accounts pursuant to the requirements of certain legal and contractual obligations to support contract liabilities assumed.

(ii) The Company has pledged, in the normal course of business, $75 ($76 at December 31, 2018) of assets of the Company for the purpose of providing collateral for the counterparty.

32. Segmented Information

The operating segments of the Company are Canada, United States, Europe and Lifeco Corporate. These segments reflect the Company's management structure and internal financial reporting and are aligned to its geographic operations. Each of these segments operates in the financial services industry and the revenues from these segments are derived principally from interests in life insurance, health insurance, retirement and investment services, asset management and reinsurance businesses. Business activities that are not associated with the specific geographic operations are attributed to the Lifeco Corporate segment.

Transactions between operating segments occur at market terms and conditions and have been eliminated upon consolidation.

The Company has a capital allocation model to measure the performance of the operating segments. The impact of the capital allocation model is included in the segmented information presented below.

(a) Consolidated Net Earnings

	2019				
	Canada	**United States[(2)(3)]**	**Europe**	**Lifeco Corporate**	**Total**
Income					
Total net premiums	**$ 13,505**	**$ (9,659)**	**$ 20,664**	**$ —**	**$ 24,510**
Net investment income					
Regular net investment income	**2,785**	**1,785**	**1,591**	**—**	**6,161**
Changes in fair value through profit or loss	**3,157**	**1,371**	**2,418**	**—**	**6,946**
Total net investment income	**5,942**	**3,156**	**4,009**	**—**	**13,107**
Fee and other income	**1,766**	**3,767**	**1,548**	**—**	**7,081**
	21,213	**(2,736)**	**26,221**	**—**	**44,698**
Benefits and expenses					
Paid or credited to policyholders	**16,268**	**(5,932)**	**22,755**	**—**	**33,091**
Other [(1)]	**3,510**	**2,780**	**1,854**	**22**	**8,166**
Financing charges	**128**	**118**	**36**	**3**	**285**
Amortization of finite life intangible assets	**92**	**85**	**47**	**—**	**224**
Restructuring expenses	**—**	**52**	**—**	**—**	**52**
Earnings (loss) before income taxes	**1,215**	**161**	**1,529**	**(25)**	**2,880**
Income taxes (recovery)	**149**	**205**	**25**	**(6)**	**373**
Net earnings (loss) before non-controlling interests	**1,066**	**(44)**	**1,504**	**(19)**	**2,507**
Non-controlling interests	**13**	**3**	**(1)**	**—**	**15**
Net earnings (loss)	**1,053**	**(47)**	**1,505**	**(19)**	**2,492**
Preferred share dividends	**114**	**—**	**19**	**—**	**133**
Net earnings (loss) before capital allocation	**939**	**(47)**	**1,486**	**(19)**	**2,359**
Impact of capital allocation	**112**	**(14)**	**(96)**	**(2)**	**—**
Net earnings (loss) - common shareholders	**$ 1,051**	**$ (61)**	**$ 1,390**	**$ (21)**	**$ 2,359**

(1) Includes commissions, operating and administrative expenses and premium taxes.
(2) Includes the loss on the reinsurance transaction with Protective Life of $247 ($199 after-tax) (note 3).
(3) Includes the impact of the $199 decrease in the deferred income tax asset (note 27).

32. Segmented Information (cont'd)

	2018				
	Canada	United States	Europe	Lifeco Corporate	Total
Income					
Total net premiums	$ 13,093	$ 4,250	$ 18,118	$ —	$ 35,461
Net investment income					
Regular net investment income	2,608	1,836	1,901	13	6,358
Changes in fair value through profit or loss	(1,285)	(890)	(1,431)	—	(3,606)
Total net investment income	1,323	946	470	13	2,752
Fee and other income	1,736	2,603	1,480	—	5,819
	16,152	7,799	20,068	13	44,032
Benefits and expenses					
Paid or credited to policyholders	11,024	4,447	16,597	—	32,068
Other [1]	3,406	2,741	1,832	23	8,002
Financing charges	128	55	37	1	221
Amortization of finite life intangible assets	81	90	41	—	212
Restructuring expenses	—	—	67	—	67
Earnings (loss) before income taxes	1,513	466	1,494	(11)	3,462
Income taxes (recovery)	268	66	56	(3)	387
Net earnings (loss) before non-controlling interests	1,245	400	1,438	(8)	3,075
Non-controlling interests	(21)	2	—	—	(19)
Net earnings (loss)	1,266	398	1,438	(8)	3,094
Preferred share dividends	114	—	19	—	133
Net earnings (loss) before capital allocation	1,152	398	1,419	(8)	2,961
Impact of capital allocation	123	(10)	(108)	(5)	—
Net earnings (loss) - common shareholders	$ 1,275	$ 388	$ 1,311	$ (13)	$ 2,961

[1] Includes commissions, operating and administrative expenses and premium taxes.

(b) Consolidated Total Assets and Liabilities

	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	**$**	**176,304**	**$**	**85,612**	**$**	**189,251**	**$**	**451,167**

	2019							
		Canada		**United States**		**Europe**		**Total**
Liabilities								
Insurance and investment contract liabilities	**$**	**74,939**	**$**	**43,689**	**$**	**57,549**	**$**	**176,177**
Other liabilities		**8,448**		**5,035**		**4,942**		**18,425**
Investment and insurance contracts on account of segregated fund policyholders		**85,612**		**31,433**		**113,977**		**231,022**
Total	**$**	**168,999**	**$**	**80,157**	**$**	**176,468**	**$**	**425,624**

	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	$	160,906	$	85,941	$	180,842	$	427,689

	2018			
	Canada	United States	Europe	Total
Liabilities				
Insurance and investment contract liabilities	$ 68,252	$ 42,913	$ 57,266	$ 168,431
Liabilities held for sale	—	—	897	897
Other liabilities	7,863	5,100	5,154	18,117
Investment and insurance contracts on account of segregated fund policyholders	76,633	31,816	101,078	209,527
Investment and insurance contracts on account of segregated fund policyholders held for sale	—	—	3,319	3,319
Total	$ 152,748	$ 79,829	$ 167,714	$ 400,291

33. Subsequent Events

(a) Amalgamation

As a result of the Amalgamation (note 1), effective January 1, 2020, the consolidated financial statements of the Amalgamated Company will include the operations of the following previously separate subsidiaries: Great-West Life, LIG, London Life, CLFC, and Canada Life. The consolidated financial statements of the Company will include the operations of the Amalgamated Company and its subsidiaries. Non-controlling interests attributable to participating account surplus previously recorded in the Great-West Life, London Life, and Canada Life Consolidated Statements of Earnings and Other Comprehensive Income will be recorded in the Amalgamated Company (notes 19, 26(a)).

(b) Sale of Irish Progressive Services International Limited

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. The carrying value and earnings of the business are immaterial to the Company.

34. Comparative Figures

The Company reclassified certain comparative figures for disclosure items to conform to the current year's presentation. These reclassifications had no impact on the total equity or net earnings of the Company.

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Independent Auditor's Report

To the Shareholders of Great-West Lifeco Inc.

Opinion

We have audited the consolidated financial statements of Great-West Lifeco Inc. (the "Company"), which comprise the consolidated balance sheets as at December 31, 2019 and 2018, and the consolidated statements of earnings, comprehensive income, changes in equity and cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies (collectively referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Company as at December 31, 2019 and 2018, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards ("IFRS").

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards ("Canadian GAAS"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Other Information

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

- Management's Discussion and Analysis

- The information, other than the financial statements and our auditor's report thereon, in the Annual Report.

Our opinion on the financial statements does not cover the other information and we do not and will not express any form of assurance conclusion thereon. In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

We obtained Management's Discussion and Analysis prior to the date of this auditor's report. If, based on the work we have performed on this other information, we conclude that there is a material misstatement of this other information, we are required to report that fact in this auditor's report. We have nothing to report in this regard.

The Annual Report is expected to be made available to us after the date of the auditor's report. If, based on the work we will perform on this other information, we conclude that there is a material misstatement of this other information, we are required to report that fact to those charged with governance.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

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

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

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian GAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian GAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

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

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

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

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

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

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

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

The engagement partner on the audit resulting in this independent auditor's report is Paul Stauch.

/s/ Deloitte LLP
Chartered Professional Accountants
Winnipeg, Manitoba
February 12, 2020